

2014

# EXPLORING PRACTICE-BASED EDUCATION IN PODIATRY: AN ACTION RESEARCH PROJECT

Abey, Sally

<http://hdl.handle.net/10026.1/3200>

---

<http://dx.doi.org/10.24382/1422>

Plymouth University

---

*All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.*

*This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with its author and that no quotation from the thesis and no information derived from it may be published without the author's prior consent.*

**EXPLORING PRACTICE-BASED EDUCATION IN PODIATRY: AN ACTION  
RESEARCH PROJECT**

by

**SALLY ELIZABETH ABEY**

A thesis submitted to Plymouth University in partial fulfilment for the degree of

**DOCTOR OF PHILOSOPHY**

Faculty of Health and Human Sciences

**July 2014**

## **Abstract**

### **Exploring practice-based education in podiatry: An action research project**

Sally Elizabeth Abey

#### **Background:**

Government policy has placed greater emphasis upon health professional students gaining practical experience in real-world environments. Given the fairly new inception of the role of clinical educator in podiatry there is a paucity of research in the area of practice placement in podiatry.

#### **Research aims:**

Within an action research framework, the first phase focused upon exploring the capacity of clinical educators to engage with the role of mentoring, alongside the factors that might impact upon that capacity. The second phase of the project investigated the impact of a teaching tool within the placement area when utilised by clinical educators and students.

#### **Methods:**

The pilot study utilised established questionnaire development methods to create a survey and scale to measure clinical educators' capacity to engage with the role. The second phase of the project used a range of qualitative data collection methods analysed using framework analysis to analyse the utility of the teaching and learning tool.

**Findings:**

Phase I resulted in a 70-item scale measuring the capacity of clinical educators to engage with the role of clinical educator and the identification of four independent variables predictive of a significant proportion of the variability of the dependent variable, capacity to engage with clinical education. Phase II confirmed the utility of the teaching and learning tool to support clinical educators and students during the placement period. An inductive placement model, explanatory of the super-complexity of the environment where the clinical educator endeavours to monitor, modify and manage the placement scope, was developed.

**Conclusions:**

In an area where research is currently scant, this study contributed to practice-based education in podiatry and to current understanding of how clinical educators undertake this complex and responsible role. This is an important area for research given the influence clinical educators have to shape and guide the next generation of podiatry professionals.

## Table of Contents

Abstract .....	i
Tables.....	xi
Figures .....	xii
Acknowledgements.....	xiv
Author's declaration .....	xv
Glossary .....	xvi
Abbreviations.....	xvii
<b>CHAPTER ONE: CONCEPTUAL FRAMEWORK.....</b>	<b>1</b>
1.1 Author's perspective .....	1
1.2 Definitions.....	3
1.3 Local context of a practice-based education in podiatry .....	4
1.4 National context of practice placement learning .....	10
1.5 Literature review of practice placements in podiatry.....	12
1.5.1 Responsibilities of the clinical educator in podiatry.....	23
1.5.2 Establishing a learning environment .....	23
1.5.3 Relationships .....	24
1.6 Teaching in the clinical environment .....	25
1.6.1 Developing psychomotor skills.....	25
1.6.2 Feedback.....	27
1.6.3 Judging competence.....	29
1.6.4 Student assessment .....	31
1.6.5 Barriers and challenges to practice-based learning.....	32
1.7 Platform for research .....	35
1.8 Thesis outline.....	38
<b>CHAPTER TWO: THEORETICAL FRAMEWORK.....</b>	<b>40</b>
2.1 Introduction to action research.....	40
2.2 The origins of action research.....	41

2.3 Action research principles .....	44
2.3.1 The epistemology of action research .....	44
2.3.2 Overview of action research.....	46
2.3.3 Key principles of action research .....	49
2.4 Action research typologies.....	56
2.5 Theory building and action research .....	59
2.6 Judging quality in action research .....	61
2.6.1 Dependability and credibility in action research.....	62
2.6.2 Reflexivity .....	64
2.7 Ethical responsibilities of the action researcher.....	65
2.8 Conclusion.....	67
<b>CHAPTER THREE: ENGAGEMENT WITH ACTION RESEARCH BY HEALTH PROFESSIONALS AS A FRAMEWORK FOR PEDAGOGICAL RESEARCH.....</b>	<b>68</b>
3.1 Utility of action research in the healthcare arena.....	68
3.2 Utility of action research for educationalists and healthcare professionals .....	69
3.3 Rationale for a literature review .....	70
3.4 Criteria for the literature review .....	70
3.5 A descriptive overview of the literature reviewed.....	72
3.6 Literature review findings .....	74
3.6.1 Problem-solving and change as the catalyst for action research.....	74
3.6.2 National Drivers .....	75
3.6.3 Policy changes.....	75
3.6.4 Practice changes .....	77
3.6.5 Local drivers .....	78
3.6.6 Collaboration.....	80
3.6.7 Judging quality in action research .....	83
3.6.8 Transparency of reporting .....	83
3.6.9 Ethical considerations .....	87
3.7 Rationale for using an action research framework .....	90

3.8 Contextual suitability of an action research framework.....	91
3.9 Utility of the action research framework .....	92
3.10 Implementing the action research team .....	95
3.10.1 Recruitment rationale.....	95
3.10.2 Action research team initiation .....	97
3.11 Conclusion.....	101
<b>CHAPTER FOUR: PHASE I – DEVELOPMENT OF THE ‘CAPACITY TO ENGAGE WITH CLINICAL EDUCATORS’ SCALE .....</b>	
<b>104</b>	
4.1 Diagnosis phase (Cycle 1) .....	104
4.1.1 First ART meeting.....	104
4.1.2 Second ART meeting.....	106
4.1.3 Third ART meeting.....	108
4.2 Planning phase (Cycle 1).....	110
4.2.1 Initial planning meeting with ART (Cycle 1).....	112
4.2.2 Conceptual framework .....	113
4.2.3 Rationale for data collection method .....	117
4.2.4 Instrument and scale development .....	119
4.2.5 Workshop 1: Defining the underlying concepts .....	121
4.2.6 Workshop 2: Developing the pilot questionnaire .....	122
4.2.7 Hypotheses relationship with the CECE scale.....	123
4.2.8 Principles of questionnaire construction .....	124
4.2.9 Structuring the survey .....	125
4.3 Pilot survey development.....	127
4.3.1 Rationale for pilot survey.....	127
4.3.2 Pilot population .....	128
4.3.3 Administration and structure of pilot survey.....	130
4.4 Procedural decisions.....	131
4.4.1 Pilot study pre-testing prior to online version.....	131
4.4.2 Online pre-testing of pilot survey.....	132
4.4.3 Pilot administration schedule .....	132



4.4.4 Ethical approval .....	133
4.5 Action phase (Cycle 1).....	133
4.5.1 Post-pilot response and data preparation.....	134
4.5.2 Missing values .....	136
4.5.3 Reverse responses .....	137
4.5.4 Response rate for pilot study .....	137
4.6 Evaluation phase (Cycle 1) .....	138
4.6.1 Final scale development .....	138
4.6.2 Item analysis.....	139
4.6.3 Response-set bias .....	141
4.7 Reflection phase (Cycle 1) and diagnosis phase (Cycle 2).....	142
4.8 Planning phase (Cycle 2).....	143
4.8.1 Preparing the final survey .....	143
4.9 Action phase (Cycle 2).....	144
4.9.1 Final survey administration .....	144
4.10 Evaluation phase (Cycle 2) .....	144
4.10.1 Response rate for final survey.....	144
4.10.2 Socio-demographic responses.....	145
4.10.3 Gender and age.....	145
4.10.4 Academic profile .....	146
4.10.5 Career and employment profile .....	147
4.10.6 Volunteer status.....	149
4.10.7 Role descriptor.....	149
4.10.8 Preparation time prior to placement .....	150
4.10.9 Protected time.....	150
4.10.10 Clinical educator : student ratio .....	150
4.10.11 Distance from the University .....	151
4.10.12 Length of new patient appointment times.....	151
4.10.13 Length of review appointment times.....	152

4.10.14 Hypothesis testing of scale .....	153
4.10.15 Content validity index (CVI).....	155
4.10.16 Hypotheses testing of factors .....	156
4.10.17 Regression.....	161
4.11 Reflective phase (Cycle 2) .....	164
4.12 Conclusion .....	165
<b>CHAPTER FIVE: PHASE II – DEVELOPING CORE PODIATRY SKILLS IN A REAL-WORLD ENVIRONMENT .....</b>	<b>166</b>
5.1 Diagnosis phase (Cycle 3) .....	166
5.1.1 Student focus group data analysis .....	167
5.1.2 Focus group findings.....	168
5.1.3 Advancing phase II .....	172
5.2 Planning phase (Cycle 3) – Strategic planning.....	173
5.2.1 Developing phase II with the ART .....	173
5.2.2 Focus of enquiry .....	177
5.3 Planning phase (Cycle 3) – Operational phase .....	178
5.3.1 Core podiatry skills progression schema.....	179
5.3.2 Developing the ‘Core podiatry skills progression framework’.....	181
5.3.3 Learning Agreement .....	182
5.3.4 Portfolio .....	184
5.3.5 Personal journals .....	184
5.3.6 Theory-practice acquisition checklist.....	185
5.3.7 Student self-assessment form.....	185
5.3.8 Provisional research questions .....	186
5.3.9 Consultative service-user group meeting .....	188
5.3.10 Consultative student group inception .....	188
5.3.11 ART engagement to progress phase II.....	189
5.4 Planning Phase (Cycle 3) – Project implementation.....	190
5.4.1 Project design and data collection methods .....	190
5.4.2 Development of research questions.....	190

5.4.3 Sample .....	191
5.4.4 Recruitment strategy .....	192
5.4.5 Case study design .....	193
5.4.6 Data collection techniques .....	197
5.4.7 Generalised self-efficacy scale (GSES) .....	198
5.4.8 Interviews .....	198
5.5 Data analysis methods.....	200
5.5.1 Overview of framework analysis.....	200
5.5.2 Rationale for framework approach .....	200
5.5.3 Application of framework analysis .....	201
5.5.4 GSE scale and self-assessment forms.....	203
5.6 Conclusion.....	203
<b>CHAPTER SIX: ACTION PHASE (CYCLE 3) – PROJECT IMPLEMENTATION</b> .....	<b>204</b>
6.1 Action phase (Cycle 3).....	204
6.1.1 Clinical educator recruitment.....	205
6.1.2 Student recruitment.....	207
6.1.3 Project commencement and data collection .....	209
6.2 Data analysis .....	210
6.2.1 Demographic data for participants .....	211
6.2.2 Familiarisation and identifying a thematic framework .....	212
6.2.3 Indexing (coding) .....	213
6.2.4 Validation of coding.....	214
6.2.5 Charting .....	215
6.2.6 Central chart .....	216
6.2.7 Mapping and interpretation .....	217
6.2.8 Analytical approach to data.....	219
6.3 Evaluation phase (Cycle 3) – Findings.....	219
6.3.1 Operationalising the placement setting .....	220
6.3.2 Synthesis of the macro-environment.....	226

6.3.3 Synthesis of the micro-environment .....	242
6.4 Evaluation phase (Cycle 3) - Thematic framework .....	244
6.4.1 Synthesis of thematic framework .....	282
6.5 Reflection phase (Cycle 3) – Final ART meeting .....	284
6.6 Conclusion .....	290
<b>CHAPTER SEVEN: DISCUSSION .....</b>	<b>292</b>
7.1 Phase I discussion .....	292
7.1.1 Capacity to Engage with Clinical Education (CECE) scale development...	293
7.1.2 Relevance of Phase I findings to previous research.....	294
7.2 Unexpected findings .....	298
7.3 Phase I conclusion.....	299
7.4 Phase II discussion.....	300
7.4.1 Relevance of Phase II findings to previous research.....	301
7.4.2 Clinical educator role .....	304
7.4.3 Student perspective .....	306
7.4.4 The core podiatry skills progression framework .....	309
7.5 Phase II: Conclusion .....	312
7.6 Overarching research imperative .....	316
7.7 Evaluation of AR approach .....	317
7.8 Strengths and limitations.....	322
7.9 Main conclusions .....	326
7.10 Contribution to research and practice.....	327
7.11 Implications for future research .....	331
7.12 Implication for practice-based learning in podiatry.....	332

## Appendices

Appendix 1 Diagrammatical representation of the three action research cycles.....	- 1 -
Appendix 2 Databases and search terms .....	- 3 -
Appendix 3 Evidence of ethical approval from each of the three relevant committees .....	- 7 -
Appendix 4 Initial factors generated in relation to capacity to engage in clinical education.....	- 13 -
Appendix 5 Construct variables and dimensions of overall construct .....	- 15 -
Appendix 6 Online questionnaire .....	- 17 -
Appendix 7 Postcard advertising online survey.....	- 44 -
Appendix 8 Item-total correlations and Cronbach's Alpha results .....	- 46 -
Appendix 9 Sub-scale descriptors.....	- 54 -
Appendix 10 Non-significant test results .....	- 57 -
Appendix 11 Probability plot, scatter diagram & histogram of CECE scale residuals .....	- 59 -
Appendix 12 Proposal by LR to ART to advance research process.....	- 61 -
Appendix 13 Core podiatry skills progression schema.....	- 73 -
Appendix 14 Learning agreement.....	- 76 -
Appendix 15 Clinical educator theory-practice acquisition checklist .....	- 78 -
Appendix 16 Student theory-practice acquisition checklist .....	- 80 -
Appendix 17 Student self-assessment of podiatric experience .....	- 82 -
Appendix 18 Clinical educator workshop .....	- 87 -
Appendix 19 Patient consent form regarding student treatment during phase II.....	- 95 -
Appendix 20 Clinical educator interview schedule .....	- 99 -
Appendix 21 Student interview schedule .....	- 101 -
Appendix 22 Ethics for phase II .....	- 103 -
Appendix 23 Clinical educator information sheet for phase II .....	- 121 -

Appendix 24 Clinical educator consent form for phase II .....	- 126 -
Appendix 25 Student information sheet for phase II .....	- 127 -
Appendix 26 Student consent form for phase II .....	- 132 -
Appendix 27 Student aide mémoire .....	- 133 -
Appendix 28 Record of student interviews and pseudonyms.....	- 135 -
Appendix 29 Overview of participants recruited and data collected .....	- 136 -
Appendix 30 Final themes and sub-themes.....	- 138 -
Appendix 31 Workbook for use at Diabetes Centre .....	- 143 -
Appendix 32 Placement feedback form .....	- 149 -
References .....	

## Tables

Table 1 Practice placement periods for the pilot university and the University .....	130
Table 2 Attitudinal scales with number of items and Cronbach's $\alpha$ value .....	140
Table 3 Nomenclature used to describe the podiatrist's role with students.....	149
Table 4 Comparison of Cronbach's Alpha scores between pilot and final survey results.....	154
Table 5 Explanation of variables entered into the regression model.....	162
Table 6 Results of multiple regression .....	163
Table 7 Model summary .....	163
Table 8 Comparison of the current placement profile against predictors of capacity to engage with the role of clinical education .....	165
Table 9 Placement block codes .....	205
Table 10 Frequency of self-assessment form completion .....	247
Table 11 Frequency of generalised self-efficacy scale completion.....	248
Table 12 Frequency of learning agreement completion.....	250

## Figures

Figure 1 Database and search terms used for podiatry placement literature search.....	13
Figure 2 RACE learning outcomes.....	19
Figure 3 Spiral of AR cycles adapted from Coghlan and Brannick, 2005 .....	48
Figure 4 Distribution of papers published from January 1990 – April 2014.....	73
Figure 5 Drivers for action research .....	75
Figure 6 Overview of action research process with on-going consideration to ethical issues .....	88
Figure 7 Roles represented by the members of the action research team.....	99
Figure 8 Emergent themes relating to issues around placement delivery from ART meeting.....	107
Figure 9 Capacity-building conceptual framework for placement learning.....	113
Figure 10 CECE scale fundamentality to other clinical education scales.....	121
Figure 11 Independent variables shown in relation to dependent variable: Capacity to engage with the role of clinical education .....	124
Figure 12 Example of a question from pilot survey completed incorrectly .....	134
Figure 13 Distance in miles of clinical educator from the University .....	151
Figure 14 Summary of themes from student focus group.....	170
Figure 15 Overview of core podiatry skills progression framework.....	182
Figure 16 Prima facia questions that underpin tool development and data collection methods .....	187
Figure 17 Developing research questions .....	191
Figure 18 Overview of participant engagement and data collection timings .....	192
Figure 19 Placement format.....	195
Figure 20 Visual representation of case studies.....	196
Figure 21 Case study design .....	196
Figure 22 Elements of the CPSPF and data collection tools .....	197
Figure 23 Overview of framework analysis (Lacey and Luff, 2009; Pope et al, 2000; Ritchie and Lewis, 2003).....	202
Figure 24 Clinical educators recruited and interviewed .....	207

Figure 25 Distribution of length of time clinical educators have been qualified as podiatrists .....	211
Figure 26 Illustration of a framework matrix within Nvivo.....	216
Figure 27 Example of the central chart within Excel.....	217
Figure 28 Thematic framework of the placement context .....	221
Figure 29 Placement model .....	222
Figure 30 Themes underpinning progression and appraisal phase constructs .....	245
Figure 31 Data recorded on TPACs .....	255
Figure 32 Dynamicity of teaching and learning in clinical practice .....	282
Figure 33 Acronym for monitoring, modifying and managing placement learning.....	315
Figure 34 Overview mixed methods approach .....	322



## **Acknowledgements**

I wish to sincerely thank Professor Susan Lea for her unfailing support, knowledge, enthusiasm and inspiration from the early inception of this project and throughout. To Dr Lynne Callaghan and Professor Debby Cotton I would like to extend my thanks for their interest, expertise and encouragement throughout the whole research journey. All have made comments and suggestions that have shaped my thinking and approach to my research. I would also like to thank Professor Graham Sewell for his support and guidance.

I would like to acknowledge the funding received from the Centre for Excellence in Professional Placement Learning (CEPPL), part of the Centres for Excellence in Teaching and Learning (CETL) initiative for Higher Education Funding Council for England (HEFCE).

Additionally, I would like to extend my thanks to my co-researchers for their interest, enthusiasm and positive approach to the project and without whom this thesis would not have been possible. I am also grateful to the focus group members and participants who contributed both time and energy to the project.

Finally, many thanks to my colleagues, friends and family. In particular I would like to thank my husband John, and children Victoria and Alexander, for all their support, encouragement and faith in my ability to complete this thesis.

## Author's declaration

At no time during registration for the degree of Doctor of Philosophy has the author been registered for any other University award. Work submitted for this research degree at Plymouth University has not formed part of any other degree. This study was financed in part from funding received from CEPPL, part of CETL initiative for HEFCE. Conferences were attended regularly at which work was often presented. During this time one paper was published and one paper has been prepared for publication.

### Publications:

Abey, S. Lea, S. Callaghan, L. Cotton, D. and Shaw, S. (2013). The development of a scale to assess practitioner capacity to engage in clinical education. *Journal of Further and Higher Education*, 1–18.

<http://www.tandfonline.com/doi/abs/10.1080/0309877X.2013.817006>

### Poster and conference presentations:

- |          |  |
|----------|--|
| Mar 2011 | Poster presentation at National Association of Educators in Practice Conference, Brighton                        |
| Oct 2012 | Presented at the International Society for the Scholarship of Teaching and Learning Conference, Hamilton, Canada |
| Apr 2013 | Presented at PedRIO Teaching and Learning Conference, Plymouth   |
| Oct 2013 | Presented at the International Society for the Scholarship of Teaching and Learning Conference, Raleigh, USA     |

**Word count: 73,794**

**Signed**

**Date**

## Glossary

Callus	hyperkeratoses or thickened skin
Corn	Invaginated keratinous tissue
Debride/ debridement	skilful reduction/removal of callus using a scalpel
Enucleation	removal or excision of invaginated keratinous tissue
Fissure	any split in the skin which becomes dry and cracked
Haem	accidental cut made with a scalpel blade into dermis creating a wound
Heloma dura/ durum	hard corn
Heloma molle	soft corn where keratinous mass becomes soggy and soft interdigitally
Ischaemia	inadequate arterial supply to an organ or part of the body, for example the lower limb
Maceration	white, soggy epidermis
Orthotic/ orthoses	External appliance worn in the shoe prescribed to reduce pressure, realign structures, and control joint motion within the foot

## Abbreviations

AR	Action research
ART	Action research team
CECE scale	Capacity to engage with clinical education scale
CPSPF	Core podiatry skills progression framework
CPSPS	Core podiatry skills progression schema
GES scale	Generalised self-efficacy scale
HCPC	Health and Care Professions Council
HE	Higher Education
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institutions
LL	Link lecturer
LR	Lead researcher
NHS	National Health Service
NMC	Nursing and Midwifery Council
NRES	National Research Ethics Service
ODP	Operating Department Practitioners
PDT	Practice Development Team
QAA	Quality Assurance Agency
RACE	Register of Accredited Clinical Educators
RCT	Random controlled trial
SCG	Student consultative group
SOCAP	Society of Chiropractors and Podiatrist
SUCG	Service user consultative group
TPAC	Theory-practice acquisition checklist
UK	United Kingdom
USA	United States of America



# **CHAPTER ONE: CONCEPTUAL FRAMEWORK**

In the last decade there has been an increase in the number of students studying podiatry at this University, alongside a commitment towards practice-based learning requiring the introduction and training of clinical educators. The placement environment offers the healthcare undergraduate an opportunity to experience first-hand the realities of clinical practice. It is also a time when theory and practice can be explored and for desired values and attitudes to be engendered within the student. An opportunity to work in a real-world environment provides the student with contextualised learning opportunities. Delivering practice-based education, however, appears to have many barriers and challenges when referencing the disciplines of nursing and midwifery. Currently there is a paucity of research in the area of practice-based education in podiatry, which given the increasing reliance upon this environment to train future podiatrists, should be addressed. This introductory chapter outlines my motivation for taking an action research (AR) approach to exploring practice-based learning and discusses the national and local context of practice placements. Finally, the thesis structure and ensuing chapter contents are outlined.

## **1.1 Author's perspective**

As a podiatrist specialising in paediatrics, I was involved with a mentorship programme delivered by the local Higher Education Institute (HEI) incorporating practice-based learning as part of the BSc (Hons) podiatry programme, from its

inception. At that time as part of my role I facilitated podiatry students' clinical experiences in partnership with an HEI academic. This collaborative approach ensured that students gained the necessary experience and opportunities, whilst maintaining quality standards in relation to patient care. The clinics ran extremely well and I personally found this a very satisfying and exciting environment and enjoyed working with the students. I shared my enthusiasm and the importance of the role with students, helping to shape their view of podiatry, interest in this specialist area, whilst facilitating their experience of working with patients from 1-18 years of age and their families, which was important to me. I also felt that because a large proportion of presenting problems in the patients related to developmental issues affecting the lower limb there was a great opportunity for students to observe these changes and how factors such as ligamentous laxity or neuromuscular conditions can impede normal development. During this period my interest in the teaching and learning of the next generation of podiatrists began to develop.

In 2005 there was an opportunity to challenge myself further by progressing to an academic role on the BSc (Hons) podiatry programme. At that time my interest was in research related to podopaediatrics, but through my work with the Centre for Excellence in Professional Placement Learning (CEPPL) and the mobile learning project early on in my academic career, my interest in teaching and learning within the placement setting continued to develop. It soon became apparent to me that there was resistance to the placement-learning model from some placement areas at that time. Supporting students and clinical educators

was challenging given the wide geographical area and the literature informing practice-based learning was largely from nursing and midwifery.

This thesis was initiated partly in a response to the dearth of research relevant to the podiatry profession in the area of practice placements. Having spent some time considering how a research project could be devised that would benefit our students, placement providers and the profession it became clear to me that AR had considerable potential to enhance the research and its effectiveness through collaboration leading to specific problem identification, problem-solving and change. I started the project with a simple, but clear direction, to explore practice placements in podiatry.

## **1.2 Definitions**

The nomenclature used to describe the role of 'clinical educator' is variable in its meaning dependent upon your professional perspective, but the term 'clinical educator' will be used predominantly to encapsulate 'mentor', 'practice educator', 'clinical teacher', 'preceptor', 'practice education facilitator', 'clinical supervisor', meaning an experienced professional working with students to develop clinical skills. This varied terminology complicates discussions regarding the roles and responsibility, and indeed there appear to be actual differences between the roles (Morton-Cooper and Palmer, 2000b; Nettleton and Bray, 2008). In broad terms the clinical educator role includes associated tasks orientated around student support and learning; supervision; role modelling; teaching; giving feedback; assessment; and professionalization



(Hinchliff, 1992; Magginson and Clutterbuck, 2005; Neary, 2000; Rose and Best, 2005) and when specifically relating to 'clinical educators in podiatry' the role can be assumed to include the aforementioned tasks. Other concomitant, but no less important roles, may include adviser; coach; supporter; counsellor; and guide (Ali and Panther, 2008). A tension also exists between the role of supporter and assessor with the potential for conflict to arise for the clinical educator who ultimately has to decide on the student's ability to progress (Bray and Nettleton, 2007; Morton-Cooper and Palmer, 2000b) creating a power dynamic where the power lies with the clinical educator (Trede and Smith, 2012).

The HEI, incorporating the BSc (Hons) podiatry programme, and which is the focus for this research project situated in the South West of England, is referred to hereafter as 'the University'. When referring to universities and HEIs in general the term 'HEI' will be used. To denote the podiatry services where the action research team resides the term 'placement area' will be utilised hereafter. The term 'lead researcher' (LR) is used throughout and refers to the author of the thesis.

### **1.3 Local context of a practice-based education in podiatry**

The BSc (Hons) podiatry programme at the University has evolved over the last 25 years, undergoing considerable change within the last fourteen years with respect to location, staffing, numbers of students commissioned and course delivery. Prior to 1990 the podiatry programme came under the auspices of a

College of Further Education and was known as the 'School of Podiatry'. In 1990 the programme was awarded degree status endorsed by the then polytechnic, which now had responsibility for all the aspects of theoretical delivery and assessment with the practical training met within a private clinic in the School of Podiatry. In 2001 a six week period of placement practice was introduced to be delivered by podiatry services across the South West region of the UK. The primary aim was for students to observe a variety of clinical settings and undertake 'hands-on' practical work at the clinical educator's discretion. The emphasis was on enrichment rather than development of practical skills for the student. In 2002, however, the School of Podiatry was subsumed within the School of Nursing and Midwifery at the University with a programme revalidation and the School of Podiatry, established in 1980, finally closed.

This period of change for the podiatry programme at the University coincided with, and was to some extent driven by, changes at a strategic level with the Government pledging an increase in the number of allied health professionals by 6,500 and training of an extra 44,500 to meet that challenge (Department of Health, 2000). This initiative had followed the call for more staff across the NHS as outlined in the 'NHS plan' with 'Agenda for change' discussing the profile of the workforce needed to meet future demands (Department of Health, 2000c; Vernon et al, 2005).

Concurrent with those strategic drivers was the advance towards learning in the clinical setting with the emergence of 'Making a difference' (Department of

Health, 1999), 'Fitness for practice' and 'A health service for all the talents: Developing the NHS workforce' (Department of Health, 2000a; Koh, 2002). Practice-based learning was seen as providing opportunities to develop clinical skills and clinical reasoning whilst undergoing socialisation within real-world settings (Cope et al, 2000; Houghton et al, 2013) with the potential to benefit employability. Indeed, evidence within the podiatry profession indicated that NHS based placements had advantages over in-house training clinics (Hayes, 2005) because they provided teaching and learning experiences within a professional context. Commentary upon the future of podiatry by academics included a call for practitioners to accept education of students in the clinical setting as part of their professional responsibility (Bowen, 2008). Influencing the swell towards placement learning was the HCPC which now recognised the clinical educator role as engagement with continuing professional development and in a broader context as benefiting the profession as a whole (Health and Care Professions Council, 2012). All these drivers have impacted upon the delivery and teaching of practice skills on the BSc (Hons) podiatry programme at the University and informed the move from in-house to practice-based learning.

In 2003 the podiatry programme was revalidated, which included a substantial increase in placement practice from 6 to 15 weeks duration. The number of students commissioned by the SWSHA (South West Strategic Health Authority) was increased from 15 to 45, and perhaps more importantly, the focus of the practice placement changed with the introduction of a practice portfolio. The introduction of the portfolio required clinical educators to assess students' skills

in practice and endorse achievements by signing-off learning outcomes, and thereby certifying competence. Learning outcomes are based upon standards set by the QAA (Quality Assurance Agency for Higher Education, 2001) to ensure that competence is assessed throughout a programme of study. Part of the QAA's role is to set benchmark statements which stipulate the standards of fitness for award and for practice (McMullan, 2005). Allied health professions also have to satisfy the HCPC standards of proficiency and standards of education and training (Health and Care Professions Council, 2012). As well as outlining the expected competences, attributes and capabilities required of learners 'Standards of Proficiency' are also specified. Learning outcomes assist with the design of curriculum and are central to the placement portfolio.

Clinicians were identified by NHS Heads of Podiatry Services at each Primary Care Trust (PCT) in the South West to act as clinical educators. These novice clinical educators were required to support the University in providing practice opportunities within podiatry clinics that would allow students to integrate theory with practice and hone practical skills in areas such as communication, patient assessment, examination and treatment, note keeping, infection control, and nail surgery.

With these significant changes, not only had the frequency of placements and student numbers increased, but also a substantial change in the role of the clinical educator had occurred. This was a considerable increase in workload for each Podiatry Service to absorb and the changes had significant ramifications in terms of balancing the SWSHA commissioned patient contacts

and patient safety against the needs of the student. Furthermore, those podiatrists who had taken on the additional clinical education role had to be introduced to the practice portfolio (in 2003 a 280 page document), become familiar with curriculum content, and receive guidance on how to assess student competency. Pressure of work, however, prevented some clinical educators from attending clinical educator training organised by the University.

In September 2008 the BSc (Hons) podiatry programme was again revalidated, with an increase in the practice placement period to 32 weeks. A new, simplified Practice Portfolio accompanied the student's practice. The increase in placement practice was requested by the placement areas, because three week blocks were not considered long enough to build a rapport with the student, and determine how best to meet students' needs with regard to achieving learning experiences, learning outcomes and determining competency. This appears to represent a change in attitude, with longer placements viewed as better facilitating, and increasing effectiveness of the placement. The change in view may be a reflection of confidence in the practice-based learning approach and in the ability and capacity of individuals to undertake the role.

The premise that HEIs and the NHS could work together was at the centre of the placement venture. It aimed to provide an authentic and supportive placement experience for students to facilitate the development and progression of their practical skills, whilst ensuring that patient care was not compromised. It has been acknowledged in the wider literature that there have

been problems generally between HEIs and placement providers, due to poor communication, logistical challenges and differing organisational priorities (Burns and Paterson, 2005; Eick et al, 2012; Williamson et al, 2011). At the University, new initiatives in the shape of Practice Development Teams (PDTs) in placement areas were introduced for nursing and midwifery students' placement areas only, to foster better links between all the University health professions and placement providers. The intent was to impact positively on the experiences of clinical educators and students by providing support (Williamson et al, 2011), but in fact those placement areas outside of the nurse / midwife defined areas did not receive support from the PDTs. To overcome this problem and to assist clinical educators in areas with no PDT support, each podiatry placement was allocated a link lecturer (a University lecturer in podiatry). Their role was to liaise closely with the placement clinical educators providing curriculum updates, acting as a point of contact for any issues regarding placements and crucially offering support during the student placement.

This section has outlined a number of changes to placement and curriculum delivery which have had to be disseminated to each clinical educator. NHS podiatry services across the South West region have in most cases worked hard to be flexible and accommodate the demands made of them, but some areas have found the continued changes and increased expectations in terms of student placement and patient contacts extremely difficult to fulfil and maintain. The changes to the BSc (Hons) podiatry programme in terms of delivery and increased placement periods have been implemented, but the

effectiveness of these changes in terms of student learning and the impact of workload on clinical educators and academics have yet to be evaluated.

Given the fairly new inception of the role of clinical educator and the importance of the placement as an integral part of the students' education, there is a paucity of research in the area of practice placement in podiatry. There appears to be little standardisation of how placements are organised and delivered nor a clear idea of the role of the clinical educator in podiatry. Practice-based learning, however, is viewed as integral to under-graduate podiatry training (Morrison et al, 2011). The landscape of placement learning in the UK will be explored in the next section.

#### **1.4 National context of practice placement learning**

The last two decades have seen a shift towards a model of health professions training where theory is taught at an HEI and practical skills are developed within the real-world environment. Project 2000 in the UK was a major driver for the nursing profession stipulating 50% of student training to be spent in clinical practice (Parker, 1996) and heralding the introduction of formal mentors (Nettleton and Bray, 2008). UK Government policy has also driven the placement learning agenda in other health professions creating a move towards a model where practical skills are no longer only taught within the HEI (Department of Health, 2000b, 2000c; Quality Assurance Agency for Higher Education, 2001), but students undertake periods of practice placement in areas where they may subsequently seek employment. The student

undertakes placement education in order to experience the professional culture of their chosen discipline, put theory into practice, develop problem-solving skills, clinical judgement and practical skills (Rodger et al, 2011).

The emergence of practice placement learning has had most impact upon the NHS, where nursing and allied health professions have been required to facilitate students to develop skills and assess competence for registration. However, the clinical education requirements of individual social and health care professions vary (Nettleton and Bray, 2008). This has necessitated HEIs and placement areas working together to set up systems that facilitate student learning. Negotiation has been required to achieve the allocation of students, as well as the development of informative and supportive documentation (handbooks, protocols and electronic databases) in relation to the student and clinical educator. Further, on-going training and updating for clinical educators, and development of administrative systems has been required. Both HEIs and the NHS function as hierarchical organisations where decisions are not always made quickly and communication may break down. This can make collaborations challenging where the aim of quality patient care is shared, but the core business differs. In this case the NHS deals with the day-to-day care of the patient, whereas the HEI is concerned with training professionals who will deliver quality patient care tomorrow. The NHS and HEIs represent supercomplex environments (Lea and Callaghan, 2012) where individuals are faced with multiple paradigms, deluged in data relating to new evidence-based practices, protocols, government papers and drivers and challenges to professional identity abound (Barnett, 2000). The clinical setting is dynamic and



challenging with reports of workloads and stress levels increasing in the nursing population in the UK (Levett-Jones et al, 2009). Students are entering a professional environment, one which the clinical educator already inhabits, where the concept of knowledge as a static truth will be consistently challenged and result in re-evaluation of their professional self (Light and Cox, 2001). *'Uncertainty, unpredictability, contestability and changeability'* (Barnett, 2000 p. 159) are hallmarks of the modern NHS.

The expectation that professional nursing staff are engaged, not only in patient care, but with developing the next generation of clinicians has now been realised. Students enter the placement environment with supernumerary status, and are assigned to a lead clinical educator who then has responsibility for their well-being and professional development over the placement period. This responsibility is often shared with other members of staff who are also clinical educators, but who may not have the responsibility of signing-off learning outcomes, but will assist the student's development and report progress to the lead clinical educator. The student is tasked with completing a portfolio of learning outcomes, which are derived from the stipulations of the relevant professional body, HEI and Quality Assurance Agency (QAA) which will be judged by the clinical educator in terms of student competency.

## **1.5 Literature review of practice placements in podiatry**

As the shift towards practice-based learning in podiatry is relatively new in the UK, there is consequently a dearth of research in this area. The author

undertook a literature search using the following databases and search terms at the beginning of the project which was updated in March 2014 (see Figure 1).

Database	Search terms used in each database
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> AMED	<input type="checkbox"/> Placement + podiatry
<input type="checkbox"/> CINAHL plus	<input type="checkbox"/> Clinical educat* + podiatry
<input type="checkbox"/> SwetsWise	<input type="checkbox"/> Mentor* + podiatry
<input type="checkbox"/> Pubmed	<input type="checkbox"/> Practice educat* + podiatry
<input type="checkbox"/> Medline	<input type="checkbox"/> Practice-based learning + podiatry
	<input type="checkbox"/> Work-based learning + podiatry
	<input type="checkbox"/> Placement learning + podiatry
	<input type="checkbox"/> Placement-based learning + podiatry

**\*Allows for a variety of suffixes to be identified during the search**

**Figure 1** Database and search terms used for podiatry placement literature search

Some words were truncated, searching just for the root word, which allowed for multiple word endings. Word searches using a 10 word radius such as ‘mentor\* N10 podiatry’ were undertaken. It was decided to limit the search to articles published in relation to UK podiatry students and placements, partly because significant differences exist between podiatrists in the UK and those of the United States of America and some parts of Canada (British Columbia and

Alberta) where podiatrists are licensed Doctors of Podiatric Medicine (DPM), but in the most part because this thesis relates specifically to those challenges that face UK podiatry. As outlined previously, the drivers relating to the NHS, the quality assurance and the HEI system do not exist in the same way internationally, but in the UK are major factors which constrain and drive podiatry education.

The search yielded 385 references overall of which just 17 were relevant to the search criteria resulting in 11 journal papers (peer reviewed) and six professional magazine articles (not peer reviewed). However, on reading the 11 journal papers it was evident that only six related to placement-based learning and so five papers were rejected.

These six articles included one article evaluating the use of the portfolio within nursing, midwifery and health visiting and how this appraisal could be beneficial in developing the portfolio in podiatry (McMullan, 2004); an exploration of the landscape of interprofessional education (IPE) in the South East of the UK (Stew, 2005); a report of how two HEIs attempt to imbed interprofessional learning (IPL) across 17 health and social work programmes (O'Halloran et al, 2006); a study of non-medical health professionals (Curran et al, 2006), including podiatry students; a conference report relating to inter-professional learning (Otter et al, 2007); a project concerned with assessing clinical reasoning skills in podiatry students (Williamson et al, 2011). The dearth of articles reflects both the newness of the area and the lack of attention it has

received to date. Each article will be reviewed in turn to identify what each has contributed to this under-researched area.

McMullan (2004) identified the driver for change in teaching and learning strategies in podiatry as similar to those that have driven modernisation in nursing and midwifery such as 'Meeting the challenge' (Department of Health, 2000b) with initiatives relating to experiential learning and portfolios as two modernisation strategies employed within podiatry (Quality Assurance Agency for Higher Education, 2001). The assertion is that the portfolio has the capability to transform the student through the reflective processes promoted which integrate critical thinking skills and theory with practice. McMullan (2004) concluded that this is more successful as a formative event rather than summative, as there is a tendency towards the reflections being tailored by the student in an attempt to meet the anticipated criteria of the assessor.

An exploration via a variety of methods of IPE in South-East England was undertaken by Stew (2005), which included podiatry students, but does not specifically advance knowledge in the area of practice-based learning in podiatry. It does, however, provide some evidence that multiprofessional learning occurs, if somewhat sparsely. O'Halloran et al, (2006) reported the implementation of IPL across two Universities and 17 pre-registration social work and health programmes. This curriculum review attempts to go beyond common learning strategies to include experiential learning opportunities and collaborations including practice-based learning. The paper presents the conceptual model and planning stages only, but the practice-based element has

potential for students to learn the realities of professional life and experience first-hand how collaborations are organised and managed. This offers work-based opportunities for co-constructed learning experiences to occur.

Clinical reasoning is a critical skill for podiatry students to learn and this was the focus of this important topic for Curran et al (2006) who attempted to understand the process of clinical reasoning in 'experts' (term not defined). Students used the 'think aloud' method allowing the researchers to access the judgements that led to diagnoses based upon a range of pre-set scenarios. The study stated that grounded theory was used, but does not provide any other information with regard to the utilisation of this methodology. NVivo was described as the '*method of analysis*' (Curran et al, 2006 p. 30) with no other information provided regarding data analysis methods. Given that NVivo is a data management system, rather than a data analysis method, this raises questions about the methodological rigour and therefore the study findings. The conclusion was that both novice and expert podiatrists use schemata and both tacit and implicit knowledge predominantly to make diagnoses during consultations.

Interprofessional-learning between podiatry and pharmacy students was the focus of an evaluation where a joint consultation between the two professions was undertaken (Otter et al, 2007). Inter-disciplinary working is important for effective patient outcomes and therefore opportunities to learn with other health professions may be valuable for developing mutual understanding and for future working relationships (Hall, 2005). Unfortunately, the information presented in

the conference abstract was limited, and little detail was provided regarding the development of the data collection techniques or analysis, therefore it is hard to judge the utility of the findings.

Inter-professional education and effectiveness of PDTs at nurturing this approach from the perspective of staff and students was reported by Williamson et al (2011). This included a range of non-medical health professionals, including podiatry, and the findings showed that students were not convinced that staff and students from other professions were able to provide the same support as those from their own profession. However, no quotes from podiatry students were disclosed and it was not possible to interpret the strength of the contribution that each discipline had made to the findings, but collectively the authors were able to assert that for interprofessional learning to be effective, students must be supported with facilitation at a local level.

The following articles reviewed appeared in the profession's Society of Chiropodists and Podiatrists (SOCAP) magazine. These articles provide a commentary from clinical educators, the Society and students on issues concerning practice-based education, which have been included because of the limited number of peer-reviewed publications. These articles yield a different perspective, but nonetheless provide important insights on the practice placement deliberation.

A very positive view of placements was presented by Wilding (2006), a Head of Service at Southwark, who viewed student placements as an opportunity to boost recruitment and staff motivation. The claim was proffered that mentoring led to increased confidence, knowledge and self-awareness for individuals engaged in clinical education. Students had such a beneficial influence upon this service that students were actively recruited from Australia in addition to UK commitments. This had an additional benefit to the service of increased patient capacity during the placement period, although it was not explained how this was achieved.

A contrasting view was proffered by McEleney (2010) who suggests that students can decrease the through-put of patients and create a drain on time and resources. This can be off-set by clinical educators thinking more holistically about the student experience by creating opportunities to engage them with other professional activities such as undertaking literature searches. McEleney (2010) engaged students in projects reviewing the evidence that disposable instruments correlate with an increase in repetitive strain injuries; updating and redesigning patient satisfaction questionnaires; and establishing whether access to podiatry services reduces patient hospital admissions. These are innovative methods of engaging students within the wider team which have benefit for the hosting service (Morrison et al, 2011).

In July 2011 the Undergraduate Office on behalf of SOCAP published details of a new accreditation system adapted from the Chartered Society of Physiotherapy 'Accreditation of Clinical Educators Scheme'. It was stated that

for those clinical educators who were already providing clinical educator placement services for a recognised School of Podiatry eligibility for registration as a member of the 'Register of Accredited Clinical Educators' (RACE) scheme would be guaranteed and each clinical educator would receive a certificate of membership (Foxe and Hart, 2011). This grand-parenting system continues until revalidation of the pre-registrant programme at which time the BSc (Hons) podiatry programme will be requested to provide evidence of how the learning outcomes were achieved by clinical educators. The criteria by which the following learning outcomes should be judge have been left to individual programmes to decide (see Figure 2).

---

To define the clinical educator role and attributes required to be effective

---

To utilise appropriate adult learning theories

---

To plan, apply and facilitate learning within the clinical environment

---

To assess student performance in the clinical environment using sound principles and judgement

---

To evaluate learning experiences

---

To improve future learning experiences based upon previous experiences and reflection

**Figure 2** RACE learning outcomes

Although SOCAP did not specify how the clinical educator might meet the learning outcomes, they have worked with the University of Southampton podiatry programme to produce materials supporting two workshops leading to



RACE membership. Currently, SOCAP publish the RACE details on the Society website to which all members have access.

The Placement Education Group (PEG), part of the Undergraduate Education and Development directive of SOCAP, have stated that placements are ‘...a *fundamental component of pre-registration podiatry...*’ (Morrison et al, 2011 p. 24), but the term ‘fundamental’ appears to be variably interpreted, given the wide-ranging differences in the periods of time that students undertake placement depending on the individual podiatry programme requirements. PEG acknowledges that time constraints may reduce the perceived benefits of engaging with placements and that some terminology is not well defined. In the article published by Foxe and Hart (2011) only five months previously the term ‘clinical educator’ had been adopted, but in the article by Morrison et al (2011) the term ‘practice educator’ was chosen. This demonstrates how terminology is used interchangeably within professions and these discrepancies are also evidenced between professions, which inhibits clarification of discussion and transferability of research across professions.

The RACE learning outcomes outline some of the tasks related to the role of clinical educator, but much is left unclarified, falling somewhere between the clinical educator and the HEIs to decide. Morrison et al (2011) state that the term ‘practice educator’ is poorly defined, but do little to clarify or advance the discussion, merely stating that the role is that of a mentor and a supervisor and is the first contact for the student. Communication, facilitation, assessment and evaluation are also mentioned as integral to the role, but not expanded upon.

Many of the attributes and skills that might be expected as important for the role are not mentioned such as role modelling. This lack of formal description may in part be due to the confusion in the role that appears across health professionals generally. However, it leaves flexibility for individual HEIs to negotiate with individual placement areas which given that podiatry programmes' arrangements for placement encompass such variety, may be beneficial. Problems may present, however, as some placement areas take students from more than one HEI, which could result in inconsistency in the role for clinical educators.

Morrison et al (2011) provide a useful observation upon the perceived benefits of practice-based learning in podiatry. The potential for students to provide continuing professional development to clinical educators was highlighted as an attractive prospect for clinicians engaged in the role where students may introduce new theory or challenge existing practices and knowledge. It was suggested that there were a number of benefits for students such as learning new skills and gaining knowledge, whilst at the same time being exposed to the workplace and hence political climate of the NHS.

The student perspective regarding placement activities and experiences is at present sparse, but appears positive. The student's forum for discussion is the Society magazine and therefore students are perhaps more likely to write positive reports to avoid impacting negatively upon their HEI, which in turn may affect employability. Students positively report opportunities to work with high-

risk patients, put theory into practice, develop treatment plans and experience working in the real-world (Buckley, 2014; Hornby, 2011).

From the limited, non-peer reviewed information available regarding the landscape of podiatry placements in the UK, the role of the clinical educator is not clearly defined. Although RACE anticipates that assessment is expected, whether this occurs, whether students all attend placement with learning outcomes, whether learning agreements are established between clinical educators and students, whether students are expected to observe only, or progress to active engagement with patient care, are all currently unknown. Perhaps most importantly, there is no compelling research evidence regarding the challenges, quality or effectiveness in relation to the training of the next generation of podiatrists in the UK. However, other health professions, such as nursing, have a well-established placement model. The literature pertaining to this profession highlights the issues and challenges which may well manifest in NHS podiatry placements.

The following section considers the literature pertaining to the role of the clinical educator and discusses the research evidence within nursing, midwifery, allied health professions and medicine with respect to the challenges of practice-based learning.

### **1.5.1 Responsibilities of the clinical educator in podiatry**

The clinical educator is first and foremost a clinician whose main responsibility is delivery of quality patient care. A secondary role is that of educator with responsibility for creating and managing an effective learning environment, in partnership with the student, so the student develops practical and decision-making skills (Trede and Smith, 2012). The role of the clinical educator in podiatry has been described as having the following attributes: “*information provider; role model; facilitator; assessor; planner of the curriculum; resource developer*” (Fulton, 2013, p. 32) and specifically assists the development of communication, interpersonal, technical and psychomotor skills (Ali and Panther, 2008). The placement setting is the context within which the clinical educator and student will interact. The quality of the environment impacts the experience and is critical to the effectiveness of placement learning

### **1.5.2 Establishing a learning environment**

A learning environment is more than a place where the clinical educator and student reside, it has physical, social, political and temporal dimensions too (Patton et al, 2013). The clinical educator should consider the equipment and resources available, what opportunities there are for the student to meet with other members of staff as part of the extended team, and all the factors that compete for attention. In order to establish a quality learning environment the placement must meet the needs of the student (Rodger et al, 2011). A balance must be struck between providing support whilst allowing the student to develop independent learning skills (Rodger et al, 2011) where mistakes are accepted

as integral to the learning process (Warne et al, 2010). Clinical educators should have a clear understanding of the curriculum and realistic expectations for a student at a given stage of learning, along with a consistent approach (Rodger et al, 2011). This is a complex task for the clinical educator, managing the patient's needs, determining how best to facilitate student learning opportunities whilst ensuring patient safety during student interactions (Adelman-Mullally et al, 2013).

### **1.5.3 Relationships**

A friendly atmosphere and positive culture have been highlighted (Rodger et al, 2011), along with establishing a good relationship with the student, as fundamental to the practice education process (Ali and Panther, 2008) and important for socialisation and learning (Levett-Jones et al, 2009). Traditionally students chose their mentor, which allowed for some matching of personality, but this is an outmoded approach (Nettleton and Bray, 2008).

There is evidence that an introductory meeting where placement aims and expectations of both student and mentor can be addressed facilitate the building of an effective relationship (Ali and Panther, 2008). Morton-Cooper and Palmer, p. 52-55 (2000) describe the student-mentor relationship as having three distinct phases: '*initial; working; and termination*'. The initial phase is a period where the student and mentor start to develop a social and professional relationship. During this time the mentor establishes the student's aims for the placement and ascertains information regarding previous experience and

knowledge-base. During the working phase the mentor supports and assists the student to develop clinical skills. This is a relationship based upon trust with mutual objectives where the student gradually moves towards more independence with increased confidence. The termination phase either results in a positive relationship where the student has a positive view based upon an effective relationship or ends negatively where the relationship disintegrates. Crucially, Morton-Cooper and Palmer's (2000) concept of a mentor requires both parties to select one another, which is not the case in podiatry. Students are allocated to a clinical educator with no account taken of individual characteristics, attributes or values. Where the student has one main clinical educator this incremental development of a relationship sounds feasible and there is evidence that students value highly a one-to-one relationship facilitating learning and practical skills (Warne et al, 2010). However, when the student has a number of clinical educators or the placement dynamics impacts upon student-mentor time, the relationship may not progress beyond the initial phase. Peripatetic student-mentor couplings are not unusual in podiatry, where the student moves on a daily basis between clinical educators, and may be a factor which impacts upon the student's progress. Ultimately, the time period over which these phases must operate to be optimal and whether the phases work in the same way at each stage of learning is unclear.

## **1.6 Teaching in the clinical environment**

### **1.6.1 Developing psychomotor skills**

Health profession students must develop motor skills requiring coordinated movements and dexterity with the application of cognitive skills (Jelovsek et al,

2013). There is evidence that setting goals dealing with the process rather than the outcome can lead to skills being retained more effectively (Brydges et al, 2009). There are a range of skills within podiatry such as scalpel debridement and enucleation, padding and strapping, dressing application, musculoskeletal, vascular and neurological assessment and nail surgery that require good psychomotor skills.

Prior to students attending placement clinical skills are taught initially by explaining the skill, skill application, demonstration of the skill, followed by the student practicing the skills with feedback in the skills laboratory, without the additional complexity of the clinical environment (Hodge and Oates, 2005). Learners practice upon peers/manikins in a simulated environment supported by access in some cases to video material, and therefore enhancing self-directed learning followed by assessment using objective structured clinical examinations (OSCE). On placement clinical educators progress learners' psychomotor skills and have an opportunity to review and develop the students' underlying clinical reasoning skills (Gonzol and Newby, 2013). Initially, clinical educators ensure student understanding of the purpose of the skill, how other contexts may influence the application or purpose and, if related to assessment, how the results should be interpreted (Hodge and Oates, 2005).

Ideally, the student is given chances to practice part or all of a skill with the clinical educator providing constructive feedback (Quinn, 2000 p. 437).

Opportunities for practice are important as neural linkages and movement patterns that control the motor skill are created that lead to movements that can

be easily replicated on demand (Hodge and Oates, 2005). The assessment of psychomotor skills, against learning outcomes, requires skill observation. As student competence develops consideration of skill transference into different environments and contexts should be encouraged. However, the ability to make the necessary adaptations may only be seen in the post-registrant (Quinn, 2000). Psychomotor skills may not be as susceptible to self-directed learning in the placement setting, due to the newness of the skill and complexity of the environment leading to confusion. Constructive feedback from the clinical educator can help to make sense of the context and determine when skills should be applied and where appropriate the results interpreted.

### **1.6.2 Feedback**

Feedback is a critical clinical educator role and vital for the development of students' technical and cognitive skills (Archer, 2010). There are a variety of different types of feedback, but the main distinction is between constructive (corrective/negative/directive) and reinforcing (positive) feedback (Archer, 2010; Clynes and Raftery, 2008) and informal and formal feedback (Ali and Panther, 2008). Research suggests that feedback should be given timeously, be objective, related to performance, unbiased and not an appraisal of personality (Clynes and Raftery, 2008).

Constructive feedback can be motivational, focusing and increasing student confidence in their abilities (Clynes and Raftery, 2008). However, feedback is a complex interplay between the context, format, learner and focus of the



feedback which if it is to be effective requires self-reflection-in-action modified by external feedback mechanisms (Archer, 2010). This requires the clinical educator not to focus just on the problem, but to identify, with the student, strategies that will achieve progression. Where the clinical educator supervises the learner on a day-to-day basis it is possible for them to support the student in viewing the feedback as a continuous strategy for improvement. Where the student spends time with multiple supervisors it may be more critical for one clinical educator to assist the student with contextualising and rationalising the multi-source perspectives. This is important in relation to student self-efficacy; a concept relating to individuals belief in their ability to undertake a task or perform a role in a given context-specific situation (Eraut, 2004).

Where the student perceives a good relationship with the clinical educator, the feedback may be viewed as more insightful and relevant (Clynes and Raftery, 2008). Whereas, negative feedback can result in the learner dismissing the feedback or judging it as critical and controlling (Archer, 2010), which may impact on self-esteem and confidence (Cahill, 1996; Clynes and Raftery, 2008). Asking the student to appraise their own performance initially in order that feedback can be sensitive and developmental may be received better by the student (Clynes and Raftery, 2008). However, self-assessment, the ability to appraise one's own performance against another's standards, can be influenced by culture and gender, and not be demonstrative of a shared reality (Archer, 2010). Self-assessment may contain inaccuracies, but may provide a useful insight for the clinical educator and help to focus and individualise the feedback. Goal setting may also help to focus the student and provide

relevance to the feedback (Archer, 2010), which may increase feedback acceptability.

Feedback is aligned with the attainment of competence relating to specified learning outcomes with feedback described as formative working towards a summative assessment of the students' competence (Clynes and Raftery, 2008). Ultimately, the teaching and learning phase of the student-clinical educator relationship is likely to culminate in a decision regarding the student's level of competency. This is critical, because it helps the clinical educator formulate feedback in a way that will guide the student towards competency and it is important that the nature of competency and how it can be recognised can be articulated to the student who usually cannot progress without having been judged competent at some point during the placement process.

### **1.6.3 Judging competence**

The terms 'competence' and 'competency' are often used interchangeably in the literature. Khan and Ramachandran (2012) suggest that 'competence' should be used when defining an ability to do the skill, and 'competency' should refer to the skill itself. A competence-based approach to assessment has been taken by both medics, nursing and allied health professionals as a method of establishing student competence to undertake practical skills (ten Cate et al, 2010). This shift has been the result of Government drivers where greater transparency and accountability towards the public has been a prerequisite.

The issue is not straight forward, however, as the clinical role is complex and the construct of competence is multi-dimensional and requires a synthesis of a range of competencies such as communication, technical skills, problem-solving skills, personal values and ability to reflect (Khan and Ramachandran, 2012; Talbot, 2004). Ten Cate et al (2010) call for competence to be judged based upon the complex interplay between the student and the clinical environment, because the context affords the competency relevance and environmental changes influence competency. Both context and environment increase the relevance of the assessment of the student acting in a dynamic and complex situation. It is not simply the student's ability to carry out expected procedures correctly, but also to interpret the context and what is required correctly (Eraut, 2004). One of the criticisms of the competency model is that it has the potential to concentrate upon assessing those aspects of practice that are more easily measured (Talbot, 2004).

Student assessment in practice should not be by the identification of subunits of a composite skill which are then assessed in a dichotomous fashion, but the demonstration of synthesis of competencies such as communication, ergonomics, patient safety, which underpin the student's 'performance'. The performance is the observable aspects of those competencies, such as psychomotor skills in conjunction with the application of knowledge, higher cognitive skills, including decision-making, reasoning, analysis and synthesis (Khan and Ramachandran, 2012), which are not so easily observed. Khan and Ramachandran (2012) suggest that aspects of performance can be influenced and improved, such as knowledge base and application, psychomotor skills,

non-clinical skills (inter-professional working, planning) and attitudes (professionalism, bias), but that other factors such as environment, emotional and physical influences and personality traits (self-efficacy, anxiety) are not so easily managed and changed.

#### **1.6.4 Student assessment**

In nursing the mentor has responsibility for deciding students' competence, but the sign-off mentor has a specific responsibility to act as gatekeeper for their profession with the sign-off mentor making the final assessment of practice and ultimately allowing entry to the profession (Andrews et al, 2010). These extra responsibilities have been supported by the Nursing and Midwifery Council (NMC) who stipulate that one hour per student per week should be allocated as protected time, although without extra funding this is a challenging target (Andrews et al, 2010). The NMC strives for rigorous processes which in turn has led to increased complexity and procedural load (Casey and Clark, 2012), adding to the overall supercomplexity of the environment.

The term 'sign-off' mentor, however, is used within the podiatry programme to refer to any clinical educator with responsibility for determining student competence and signing off learning outcomes. Currently, there is only anecdotal intelligence regarding the levels of protected time allocated to clinical educators to carry out the role, but it would appear to be extremely variable with no time allocated in some areas. Given that there is evidence to support the value of orientation and induction to the placement area, with time for

discussion of paperwork, processes and expectations, this omission may have implications for student progression (Rodger et al, 2011).

One of the challenges to assessment of students within placement is the issue that there is often more than one solution to a given problem and that analytical skills are unseen with the end product only evident (McMullan, 2005).

Formative feedback is part of the feedback process, which assists the clinical educator to establish where competence is evident and where development is still required. This, of course, can only operate where the person undertaking the summative assessment provides the formative feedback

### **1.6.5 Barriers and challenges to practice-based learning**

A tension has been said to exist between the idealism of academics and the realism of clinical educators (Corlett, 2000), with lack of time to work with students during relatively short placements and sequencing of theory and relevant practice cited as issues. It is important for academic staff to support clinical educators in their role, because this has been found to impact upon the confidence building of students (Rowan and Barber, 2000). Regular meetings between clinical educators, ward staff and academics have been reported to strengthen students' confidence to practice and enhance feelings of support. It should be remembered that for students the placement period is a time when they lose their usual support networks and access to HEI facilities and it requires commitment by all parties to work closely in order that this physical separation can be bridged and information sharing can occur.

There also appears to be tension between the practice environment and teaching environment in terms of credibility. Achieving an academic profile of research and publication can represent a barrier to nurse teachers' engagement with practice (Corlett et al, 2003). Duffy and Scott (1998) suggest that the practice of nursing has become secondary to the teaching of nursing, a devaluation given credence by financial reward. The charge is that educational nurses do not seek practicing nurses' views, but that procedures are imposed upon them. Documentation that is comprised of obscure academic language may further widen the theory/education-practice gap and a breakdown in communication. The term education-practice gap describes the balance of knowledge and power between higher education and the work place (Duffy and Scott, 1998). Understanding the requirements of the HEI is important to students (Seibold, 2005). However, many clinical educators report feeling ill-prepared for the role of mentorship, especially the learning and teaching related aspects (Andrews and Roberts, 2003). Interestingly, clinical educators who possess a teaching and assessor's qualification consistently rated themselves as more effective and supportive, in a study by Andrews and Chilton (2000), than those without, although students were unable to distinguish between the two groups.

Nursing and Midwifery literature outlines many factors that can influence the clinical educator-student relationship and become a barrier to achieving the objectives described earlier in this chapter. The term 'theory-practice' gap is often used in the literature (Cope et al, 2000; Corlett et al, 2003; Hewison and Wildman, 1996; Landers, 2000; Ousey and Gallagher, 2007). At one level this

term describes the 'gap' between 'knowing how' (practice) and 'knowing that' (theory), but in broader terms seems to be a product of the multiple challenges that occur in practice placement. The concept of a 'gap' between knowledge and skill seems to embody, in part, the physical separation of the HEI, where theory is delivered and practice placement, where practical skills are developed and honed, and in part reflects the education-practice gap. Nominal sharing of resources and limited collaboration between the academic and clinical educator (Edmond, 2003), as well as a perceived lack of communication has been a problem for clinical educators with respect to relationship building and information exchange between institutions and clinical areas (Corlett, 2000). This results in clinical educators having limited information about the curriculum, stage of training of incoming students and the theory that has been delivered prior to placement. These sentiments are shared by Duffy and Scott (1998) as they consider the effects of failing students. Students who fail may produce feelings of anxiety in the clinical educator in relation to their own inadequacies or initiating a cascade of events which spirals out of their control.

With 'Agenda for Change', the band 6 role for the podiatrist now includes undertaking the role of mentorship, although not all placement areas have applied this stipulation to all staff. Therefore, unfortunately, clinical educators' individual interest, aptitude and affinity for the role may not necessarily be the driver (Andrews and Chilton, 2000) and this may have implications for the effectiveness of the placement. Besides the clinical educator's inclination towards the role, quality patient care is the primary focus and this may lead to tension when trying to juggle professional responsibilities alongside those of

mentorship (Ali and Panther, 2008; Hewison and Wildman, 1996). Finding time for teaching and learning activities was reported by Cahill (1996) as occurring during less busy times on the wards and almost as a reward for having worked hard during busier periods. This view is reflected in other professions, such as midwifery where clinical educators have described the mentorship role as an 'add-on' to their main role, impacting adversely on planning for student learning experiences (Finnerty et al, 2006).

This section has described in detail the role of the clinical educator and the challenges to undertaking the task of providing an effective learning environment for the student. Discussion has also focused on the tensions that exist between the NHS and HEI and the primary role of the clinical educator as a clinician. The next section outlines the argument for researching practice placements in podiatry based upon the evidence presented.

## **1.7 Platform for research**

This chapter has outlined the substantial changes to the delivery of the BSc (Hons) podiatry programme, with greater student numbers and longer practice placements away from the University. The BSc (Hons) podiatry programme accesses placement opportunities from providers in excess of 150 miles from the University. The physical distance and similarities shared with the theory-practice placement model used in nursing and midwifery are likely to present many of the same issues for podiatry clinical educators and students.



One of the main difficulties for placement providers of podiatry is the tension between maintaining quality patient care and facilitating increased student numbers on placement for longer periods of time. Although the SWSHA remunerates the Trust for students allocated, these monies do not follow the student, but are realised before they reach the Podiatry Service in question. The University has consistently tried to highlight to the placement providers that the SWSHA or Local Education and Training Boards (LETB), as the commissioner of student numbers, has increased the number of practice placement opportunities required in line with workforce needs. However, the misapprehension persists in some areas that the University makes these demands of the placement provider and that they are unreasonable and unachievable.

The podiatry programme at the University has a progressive placement programme within the podiatry profession, which has required training of clinical educators who have had to undertake the role of clinical education with no direct supervision or development into the role in the first instance. The University has offered annual mentorship updates and put in a variety of measures and staff to try and support, facilitate students and clinical educators and mitigate some of the issues around placement-based education.

Undertaking mentorship where funding is indiscernible and yet the requirement for commissioned patient contacts remains the same, has created tension between the placement areas and University. The burden of clinical education is sometimes viewed as an imposition where services were already considered

to be at capacity. Any research undertaken in this arena needed to be sensitive to the practice placement and the considerable changes already experienced.

The roles and tasks of the clinical educator have been reviewed, which are interpolated within the main focus of patient management. The dynamicity and supercomplexity of the NHS and HEI environments create a myriad of challenges and barriers to delivery of a practical-based model of learning. Yet research pertaining to placement learning mainly relates to nursing, midwifery and medicine, with a dearth in the area of allied health professions and almost none for podiatry.

Students undertaking practice-based education have the potential to impact heavily on both the clinical educator's workload and the organisation of the clinic. Where observation only occurs the impact on the clinic schedule will be small. However, where the student is given hands-on practical experience the impact will be directly on the activity time for that patient contact, which may have implications across the whole appointment schedule for that session. Alternatively, the student can treat in another clinic room at their own pace, but this means the student must work alone without close supervision or benefit of direct mentorship. Another option is for two students to work alongside one another, so one treats, one note-keeps and then they swap roles, so allotted appointment times are maintained. These options are tempered by the stage of student progression, patient type and facilities, which collectively create some definitive differences between podiatry and other professions. Podiatrists work

autonomously and therefore opportunities for interprofessional working tend to exist within more specialist roles.

Finally, there has been no formal evaluation of the impact of the programme changes upon the practice placement clinical educators, students and academics or of the efficacy of practice placement in podiatry. The expectation is that multiple issues, similar to those perceived by the nursing fraternity, will be identified as clinical educators and students in podiatry have anecdotally expressed this perception. The proposed research seeks to engage important stakeholders and partners in the practice placement endeavour to explore and provide a contemporary account of podiatry placements in the South West of England using an AR approach. The overarching research imperative is:

*‘To explore practice placement in podiatry education using an action research framework’*

## **1.8 Thesis outline**

The thesis is split into two parts, representing two distinct phases: Phase I relating to the survey of clinical educators in podiatry across the South West of England using quantitative methods and phase II utilising qualitative methods to analyse the effects of a teaching and learning tool in a single placement area. Appendix 1 contains a diagrammatic overview of the three cycles of action and incorporates the research questions and timeline. The thesis consists of seven chapters in total which are outlined below.

Chapter one outlines the conceptual framework exploring the concepts of practice-placement and the clinical educator role in podiatry and related issues. Chapter two provides the theoretical framework for the thesis and describes the antecedents and ethos of AR leading to chapter three which is devoted to a literature review of the use of AR by health professionals in relation to pedagogic research. The rationale for the use of AR and formation of the AR team is also discussed here. Chapter four contains the first and second AR cycles relating to a pilot and final survey of clinical educators regionally. The beginning of chapter five provides the evaluation of the second AR cycle which leads to the operational planning of cycle three; the development of a teaching and learning tool for use by clinical educators and students. The project design is described, including planned data collection methods and analysis. The findings of phase II are presented in Chapter six and finally, Chapter seven relates to the discussion of both phases I and II.

## **CHAPTER TWO: THEORETICAL FRAMEWORK**

The previous chapter described the current position of practice placements across nursing, midwifery and other health professions, in particular the barriers and challenges to the delivery of placements. From the literature review pertaining to podiatry it was established that there is a dearth of research in the area of practice placement in podiatry. The rationale for this research project was clearly established and the outline of the thesis presented.

This chapter presents the rationale for employing an AR approach. The ethos of AR is explored, how quality and rigour can be evaluated and ethical considerations that are particular to the AR method.

### **2.1 Introduction to action research**

An action research framework has the capacity to explore and address specific work-based matters within a given context by stakeholders working in collaboration. This approach enables the researcher to work in a social setting rather than on it (Noffke and Somekh, 2005). A collaborative approach harnesses the insider knowledge of those within a community of practice (Wenger, 2000) facilitating identification of situations that inhibit progress whilst enhancing the potential to make changes advantageous to the group and its practices. Through a process of reflection, planning, action and observation participants work in collaboration to elicit changes that result in practical knowledge generation, which may also result in a personal journey of

knowledge (Reason and Bradbury, 2001) leading to new and potentially improved practices. Stakeholder collaboration is key to constructing a multi-lens perspective representative of multiple views and opinions and, perhaps more importantly, enabling the expression of voice. Empowerment is central to AR and has been utilised in many areas where individuals have little or no control over their surroundings. The origins and key principles of AR are presented in this chapter, along with the epistemology of AR, types of AR, theory generation, ensuring quality, and ethical considerations when using AR as a framework.

## **2.2 The origins of action research**

The origins of AR are somewhat contested (Altrichter and Gstettner, 1993; Coates and Chambers, 1990; Farrimond et al, 2006; McAndrew, 2003), but many action researchers who have sought to chronicle the foundation of AR agree that Kurt Lewin should be credited with formally describing the AR inquiry process and coining the phrase 'action research' (Dickens and Watkins, 1999; Hart and Bond, 1995; McNiff and Whitehead, 2006). There is evidence, however, that Collier (1945), contemporaneous with Lewin, used the term 'action research' in relation to the 'Soil Conservation Service' (Hart and Bond, 1995; Winter and Munn-Giddings, 2001).

Kurt Lewin confronted social problems affecting minority groups, such as prejudice (Lewin, 1947a) establishing 'The Research Centre for Group Dynamics' at the Massachusetts Institute for Technology (Adelman, 1993)

concerned with developing practical, not just theoretical, solutions to social problems and developing ways to evaluate the effects of the changes undertaken (Lewin, 1946). Lewin's research relating to group decision making and social change introduced the idea of '*spirals of steps ...planning, action and fact-finding*' (Lewin, 1947a, p. 269). The initial planning phase was described as a period for close examination of an initial idea, which may involve more '*fact-finding*', in order to discern an '*over-all plan*' and the '*first step of action*' (Lewin, 1947a, p. 269). The '*fact-finding*' phase may include evaluation as to whether the action undertaken achieved the goal. The overall plan can subsequently be adjusted and provide participants the opportunity to gain new information or understanding. For learning to be achieved, Lewin states unambiguously; objective standards of evaluation are required in order to determine the effectiveness of the action undertaken. Lewin's strategy described collaborative working with regard to decision-making and he later demonstrated this approach when considering how to enhance productivity levels (McNiff and Whitehead, 2002). The initiative provided an opportunity for the workforce to be actively involved in identifying issues that hindered productivity and subsequently to work together to solve the problems through action, evaluation and reflection (Adelman, 1993). Lewin's methods may not have directly addressed the power dynamic between management and workforce, but did recognise the political and social context of the time.

Undoubtedly, Lewin is an important protagonist in the history of AR, describing the conceptual framework with the main tenets that we recognise in the 21st Century. An innovative, progressive and societal approach permitted a

previously denied freedom and voice to subordinate groups. The strength of AR is its dynamicity, flexibility and for actions to be exploratory, inventive and unexpected within a given context. Reflexivity was in its infancy, but Lewin pioneered a new strategy for social enterprise providing a concept for future action researchers to debate, develop and above all utilise in a variety of different contexts with altered emphasis, as the situation requires.

Within education AR has been utilised to develop curriculum practice, used for evaluating and improving practitioners' own teaching practices, ideally collaboratively to obtain multiple perspectives (Corey, 1954; Lewin, 1946). In the UK, AR started to gain in popularity with the Humanities Curriculum Project and the Ford Teaching Project. Lawrence Stenhouse was an educationalist who advocated for the teacher as researcher and viewed classrooms as laboratories for researching pedagogical theory (Stenhouse, 1981). Curriculum was viewed as the vehicle to test and develop new educational initiatives for practice with the teachers' utilizing new techniques and subsequently gaining insight into, and understanding of, their own teaching practices (Stenhouse, 1981). There is the potential to develop curricula by using reflection upon teaching challenges as a catalyst for identifying solutions to problems (Elliott, 1983; McKernan, 1996). Understandably, this utility has resulted in AR becoming extremely popular within the area of education leading to the establishment of a journal dedicated to the application of AR in education, 'Educational Action Research' founded in 1992. The benefits of a collaborative problem-solving and change-orientated approach have not been limited to



education, and since the 1990s social work and health areas have utilised this approach too.

## **2.3 Action research principles**

### **2.3.1 The epistemology of action research**

This section explores the epistemological position of AR; in particular the role of AR in respect of knowledge production and the relationship between theory and practice.

The notion of research as an inquiry in the pursuit of knowledge has its traditions within the positivist paradigm where the world is viewed objectively, with experimentation and analysis having the ability to predict outcomes. An important principle of this approach is that the researcher remains external to the research as an unbiased observer, who in no way contaminates the research. The individual remains methodologically reflexive for unwanted behaviours that could alter the research area and adheres to well defined procedures and protocols (Coghlan and Brannick, 2005). This objectivity, according to the positivist paradigm, is key to maintaining a position that allows the researcher to collect data that is unsullied by subjectivity and bias and therefore represents 'truth'. Quantitative methodologies seek to quantify, measure, test theory and the resultant explanatory theory is then considered generalisable to the wider population (Coghlan and Brannick, 2005).

An alternative epistemological perspective to positivism is that of interpretivism. This alternate view elevates the requirement for understanding human nature and embraces the idea that social science seeks to understand complex interactions of people with, and in, a social context to make sense of how actions are interpreted in response to others' actions (Bryman, 2001). Researchers strive to demonstrate reflexivity for transparency of their beliefs, increasing trustworthiness and providing an audit trail of events (Finlay, 2003, p.4).

Qualitative research methods are often utilised to make sense of the complexities of social situations by using techniques such as interviews, observation and focus groups. Such methods are designed to engage the participant in providing an interpretation of the phenomena under scrutiny which produces data for subsequent analysis. Ensuring that the phenomenon under observation is fully explored and that the results capture the holistic view required is critical to presenting a 'true' representation (Willis, 2007). The researcher may seek agreement and validation of their interpretations from the participants to assist in this. Theory is generated through an inductive activity, which is drawn from the context, but is not generalizable in a statistical sense (Bryman, 2001). Oquist (1978, p. 144-145) expresses the twin aspects of AR and how they qualify one another: *'research is the production of knowledge. Action is the intentional modification of a given reality.'* Oquist (1978) goes on to argue that AR produces knowledge which in turn directs practice and that these two elements happen simultaneously and as a consequence of each other.

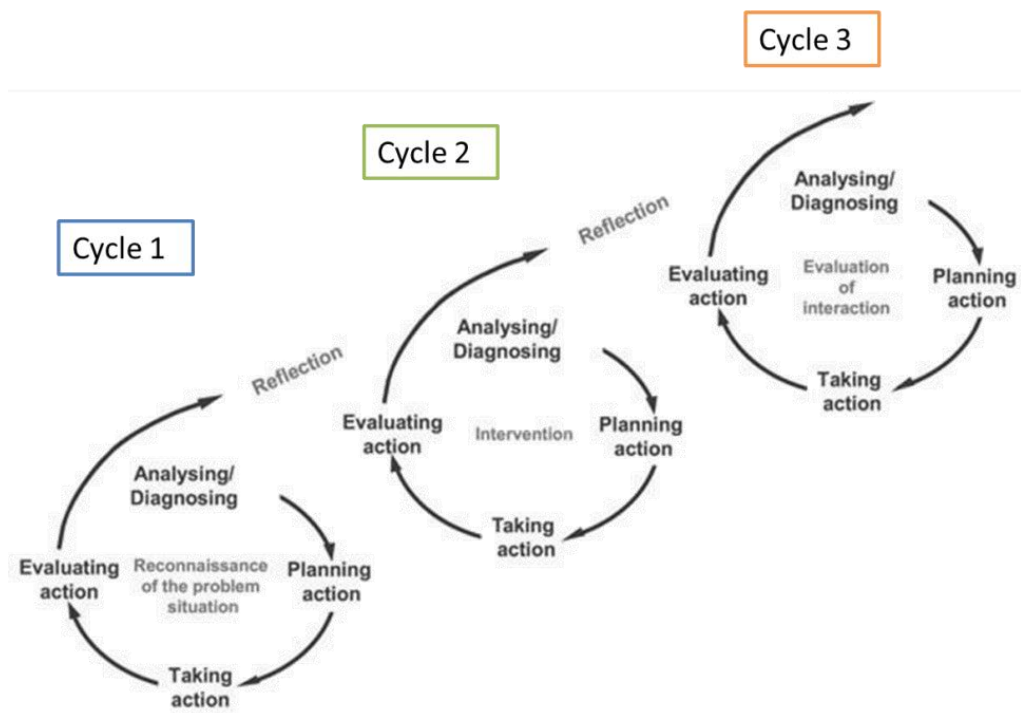
AR calls for an interpretivist or critical theory approach whereby the ontological perspective requires the researcher to view the world as not separate from him or her, but as a contingent part of his/her environment and therefore a construct of his/her own reality (McNiff and Whitehead, 2006). AR aims to marry the practitioners' insights, experience, and reality of their setting to create a shared understanding, and a wide range of data collection techniques from both qualitative and quantitative methodologies can be utilised. As a framework AR offers an in depth, critical commentary situated within a particular context where a system/organisation/community of practice can be supported to take action (Coghlan and Brannick, 2005) in the pursuit of both knowledge production and change. The procedural aspects and tenets of AR will be explored from a research group perspective in the following section.

### **2.3.2 Overview of action research**

A complex methodology, AR has its roots in social science. Reason and Bradbury (2001, p.1) describe AR as '*grounded in a participatory world view*' emphasising democracy, and capacity to solve practical real life issues that are of value to people whilst increasing knowledge. There is an emphasis on making sense of the context, seeking understanding through shared perspectives, not in isolation (Reason and Bradbury, 2001).

AR is a cyclical process and the first stage can be viewed as reflecting upon the issues concerning a community of practice or diagnosing the problem for that community. Thorough exploration of areas likely to yield pertinent information,

such as the main stakeholders discussing the issues; reference to literature pertaining to the area of interest; review of related policy or other committee documentation is essential. Once the issues/problems have been thoroughly explored the researcher(s) progress to the planning stage. Further information to diagnose the problem may be required or planning towards making changes that allow testing of new ways of working may be instigated. Once all plans are in place, which may take some considerable time, the action stage can be initiated. At this stage data collection occurs, which must be applied simultaneously alongside any action. This is central to the process where 'action' and 'research' occur concurrently leading to a reduction in the gap between theory and practice. This is dependent upon working collaboratively linking theoretical knowledge with practical applications (Eikeland, 2007). The action phase, however, may be solely about gathering data regarding the issues under review, based on the information learned from the first phase (see Figure 3). Researchers engaging with AR have a status of an insider with self-reflection and reflexivity essential to establishing the researcher's epistemological stance and biases (Winter and Munn-Giddings, 2001).



**Figure 3** Spiral of AR cycles adapted from Coghlan and Brannick, 2005

Following data collection an evaluation/reflection phase occurs with a period of analysis and evaluation of the events, which may feed into a further AR cycle. It should be recognised, however, that just to follow the cycle faithfully does not constitute engagement with AR, but the researcher(s) must uncover and problematise the issues of concern (McTaggart, 1994). As data is generated at each stage of the research, knowledge is being generated throughout the whole process and it is this 'knowledge' that drives the AR process (Coghlan and Brannick, 2005).

The basic process appears to be straightforward, but AR involves a complex interplay between processes, relationships, power dynamics and change. The pursuit to uncover barriers/issues/problems may create tension within

relationships or conversely uncover strong alliances. This may affect unity within the AR team, but create separation from other groups such as managers with changes leading to a period of destabilisation and reorganisation which can be uncomfortable during the change period. A dynamic process, the central tenets of AR can assist the researcher engaging in the process to remain mindful of the strengths and ethos of the approach and these will be discussed in the next section.

### **2.3.3 Key principles of action research**

The following section provides a detailed discussion of the four key principles of AR: collaboration; problem-solving; changing practice; reflexivity. The author contends that AR is a rigorous and legitimate form of research generating both knowledge and theory.

#### ***i. Collaboration***

A hallmark of AR is its collaborative character by which researchers strive to involve all the main stakeholders or players in discussions and actions contingent in driving the research forward. A non-hierarchical working relationship is the aspiration, where no one person's view has precedence and all perspectives have an opportunity to emerge with each stage of the research process discussed and agreed by the group (Mill and Morris, 2000). Outlining the principles by which the group will operate within the collaboration and how the data will be used may avoid potential conflicts within the group (Bellman and Webster, 2012; Fraser, 2000). This inclusivity within the research team

incorporates representatives with unique perspectives and realities (Brydon-Miller et al, 2003) who are bound together by the shared context which they inhabit. This understanding may lead to specific revelations, such as why the AR project has been conceived now. Political, economic and social drivers are important for understanding the external forces and extricating them from internal drivers, so the impetus for change is fully understood (Coghlan and Brannick, 2005). No other organisation or community will face quite the same challenges in quite the same way, because the environment, economic status, politics and social climate will always be slightly different (Holter and Schwartz-Barcott, 1993).

From inception to conclusion of the project individuals may change and certainly the landscape and context will be subject to change, so it is crucial that the AR team have a well-described and comprehensive starting point. Involving key players and stakeholders potentially increases the discovery of all the relevant issues and subsequently the likelihood of instigating changes which will be viewed as acceptable by those implementing them, because all involved have a vested interest in achieving successful outcomes (Hodgson et al, 2008). The emphasis is research 'with' rather than 'on' individuals and those engaged in the process are not research subjects, but participants and collaborators (Bellman and Webster, 2012). This idea has developed through the evolution of AR and the term 'co-researcher' encapsulates this principle (Altrichter and Gstettner, 1993). Collaboration has undeniable benefits, but in reality true collaboration may be more elusive (Bellman and Webster, 2012, p. 119) as the researcher is often the 'outsider' with knowledge and expertise of theory and research and

the practitioner is the 'insider' with expert knowledge of the environment (Holter and Schwartz-Barcott, 1993). Depending on how this relationship has been conceived at the outset and contracts negotiated for the project, there may well be an imbalance from the inception, with the 'researcher' seen as the project lead rather than as a facilitator (Bellman and Webster, 2012). Within the AR literature collaboration is exalted, but the facilitator of AR should expect barriers and challenges that they will need to overcome (Bellman and Webster, 2012).

## ***ii. Problem-solving***

Problem solving is central to AR and it could be argued that all research focuses on a problem of sorts in the pursuit of knowledge. However, in AR problems, barriers and challenges are actively sought out and they become the fulcrum on which all the other subsequent activities turn. The 'problem' could be described as a lack of understanding of the concomitant factors and research is undertaken in order to achieve understanding and therefore the 'problem' is resolved rather than solved. AR differs from other methods, because a problem is known to exist, but its character and dimensions are not so tangible (McTaggart, 1994). Where a problem is not fully understood or perhaps is a representation of more complex, yet unidentified problems that exists, AR offers an approach that is investigative and allows for innovation and problem solving.

Uncovering problems by individual inquiry, acting as part of a collaboration, creates ownership and shared responsibility for the issues discovered (Pasmore



and Friedlander, 1982). The term 'co-appreciation' encompasses a co-operative problem-solving approach requiring mutual appreciation and trust in relation to situations where management and workers unite in a joint venture. Both parties have qualities and knowledge that are beneficial and fundamental to successful problem-solving. However, using the term 'problem' in itself may have unwanted effects. Coghlan and Brannick (2005) caution prospective action researchers against the term arguing that it evokes negative connotations, whereas an alternative such as 'challenges' is imbued with positivity keeping minds open to trying new ideas and fostering a culture of innovation and enterprise. Whatever term is used, a high level of commitment and understanding of the complexities involved will be required to ensure that any endeavours go beyond a mere 'suck-it-and-see' approach to problem-solving.

### ***iii. Changing practice***

Identifying problems and actively taking steps to change practices is at the heart of AR. An AR approach permits the researcher to remain embedded within the real-world setting where practitioners operate. Kemmis (2009, p. 463) clearly identifies three aspects of change in relation to AR and practitioners: *'practitioners' practices, their understanding of their practices, and the conditions in which they practice.'* The argument extended is that to separate these elements from one another is impossible, that they are intrinsically linked, are affected and influenced by the context in which they exist, and therefore these links are 'unstable and volatile' in the presence of change (Kemmis, 2009).

Where change is undertaken it has to be grounded within the context and acknowledge the realities of that context and those involved. Rolfe (1996, p.1317) proffered the idea of '*grounded practice*', the use of reflexivity by educational practitioners within the AR process trying out new ways of working based on theories that have been borne out of a 'trial and error' approach. Thereby, the practitioner retains the successful elements and discards what they have deemed to be ineffective. Rolfe (1996) likens this to grounded theory, where theory is grounded in data and suggests that practice interventions are grounded in data generated within a specific context. This is a highly subjective process; the judgements of effectiveness are made by the practitioner alone and may not be generalisable beyond that practitioner and their environment and shares much in common with Kolb's (1984) reflective cycle. However, where changes occur that are agreed, implemented and evaluated within a wider team, there might be aspects that can be generalised into situations with similar characteristics.

Even as part of collaborative project, individuals may well find that their assumptions and biases need to be recognised, acknowledged and considered (Bellman and Webster, 2012, p.123). There is, however, the potential for knowledge transfer; aiming to bring research into practice and inform policymaking and protocols (Bellman et al, 2011). Organisational commitment, however, needs to be high with resources being made available if research is to become integrated into clinical practice (Bellman et al, 2011). The nature of AR provides a starting point, but the finish point will be more elusive or perhaps lead to unanticipated outcomes (Coughlan and Coughlan, 2002; Ellis and Keily,

2000). It may be that the project has a finite life span because of financial and time restraints, but the opportunity for action cycles is potentially inexhaustible.

#### ***iv. Reflection and Reflexivity***

Reflection and reflexivity are very closely intertwined and the terms are often used interchangeably within the literature which can create ambiguity regarding the writer's meaning. Woolgar (1988, cited in Shaw, 2010) suggests a useful delineation, viewing the process of reflexivity as a continuum, with reflection denoting benign introspection at one end and radical constitutive reflexivity at the other. The contention is that reflection has a positivist perspective, seeking to verify and present the research participants in a truthful way, whereas reflexivity considers the researcher within a given context acknowledging the co-construction of a shared reality with those that inhabit that environment. Reflexivity is relevant to both quantitative and qualitative research in that it addresses *'epistemological concerns about how our identities as researchers are multiple, contradictory, partial, strategic and located'* (Kingdon, 2005, p.623). Reflexivity within qualitative research is particularly important because it requires the researcher to reflect continually upon methods and values with regard to cultural, political and social contexts and the impact the individual may have on the research process (Finlay, 2003). Sensitivity to biases and different perspectives and how these may impact on the research setting, data collection and analysis is essential. Reflexivity encourages self-awareness in an effort to maintain high professional standards and ethical rigour.

AR has the potential for collaborative reflexivity where analysis and evaluation can offer a more detailed and multi-perspective account (Kingdon, 2005). This can be achieved by using reflective diaries or journals in order to detail not only critical events, but also the individual's critique of the process with which they are engaged (Harris, 2008). Researchers/participants are usually within contexts of which they have detailed knowledge and, therefore, need to consider closely new information and how they rationalise it by reconsidering the ordinary and commonplace. The use of reflexivity and dialectics are helpful, because new information or experiences can promote discussion by participants within the context attempting to explore and interpret the phenomenon. Discussion facilitates the potential for staying alert to changes, how those changes occurred and the future once the AR has officially ended. Also, differences of opinion within the group, tensions, disagreements and conflicts of interest may be very revealing in getting to the 'truth', rather than events being accepted into the cultural milieu without more thorough investigation (Winter and Munn-Giddings, 2001).

Reflection sits alongside the cyclical processes and is a superimposed cycle of critical reflection (Coughlan and Brannick, 2005) where the researcher/participant involved uses the reflective cycle in order to record and monitor their own behaviour, reaction and involvement in the process and how they have influenced events. AR has some commonalities with Kolb's experiential learning cycle and has been described as '*learning in action*' (Coughlan and Coughlan, 2002). Coughlan and Coughlan (2002, p. 235) describe learning in action as grounded in '*inquiry reflection*'. Change and reflection are key

elements of AR. AR teams offer a forum where ideas, interpretations, assumptions and theories can be aired, evaluated and substantiated within a contextual arena where the participants represent the key stakeholders and are 'experts' within the perspective that they represent. The validity and relevance of the research outcomes is enhanced because the research is grounded within the research context, taking account of the complexities and multiple-perspectives leading to co-constituted change. This approach has potential, not only for acceptance and engagement, but also for sustainability within that specific setting.

## **2.4 Action research typologies**

Since the inception of AR, proponents have sought to develop and adapt the process to their own particular requirements. One of the problems with attempting to provide a comprehensive overview of AR is the diversity of the field. Academics from different disciplines publish and present in places that are not visible to other action researchers (Greenwood and Levin, 1998) and different contexts, perspectives and emphases impose a change upon the character of the AR. There are, therefore, a variety of different theoretical frameworks which have features that make them suited for particular contexts (Noffke, 2009, p.6). AR is to some extent a generic term, which implies certain principles, activities and methods that might be used. It is an umbrella term under which a number of variant methodologies and paradigms reside (Coghlan and Brannick, 2005).

A number of action researchers have endeavoured to classify AR approaches in an attempt to help researchers identify which type suits their purposes best.

According to Winter and Munn-Giddings (2001), classification is related to the overall design such as diagnostic, participant, empirical or experimental.

However, Reason and Torbert (2001) suggest three overarching categories: first, second and third person AR in an attempt to situate the researcher within the context whether relating to personal practices or within a larger community based project. Hart and Bond's (1995) approach is a typology based on seven criteria set against four AR categories: experimental; organisational; professionalising and empowering with standards for each:

1. To be educative
2. To view individuals as a member of a social group
3. Problem-centred, contextualised and future-orientated
4. Change-focused
5. Beneficial and involving
6. Cyclical
7. Collaborative

This approach to AR incorporates three of the main tenets of AR previously outlined, and categorises some aspects that were mentioned in association with those principles or by implication. However, the author's approach to AR includes all the criteria outlined by Hart and Bond (1995), including researcher reflexivity.

Alongside the AR typologies exist a variety of research approaches that incorporate action and change, where similarities and differences from AR are apparent, with the emphasis of the approach often being the distinguishing feature. These variations of AR might be described as having a familial identity with shared ideas and overlap: appreciative inquiry focuses upon appreciation of the effective aspects of organisations and communities, creating a positive philosophy towards the research (Coghlan and Brannick, 2005; Ludema et al, 2006, p. 155). There are a number of elements that appreciative inquiry and AR share; both are conducted in real-time within social systems with stakeholders focusing on change using cyclical and iterative processes whilst engaged with a variety of data collection methods; both have a balance between action and reflection and are concerned with theory-building (Egan and Lancaster, 2005).

Identifying issues and problems is the focus of participatory AR, which can involve individuals or groups, but understanding the history and sociocultural context (Baum et al, 2006) of social relationships is integral. A close working relationship between researchers and participants at each stage of the AR cycle, including the dissemination phase, in the co-construction of knowledge is considered paramount (McIntyre, 2008). Participatory AR incorporates all of the tenets of AR described earlier within this chapter and shares similarities with emancipatory AR as the power dynamic between participants and researcher is required to be shared (Baum et al, 2006).

Other related approaches such as action learning gives primacy to 'action' as the 'experiment' from which learning is derived (Park, 1999) with action science concerned with changing individuals' behaviour within an organisation by '*understanding and producing action*' (Argyris, 1995, p.20). The commonality across these methodologies, however, is the utility for problem-solving, change and theory generation within a community of practice (Friedman, 2001, p.131). The question of whether theory building should be an aim or indeed can be a factor of AR is discussed in the following section.

## **2.5 Theory building and action research**

The question of whether theory is a critical component of AR, and indeed whether AR should fundamentally seek to produce theory as an outcome, has been subject to debate (Williamson, 2012, p. 55-56) although some exponents of AR are less ambivalent and consider contribution to knowledge crucial (Coghlan and Brannick, 2005). The argument centres on whether changing practice alone is sufficient with theory generation occurring serendipitously or whether theory generation must be a specific and planned outcome.

A literature review relating to the context, problem or issue, demonstrating engagement with current knowledge and theory is a typical initial approach in AR. However, the action researcher develops a conceptual framework which draws from the literature and other theories to develop new ways of working within a specific context, which can be tested and evaluated in that context, possibly resulting in a more in-depth, multifaceted and comprehensive



framework (Manley, 1997; Westhues et al, 2008). AR is more than just a method of problem-solving, but a conceptual framework which allows for testing and refining of emergent theory (McKay and Marshall, 2001). It is, therefore, incumbent upon the researcher to pose research questions and hypotheses so that theory generation is a key component, and consider the data collection and analysis carefully in order to accomplish this objective. The researcher is invested with dual imperatives, not only acting as an problem-solver, and agent of change, but also a generator of knowledge and theory (McKay and Marshall, 2001).

Contingent on theory building is the generalisability of that knowledge to other areas of practice, which is referred to more frequently as transferability in AR and qualitative research, given that findings are not predictive, but may still be transferable into similar contexts (Williamson, 2012). These terms will be used interchangeably within this text. The potential for generalisability of findings across a wider population is desirable for dissemination and utilisation of findings and statistical generalisation is one of the key principles by which quantitative research is judged (Bryman, 2001).

In qualitative research, the possibility of generalising findings to similar groups is dependent upon the research being reported using rich description with contextual information, participant profiles, and theoretical posits, providing opportunities for naturalistic generalisation with other practitioners in similar situations (Koch and Kralik, 2006; Meyer, 2000). It is important to recognise that the specific cannot be directly transferred without question, but there may

be conceptual insights which have utility for others (Ebbutt and Elliott, 1985, p.13, cited in Somekh, 2003). It is the researcher's ability to conceptualise and characterise experiences, which is essential to theory generation (Eden and Huxham, 1996). The researcher should move from the specific to more conceptual understandings to aid generalisation. Communicating the context is critical and ironically, the shift towards evidence-based practice within health and social work has created an interest in the production of generalised protocols, which may prove inadequate in practice, because of their lack of contextualisation. AR, however, might be utilised effectively in these circumstances by practitioners applying and testing these disseminated and repackaged theories. The protocols can be evaluated in the individual's context, applying the relevant knowledge and skills base to inform the utilisation of that theory in a specific setting. In recent times AR has been used to transfer knowledge from academic to practitioner by fostering the introduction of new evidence-based practices within clinical areas (Bellman et al, 2011).

## **2.6 Judging quality in action research**

AR is a powerful way of informing research based practice, and utilises a mixed methodological approach (Barbour, 2000) and therefore merges the terminology used for quantitative and qualitative quality judgements. Reason and Bradbury (2008) have described AR as *'not so much a methodology as an orientation to inquiry'*. There has been some attempt by the AR community to provide guidance on how quality might be evaluated and aspects of these guidelines are discussed below (Coghlan and Brannick, 2005; Gomm et al, 2000; Koch and Kralik, 2006; Waterman et al, 2001).

For the reader of research to judge quality and rigour, data collection methods and analysis must be clearly and comprehensively reported. A lack of transparency severely compromises this process and the research may not be taken seriously in an arena that demands evidence-based practice (Gomm et al, 2000). The ability of the reader to determine whether the 'story' presented is believable is based upon the perceived 'trustworthiness' of the reporting. Trustworthiness is a term used within qualitative research under which a number of other markers for quality reside: credibility which if referring to a positivist perspective approximates to validity, dependability relates to reliability and transferability to generalisability (Rolfe, 2006).

### **2.6.1 Dependability and credibility in action research**

Detailed contextual descriptions and transparency of reporting are critical for interpretation of findings with clear evidence presented regarding discussions, negotiations and judgements made during the project, so the reader has an audit trail by which dependability of the reporting can be judged (Houghton et al, 2013). This might be achieved through reflexivity and use of systems such as computer-assisted data analysis software (Ward et al, 2013). Credibility will be judged against the extent to which the research has dealt with the most pertinent and important issues within that particular context (Winter and Munn-Giddings, 2001). This is critical for determining how the research attempted to change the circumstances of the participants, and whether change occurred (Gomm et al, 2000; Waterman et al, 2001; Williamson, 2012).

The researcher should report the degree to which they are situated either inside or outside of the group in question for the purposes of credibility (Gair, 2012), so the reader can clarify the roles of those involved in the research, and form an opinion relating to biases and motivations. In traditional, qualitative research approaches the researcher enters the field to gain a 'fly-on-the-wall' perspective, but this approach does not allow for challenges or changes to be made, observed and then evaluated (Herr and Anderson 2005), whereas AR actively seeks engagement of the researcher/participants to initiate change within the research environment (Coghlan and Brannick, 2005). Indeed, the experience and knowledge of the researcher may be beneficial for informing and understanding the research environment (Holloway and Biley, 2011) and the role of the academic as researcher does provide an interesting balance between being critical and acknowledging their position and that of the participants (Anderson et al, 1994).

Consensus should be sought constantly between the researchers/co-researchers/participants, but where differences of opinion occur these should be reported, so that the reader understands how interpretations and theory were derived. One way of meeting this requirement is by using a validation group to feed back to the lead researcher confirming that interpretations of the 'setting' fit with those of the co-researchers/participants and that they are able to validate that viewpoint (Crowe et al, 2011). Credibility of the conclusions drawn may be increased by comparing or 'triangulating' the data generated using different evaluation techniques (Williamson, 2012).

Multiple 'cycling' alongside an honest reflective account of what was undertaken provides evidence of prolonged observation, collaboration and crucially the opportunity to test and explore the perceived realities as viewed by those involved (Coghlan and Brannick, 2005; Heron, 1996; Williamson, 2012). Reflective commentary, which includes confirmatory and contradictory interpretations of the events that occurred, and how these were subsequently tested, can also assist credibility (Williamson, 2012). Audit or decision trails can provide a complete record of the research and raw data such as completed questionnaires, interview transcripts, field notes, audiotapes and videotapes and research journals (Costello, 2003) thereby increasing transparency for the reader by which to judge their claims of both credibility and dependability.

### **2.6.2 Reflexivity**

Being reflexive assists the researcher in recognising their level of involvement and the potential influence they have on all aspects of the research environment (Burns et al, 2010). It is important to report this to the reader so they can make informed judgements when evaluating the research. Due to the length of time that AR takes and the close collaboration, there is a potential for increased bias, but this may lead to a more open and honest relationship between researcher and participants resulting in less biased responses (Robson, 2002).

Many issues relating to quality were identified during a systematic review of health related AR undertaken between 1974 and 2001 (Waterman et al, 2001) which found information regularly missing from reported studies, making it

impossible to interpret the level of participation, number of cycles of action undertaken with little information relating to data collection methods or data analysis. Waterman et al (2001) developed a comprehensive 20 question guide for funders and researchers to assist in discerning quality (Waterman et al., 2001) and AR was viewed as having a role in improving healthcare practice and services. Williamson (2012) also provides a 5-point evaluation which explicates the main and conforming ideas regarding appraisal of quality in AR. However, to claim AR has credibility suggests that it is in some way accurate, correct or true (Costello, 2003). The reporting of the findings within AR can only be a representation of a truth and it is for the reader to judge whether there is enough transparency within the reporting for them to judge the research as credible.

## **2.7 Ethical responsibilities of the action researcher**

The process of AR is underpinned by the same ethical principles that are applied to other forms of research. Ethical guidelines began to emerge post 1945 (Koch and Kralik, 2006) and have continued to be evaluated and refined over time by numerous international organisations that seek to offer guidance (Khanlou and Peter, 2005).

There are three main principles that should be adhered to when undertaking research: '*autonomy, beneficence and justice*'. Autonomy relates to informed consent and giving participants the opportunity to make their own decisions based on the all relevant information (Zeni, 1998). Beneficence and justice are

to some extent intertwined and relate to the importance of minimising harm and maximising benefits and that these risks and benefits are equal and not experienced more by a particular group (Koch and Kralik, 2006). As relationships develop and the researcher becomes an 'insider', refusal to co-operate with the researcher may be less likely (Meyer, 1993) and this should be recognised by the researcher as a further responsibility.

Participation should be voluntary and the right to withdraw without prejudice or reprisal ensured. The concept of 'fair subject selection' is particularly important within research areas that have an emancipatory role. Khanlou and Peter (2005) suggest that within participatory AR it is important to ensure that those individuals taking the most risk should be the ones that have most to gain from the research. The aims of the research should be uppermost in the researchers' minds, not the ease with which vulnerable or privileged participants can be recruited.

At the inception of an AR project many aspects relating to ethics cannot be anticipated but will become apparent during the initial development stages. However, the action researcher needs to be aware of ethical issues that might emerge during the process and clear information about the research should be given as far as possible. One way of ameliorating this issue might be to notify co-researchers at the beginning that the nature of the process will require flexibility and for participants to consent at different stages throughout the research when a change occurs altering the current intentions (Williamson and Prosser, 2002). However, within the UK where substantial changes occur to the

original schedule as agreed by the Research Ethics Committee (REC), further ethical approval is required and should be sought at each evolution (Bellman, 2012).

Confidentiality and anonymity are particular issues within AR due to the close working relationship with the participants within a specific location. It may be very difficult to disguise completely the participants and the location when publishing papers and theses (Williamson and Prosser, 2002). However, this does not absolve the researchers or participants of all responsibility towards these important issues. It may be possible to assuage some of these issues by establishing ground rules where participants understand that privileged information relating to the research must not be discussed outside of the group. This has the benefit of potentially increasing participant confidence and security in the project and other participants/co-researchers.

## **2.8 Conclusion**

This chapter has established the origins of AR, its ethos and utility for providing a framework where collaboration, problem-solving and change focused research in complex environments can be supported. A brief discussion of the typologies of AR and arguments for theory generation leading to transferability in AR has also been presented. Finally, rigour and ethical considerations relating to AR were explored, which will be used to guide the design and implementation of the project.



## **CHAPTER THREE: ENGAGEMENT WITH ACTION RESEARCH BY HEALTH PROFESSIONALS AS A FRAMEWORK FOR PEDAGOGICAL RESEARCH**

The literature pertaining to the use of AR by health professionals as a framework for conducting pedagogic research in the UK is reviewed in this chapter. The rationale and criteria for the review are outlined with a descriptive overview of the papers presented. The discussion centres around the use of an AR approach to problem-solve and effect change in the complex environment of healthcare and education. Collaboration, the reporting of research findings that impact on the reader's ability to judge the quality of the research and ethical considerations are also explored. Lastly, the literature review is used to inform the design and implementation of this AR project.

### **3.1 Utility of action research in the healthcare arena**

It has become apparent within healthcare that research does not always transfer to frontline staff and impact upon the patient to good effect. Lines of communication appear problematic within the research community and it is difficult to penetrate the barriers that hinder dissemination of research findings to busy NHS staff (Bellman, 2011). For many healthcare researchers the blind random controlled trial (RCT) is the gold standard methodology to produce bias free results (Kaptchuk, 2001). There is, however, evidence to show that the findings of RCTs do not necessarily filter down to practitioners at a grass roots level, with changes in working practices slow to be adopted (Kernick, 2006) and patient preferences not acknowledged within clinical practice guidelines

(Graham et al, 2000). An example of this slow translation of evidence-based practice is the uptake of thrombolytic therapy by practitioners where the benefits in reducing the mortality rate for acute myocardial infarctions was recognised and published following a number of trials in the mid-1980s. Ten years later, however, only 35-50% of the patients admitted to hospital for this condition were receiving thrombolytic therapy despite its known lifesaving effects (Ketley and Woods, 1993). The question of how to engage clinical staff with new research, which results in employment of new practices, is on going.

### **3.2 Utility of action research for educationalists and healthcare professionals**

Action research supports the facilitation and integration of clinical theory and practice (McCaugherty, 1991a) because it is carried out within practice contexts, directly relevant to the individuals within those contexts, and can be adapted for the uniqueness of those settings. Those who carry out AR can be empowered by the process and rather than attempting to undertake research alongside their normal duties can incorporate research within their role. Involvement in the research process creates a connection to the findings and opportunity to experience the effects during day-to-day practices. This may be more acceptable than having new ways of working imposed by managers, researchers or Governmental bodies.

### **3.3 Rationale for a literature review**

A review was undertaken to position the thesis within the existing literature and to establish to what extent health professionals in relation to educational issues had used AR. By examining the issues that had been encountered during these studies and subsequent solutions there was the potential to inform and improve the design of this research project. The next section defines the criteria used for conducting the literature review.

### **3.4 Criteria for the literature review**

A thorough review of the computer databases that pertain to the health professions was undertaken in January 2011, and updated in April 2014, to identify pedagogical research published by healthcare professionals using an AR framework. Research papers were included if they were published between January 1990 and April 2014 and conducted in the UK. This timeframe was chosen to incorporate the changes from diploma to degree award in nursing with the inception of Project 2000 in the early 1990s (Kirk et al, 1997). This period also included changes in the training of other allied health professions occurring within the same timeframe.

Only articles where the research had been undertaken in the UK were deemed relevant to the context of this research because the UK has undergone specific changes and challenges during this timeframe that would not be reflected internationally. Further, only studies with a pedagogical focus relating to pre-

registration students were included to reflect the undergraduate status of the students enrolled on the podiatry programme. The term 'health professional' here encompasses nurses, midwives and the following allied health professions as specified by the HCPC: dieticians; operating department practitioners; paramedics; occupational therapists; orthoptists; physiotherapists; podiatrists; and speech and language therapists. (Art therapists, biomedical scientists, clinical scientists, hearing aid dispensers, practitioner psychologists; prosthetists/orthotists; radiographers were excluded from the list because their patient involvement is technical rather than clinical or they do not undertake invasive treatment interventions.) The following databases were searched:

- CINAHL plus which includes Allied and Complementary Medicine Database (AMED), Medline (PubMed), British Nursing Index
- Educational Action Research Journal
- British Education Index

Details of the search terms used can be found in Appendix 2. The search terms were adapted from those used by Waterman et al (2001). Where possible both the title and abstract were searched separately and some words were truncated in order to search for the root word and include multiple endings. Some words or phrases were searched for within a 10 word radius of other words e.g. 'clinical N10 practice'. The abstract was reviewed initially to identify whether the paper met the inclusion criteria with a further appraisal once the full article had been retrieved. For each database search a record for each paper and subsequent inclusion or exclusion was created using Predictive Analytics

SoftWare (PASW®) version 18 (previously known as SPSS) which helped to identify duplicates.

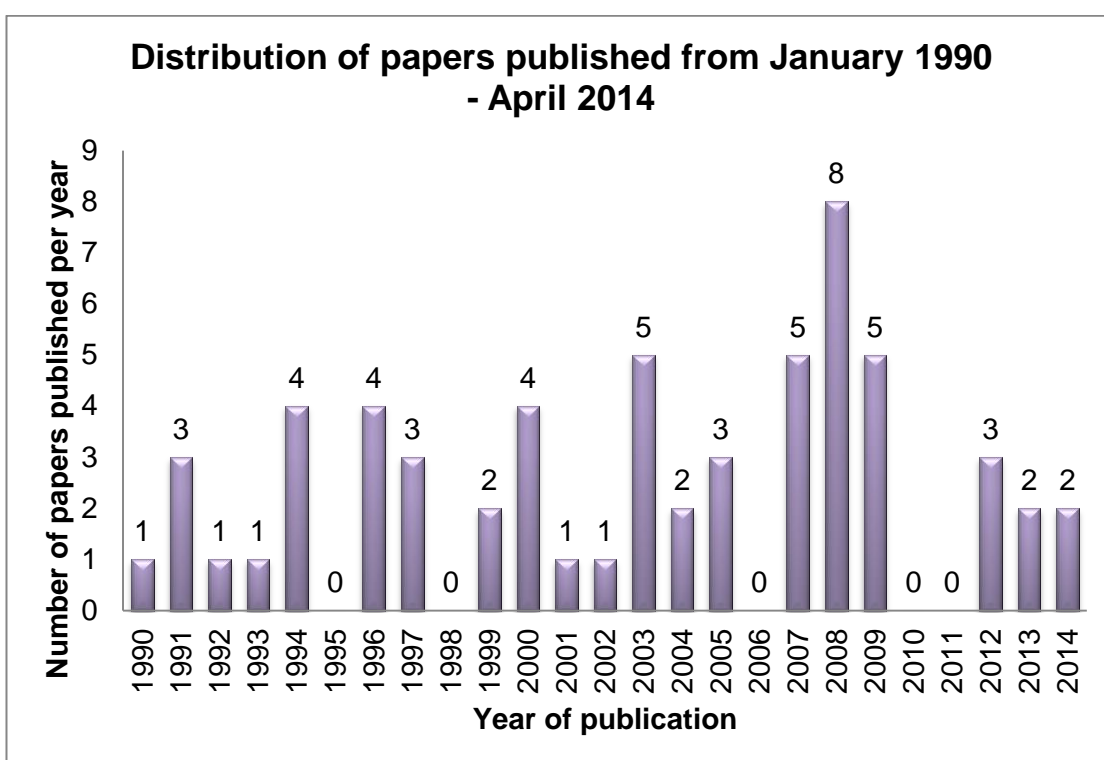
The database search resulted in 3308 papers identified at the initial search, however, the majority did not meet the inclusion criteria. Of the remaining 86 papers closer inspection of the titles, abstracts and full text with application of the inclusion/exclusion criteria led to the retention of 60 papers.

### **3.5 A descriptive overview of the literature reviewed**

The database search revealed pedagogic research activity over the last twenty-four years and of the 60 papers identified, 60% (36 articles) were principally from the nursing community. It should be noted that the nursing profession has over 641,242 members in the UK compared with 35,305 midwives (NMC website as at April 2014), 34,154 occupational therapists, 48,868 physiotherapists and 13,017 podiatrists (HCPC website, April 2014). Nursing is at the forefront of AR within education, but proportionally midwives represented 22% (13 articles) with the remainder comprised from other healthcare professions or of a collaborative nature.

Dietetics, operating department practitioners, paramedics, and speech and language produced no pedagogical AR papers. Podiatry generated one paper; occupational therapy produced two papers (and one paper within a collaboration); with physiotherapy contributing two papers (and two within a

collaboration). There was one paper with a nursing focus generated by academics from biological sciences and education development. Figure 4 shows the distribution of papers published during the 24 year timeframe demonstrating an average publication of 3 papers per year, a range of 7 articles, minimum 1 and maximum 8 papers and 5 years during which no papers were published.



**Figure 4** Distribution of papers published from January 1990 – April 2014

Despite the aim of AR being collaborative and practice based, authorship and order of authorship reflects academic dominance. The number of publications solely authored by academics was 53 with 6 authored collaboratively and only 1 published by a clinician.

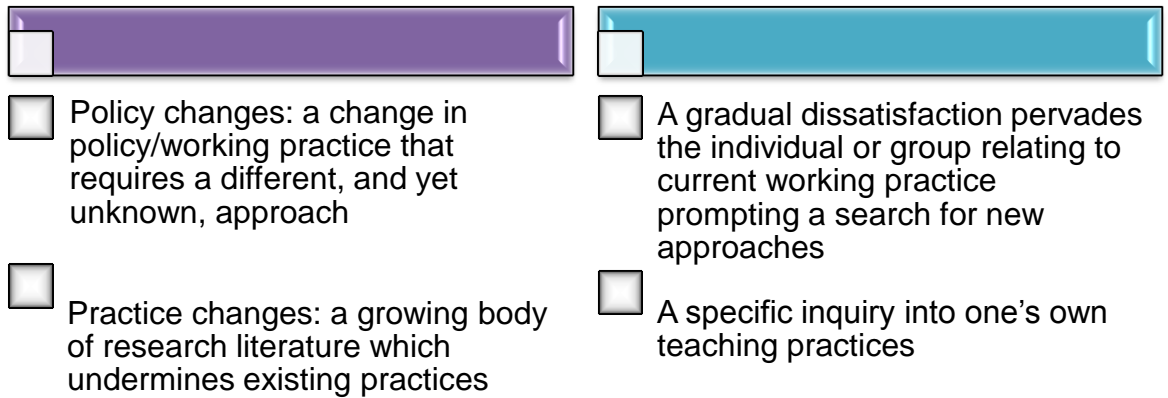
### **3.6 Literature review findings**

The following sections outline the main findings of the review reporting the impetus for undertaking AR, the levels of collaboration evident and the quality of the research. Finally, the extent to which ethics was considered and reported in the papers is also described.

#### **3.6.1 Problem-solving and change as the catalyst for action research**

Problem-solving and/or change were evident in all the articles reviewed and cited as the impetus for the research. Practitioners who work for HEIs, the NHS or perhaps across both organisations are subject to changes in policy and/or practice or are concerned with changes related to their own performance. Of the papers reviewed, 57% (34 studies) gained their impetus primarily from national drivers with the other 43% (26 studies) prompted by what might be termed as local drivers (Figure 5 outlines the definition). The decision to undertake research was found in some cases to be a combination of both national and local drivers with one of these factors primary in the decision to act. The following section explains in more detail the notion of national and local drivers for change.

# National drivers      Local drivers



**Figure 5** Drivers for action research

## 3.6.2 National Drivers

National drivers are defined as influences that exert a pressure from outside the immediate context in which educators/clinical educators undertaking the research operate, which requires action and change. These include policy changes, which are explored in the following section.

## 3.6.3 Policy changes

Changes in policy have repercussions for professions, society and the workplace. Part of the HEIs' responsibility to its students, professional bodies and the public, is to ensure that programmes of learning produce competent practitioners. The curriculum should reflect Government policy in order that change becomes inherent within specific professions and affects cultural changes. Government reports such as 'Making a Difference' (Department of Health, 1999), 'The NHS Plan' (Department of Health, 2000c) and 'Working



Together–Learning Together: A Framework for Lifelong Learning for the NHS’ (Department of Health, 2001), amongst others, were frequently cited as being influential in shaping the curriculum for undergraduate healthcare students along with the inter-professional education agenda. Of the papers citing national drivers as the impetus for the research, 32% (19 studies) constituted policy change as the primary influence.

In practice these policy changes have required educationalists to be innovative by making changes to practice across institutions. For example, Hilton and Pollard (2005) created a clinical demonstrator role to support students in the classroom and during the students’ first practice-based placement in an attempt to transcend the barrier between HEI and the clinical environment whilst increasing the effectiveness of clinical skills training. For Pfeil (2001) the requirement for change became imperative on the publication of ‘Making a Difference’ and ‘Fitness for Practice’ (Department of Health, 1999; UKCC, 1999), because teaching of practical skills was highlighted as ineffective, which linked with the need to integrate theory with practice. The first phase of the AR project surveyed main stakeholders (practitioners/staff/students) to decide what practical skills needed to be taught, with plans for how this might be achieved, which was to be the subject of a future, yet to be reported, AR project.

Policy has been a significant catalyst for the inception of AR projects where change has been a prerequisite. New research developments, however, which impact upon practice and theory have also acted as an impetus for change and problem-solving orientated research.

### 3.6.4 Practice changes

Of the papers reviewed, 25% (15 studies) were categorised broadly as initiated by practice-based concerns relating to an aspect of curriculum. Evidence from the literature was frequently cited as significant in instigating change.

Confidence that the requisite theory is taught at HEIs, thus allowing students to meet the required standards of competency, was one of the issues raised by academics (e.g. Owen, 1993; Watts and Waraker, 2008). Fostering closer links with the placement areas in order to either bridge the theory-practice gap using innovative teaching methods or actively seek to integrate theory and practice with the development of new initiatives has been an approach used by academics to enhance the effectiveness of practice-based learning (Chambers et al, 2007; Murphy, 2000; Jeffery, 2007). The use of an innovative teaching methodology and theory-focused practice, designed to reduce the theory-practice gap for students on the children's nursing programme, was the focus for Chambers et al (2007) By bringing together experiential learning and reflection techniques to deconstruct a real-world patient-focused scenario they were able to support students and novice nurses to incorporate evidence-based practice behaviours. The introduction of portfolios for student assessment in practice was the focus for Spence and El-Ansari (2004) who worked with practice teachers to improve assessment rigour, although inter-rater reliability remained an issue for some practice teachers. Programme curricula should develop in response to change, not only policy and societal demands, but also developments and advances in medicine, including making changes that reflect innovations in educational teaching methods (Bland et al, 2000).

National drivers, as a catalyst for change, appear to have challenged researchers to undertake changes which often impact across organisations whose core business present different challenges. Action research can support change and the crucial in-depth context specific problem-solving that is likely to be required in order to achieve the task. However, the primary stimuli are not solely due to national drivers and more local issues can be significant as discussed in the following section.

### **3.6.5 Local drivers**

Of the studies reviewed, 43% (26 studies) focused upon individuals' teaching practices where inadequacies were suspected or identified, which became the impetus for the AR study. The review demonstrated that educators are cognisant of the requirement for classroom teaching to be as relevant and as transferrable to the clinical environment as possible and ineffectual teaching was identified as an element of the theory-practice gap concept (Marland and McSherry, 1997; McCaugherty, 1991a, 1991b; Taylor, 2007). The studies in the review addressed issues from across the whole student journey, such as reducing levels of anxiety as a potential barrier to learning and thereby increasing student engagement with theory (Nicoll and Butler, 1996); finding innovative ways of teaching theory underpinning student practice with good theoretical knowledge (Cotton and Gresty, 2006); establishing closer links with practice to address the theory-practice gap (Taylor, 2007); ensuring quality practice supervision for the delivery of cross-organisational programmes of learning (Martin, 1996); the introduction of learning contracts to support students in practice (Donaldson, 1992); and addressing student self-

assessment (Wilkins, 2008). Of the papers reviewed 5% (3 studies) were instigated in the pursuit of an academic award (Clark, 2009; Stark, 1994; Steward, 1994).

Action research as either a self-reflective inquiry or inquiry into an individual's own teaching practices was the catalyst for change in approximately 8% (5 studies) of the studies instigated by local drivers. The research addressed issues where the teacher had concerns with specific aspects of the curriculum, such as teaching clinical obstetric emergencies in the classroom (Rogers 2008a; Rogers 2008b) encouraging group participation (Roberts, 2008) or self-directed learning and assessment (Howard, 1991). A critical event was the precursor in the case of Wright (2005) who gave a particularly vivid description of teaching drug calculations to nursing students with poor basic maths skills whereupon a review of teaching methods was deemed necessary.

Researchers choosing AR may be rewarded with multi-perspective input, but it is a challenging process, requiring a degree of collaboration, often involving negotiation and the development of data collection methods after the instigation of the research. If researchers do not take time to involve the main stakeholders in deconstructing the issues, any action taken may be premature, lack insight, clarity and not have the multi-dimensional perspective required. The following section discusses the level of collaboration within the articles reviewed.

### 3.6.6 Collaboration

One of the key principles of AR is the involvement of stakeholders as an integral part of the research process. The stakeholders represent a view within a 'community' and are likely to have a unique perspective of the context, situation, or problem and are able to directly influence and support change as beneficiaries of any changes made. The desire to work with these key players so they can contribute meaningfully to the project was one of the main reasons cited for using the AR framework within the papers reviewed (Gresty et al, 2007; Murphy, 2000; Spence and El-Ansari, 2004; Stickley et al, 2009). Many papers, however, claimed AR as the most suitable approach, but the collaboration was reported with varying degrees of emphasis or sometimes not reported at all (Adhikari et al, 2014; Botham and Nicholson, 2014; Brown et al, 2008; Pfeil, 2001; Sibson and Machen, 2003).

Collaboration embracing stakeholders as part of the decision-making process represented just over 20% (12 studies) of the papers reviewed (Cullen et al, 2003; Davies et al, 1999; Ghazi, 1994; Hilton and Pollard, 2005; Hodgson et al, 2008; McAndrew, 2003; McCombe et al, 2008; Murphy, 2000; Stickley et al, 2009). Policy changes with potential to effect cross-organizational relationships are likely to have more impact if the stakeholders involved agree how changes will be implemented. This was key to the success of the project undertaken by McCombe et al (2008) who, following a raft of policy relating to inter-professional learning, undertook a very ambitious project to develop inter-professional learning opportunities within children centres. This involved collaboration between a number of agencies and representatives: children's

centre managers; local authority; Skills for Care; NHS-funded practice learning teams; 3 representatives from University undergraduate programmes including nursing and 1 post-graduate representative (MA in Social Work). One of the key successes cited is the collaboration with stakeholders as a partnership and that *'communication has been honest and open, modelling good collaborative practice and allowing positive working relationships to develop'* (McCombe et al, 2008, p. 243).<sup>1</sup> It was felt that success was due in part to the clear recognition that inter-professional learning was so important and because the project was initiated with a workshop. There was also funding available for a practice learning manager to oversee the project. The network of organisations that were supporting and driving this project forward (NHS-funded inter-professional practice learning unit, regional Learning Resource Network) undoubtedly had a positive effect keeping the project focused and motivated for the two years it ran.

The benefits of collaboration were often discussed with claims to recognise its value, but in reality reported a relationship where those involved were participants in the research rather than problem-solving and process defining collaborators (e.g. Baillie, 1999; Brown et al, 2008; Clark, 2009; Gresty et al, 2007; Marland and McSherry, 1997; Nicoll and Butler, 1996; Owen, 1993; Price, 2004; Steward, 1994; Watts and Waraker, 2008; Wilkins et al, 2008). The reporting of collaboration was generally poor and it was impossible to make a clear decision with regard to the role and level of that collaboration (e.g. Coates and Chambers, 1990; Fraser 2000a; Fraser, 2000b; Kerr and MacDonald, 1997; Rawnsdon et al, 2009; Sibson and Machen, 2003). Interpretation of what collaboration means in practice may be part of the issue. For example, Baillie

(1999, p. 228) states '*the essential features of action research are...collaboration between researcher and practitioner*', but this project engaged students and nurses with focus groups as a fact-finding exercise and later garnered views via questionnaire; but this does not really embrace the idea of seeking solutions by working collaboratively.

Another potential reason for the inconsistency in the collaborative approach and reporting is that the initiators may have formulated the research plan and viewed the term 'collaboration' as a means of consultation rather than a synergy/partnership (Andre et al, 2009; Price, 2004; Rolfe, 1994; Smith et al, 2000). There may also be concerns regarding stakeholders' potential to derail plans, delay activity due to procrastination, present conflicting agendas or even hold alternative views that may be thought too challenging.

A small number of papers reviewed undertook a personal self-inquiry approach and in these cases referred to 'critical friends' or colleagues in order to limit bias and help unpick the issues of concern (Stark, 1994; Taylor, 2007; Wright, 2005). Roberts (2008) uses AR to examine and change her own practice, but laments the lack of involvement by the students with her research project. Having defined the issue, that some students felt they did not have an opportunity to engage in group work, Roberts (2008) then decided on a course of action. However, the students could have been engaged with the problem-solving and planning stages of her first research cycle to elicit from them exactly what the issues were that prevented them from engaging.

From the review it is clear that although researchers state collaboration as a key principle within the project this is not always apparent. The reporting of research should allow the reader to make judgements about the quality of the research process which will be discussed in the next section.

### **3.6.7 Judging quality in action research**

The review found similar findings to those of Waterman et al, (2001) that AR papers lack transparency in many areas. Some papers were of a poor quality throughout, others exhibited strengths in some areas, but very few were exemplary. Within the review one paper made reference to AR briefly in the title (Howard, 1991) and one in the abstract and first paragraph (Wheelhouse, 1997), but subsequently no further references were made. The question of what constitutes quality in AR was discussed in Chapter Two. This section discusses the extent to which the papers under review exhibit the hallmarks of quality. The main focus of this section is upon context definition; the clear delineation of research cycles; reporting of data collection and analysis; and the extent to which an AR ethos is evident.

### **3.6.8 Transparency of reporting**

The local context within which the project is set helps the reader to situate the participants, evaluate the trustworthiness of reporting (Shenton, 2004) (validity, reliability and objectivity) and to determine potential transferability. Providing the reader with a rich description of the context creates an opportunity for similarities and resonance to be identified. Where minimal information is



provided the reader cannot easily judge the potential for transferability into a different setting and imposes limitations upon the research. The following example illustrates how limited contextual detail regarding the environment restricts interpretation and transferability:

*'The study involved collaboration between a link lecturer and preceptors working in one mental health placement area' (Marland and McSherry 1997, p. 50).*

In contrast, where the context is discussed in some detail (e.g. McCombe et al, 2008) the reader is able to determine the credibility (validity) of the research (Winter and Munn-Giddings, 2001) in terms of the appropriateness of the solutions and findings. Ghul and Marsh (2013) introduce context in the first paragraph of their article and outline clearly the rationale and context of the research in relation to revalidation of an occupational therapy programme. Relevant occupational science theory is discussed and importantly the researchers concerns and perspectives reported providing the reader with details that might help interpret findings and conclusion more usefully. It is recognised that to a great extent AR will be context-specific (Bryman, 2001), but that should not deter the researcher from attempting to share their insights, innovations and new appreciation of similar issues, along with the solutions they have found to particular challenges.

Where explanations for choosing AR are scant, reporting of the research cycles and the mechanism of the overall process tends to be ill-defined (Cullen et al,

2003; Baillie, 1999; Clark, 2009; Donaldson, 1992; Fraser, 1996; Fraser, 2002; Gresty et al, 2007; Gresty and Cotton, 2006; Hayes, 2005; Hilton and Pollard, 2005; Howard, 1991; Jeffery, 2007; Kelsey and Mullen, 2007; Kerr and MacDonald, 1997). The absence of explanations and evidence for claims made when reporting limits the reader's ability to appreciate how issues were managed, thereby making evaluation of the findings difficult. Multiple cycles can be complex and providing an overview for the reader may be challenging. McCombe et al (2008) illustrates how presenting the AR cycles and resulting actions provides the reader with confidence that the research has credibility and dependability. They enhanced this by including participants' quotes in relation to the findings, enriching the transparency. However, detailed reporting of research cycles occurred in only a handful of papers (Botham and Nicholson, 2014; Coates and Chambers, 1990; Davies et al, 1999; Hodgson et al, 2008; McCombe et al, 2008; Murphy and Timmins, 2009; Wilson, 2012).

Reporting of the AR process and findings with synthesis of the research and AR methodology occurred in a minority of cases (Andrew et al, 2009; Coates and Chambers, 1990; Gresty and Cotton, 2006; Murphy, 2000; Owen, 1993; Spence and El-Ansari, 2004; Taylor, 2007). Andrew et al (2009) provided details of approaches to data collection alongside the level of collaboration and involvement by key stakeholders at each stage of the research cycle with the data collection clearly reported allowing the reader to evaluate the authors' claims. In contrast, Clark (2009, p. 27) under the title '*data collection*' reports '*focus groups and semi-structured interviews were chosen, as they allowed views and knowledge of the stakeholders to be captured in depth*'. No details

regarding when the decision was made, those involved, the number of meetings, details of any discussions, how the questions for the interviews were structured, who undertook the interviews were reported. It is, therefore, impossible for the reader to fully understand and evaluate the research process.

Reporting of the data collection and analysis was weak in more than half of the papers reviewed (Donaldson, 1992; Fraser, 2002; Ghazi, 1994; Hilton and Pollard, 2005; Jeffery, 2007; Marland and McSherry, 1997; Martin, 1996; Steward, 1994) and a paper by Rolfe (1994) might be described as an audit as no evidence of rigorous research methodologies was apparent. A good example amongst those reviewed was Davies et al (1999) who reported clearly the cycles of AR and addressed credibility (validity) through triangulation of data collection techniques using interviews, questionnaires and reflective diaries.

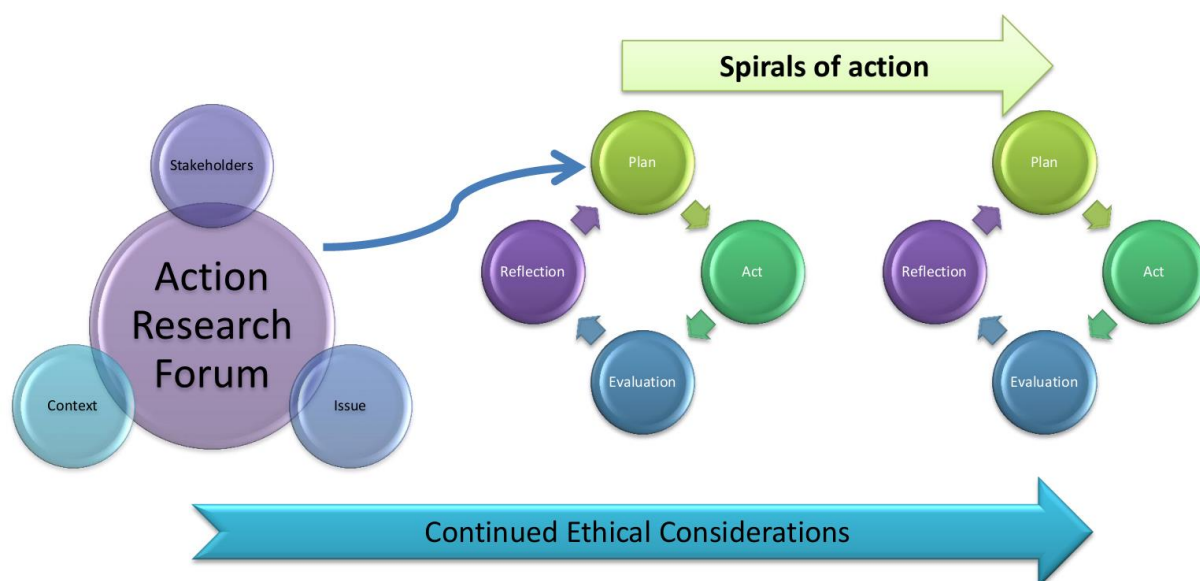
Part of the issue in reporting AR may lie with the adherence to traditional research reporting of quantitative research often using the IMARD approach (Introduction, methods, analysis, results and discussion) (e.g. Fraser, 2002; Hayes, 2005). In the paper by Gresty et al (2007) the context and rationale for the research, data collection and analysis methods were described in detail. Although a well-written paper, it does not have the AR framework apparent throughout, and the paper follows a traditional format for reporting the findings of the project with the action cycles not clearly evident. There are limitations imposed upon the length of an article due to the word count for individual journals and where research is reported in a series the emphasis may shift between papers.

A first person account by Neuls (2003) presents a detailed personal account for the journal 'Education Action Research' of her role in a larger project. The context is outlined in detail, the challenges as a practitioner, with an AR ethos apparent. This report is not a traditional approach to academic writing and reporting, and is longer than some other papers, but ultimately the key issues and how they were resolved are transparent to the reader, whilst embracing an AR ethos. Methods, findings and analysis are paramount, but where the argument for AR is made because it is deemed critical to the context and/or success of the project, then the cycles and phases should be identifiable throughout the process. Where reporting is inadequate the reader must judge rigour and quality to be poor in the absence of any other evidence (Gomm et al, 2000).

### **3.6.9 Ethical considerations**

Ethical considerations are central to all types of research, encapsulating many important concepts such as anonymity, confidentiality and informed consent (Damianakis and Woodford, 2012; Kidd and Finlayson, 2006). Undoubtedly, AR presents some specific challenges with regard to maintaining confidentiality and anonymity when researchers are collaborating so closely with participants, but this does not lessen its importance. Informed consent is usually based upon very specific information relating to the research protocol written in detail at the outset of the project. With AR, the 'action' and therefore the protocol evolve over the duration of the research project. This evolution should be borne out of collaboration, but there may be occasions where the majority rules. An opportunity for participants to re-evaluate their involvement by having to

consent multiple times as changes occur is important (Bellman, 2012; Lofman et al, 2004) (refer figure 6).



**Figure 6** Overview of action research process with on-going consideration to ethical issues

Over the last decade researchers have started to consider the inherent ethical challenges presented by AR which do not exist in other research (Williamson and Prosser, 2002). Within the review there were examples where ethical considerations were completely absent from the report (e.g. Sibson and Machen, 2003; Donaldson, 1992; Fraser, 2000c; Fraser, 2000a; Fraser, 2000b; Fraser, 2002; Ghazi, 1994; Hodgson et al, 2008; Howard, 1991b; Martin, 1996; Nicoll and Butler, 1996; Owen, 1993; Spence and El-Ansari, 2004; Stark, 1994; Steward, 1994; Wright, 2005). In one report ethics was not applied for formally, but the author stated that the students were volunteers (Baillie, 1999).

Where children are involved, research ethics are usually stringent in order to protect their interests as they do not have capacity to consent and this

responsibility is deferred to their guardian, usually a parent. However, one paper reported the ethical issues surrounding a parent and five-year-old child being introduced to a classroom in order for the mother to discuss the impact of caring for a child with cancer. Surprisingly, the author was advised by the chairperson of the university ethics committee that full ethical approval was not required and deemed a 'case study' (Price, 2004). There were no ethical considerations in relation to the students involved in this AR project or the child, although some details of how the mother was prepared were reported. In one instance ethical approval was sought from a local research ethics committee, but the researchers were advised that approval was not required as it was a pilot study (McCombe et al, 2008). This may suggest that AR is perhaps not considered by some ethics committees to be a serious approach to research and therefore is not subject to the usual ethical requirements.

There were, however, examples of excellent adherence to ethical values with Andrew et al (2009) stating that ethical approval had been sought appropriately throughout the project and in response to new spirals of action being undertaken. In other situations ethical approval was sought, but not in a timely fashion. In a study by Murphy (2000), colleagues and students were engaged in the first cycle, but ethics not sought until the second cycle which questions the author's understanding of ethical responsibilities for those involved (Murphy, 2000). In some cases the author(s) simply states that ethical approval was sought and approved (Chambers et al, 2007). Other articles provided more detail about the process and features, such as information sheets, informed consent, right to withdraw, confidentiality and anonymity (Clark, 2009; Davies et

al, 1999; Gresty and Cotton, 2006; Gresty et al, 2007; Hayes, 2005; Pfeil, 2001; Roberts, 2008; Rogers, 2008a; Stickley et al, 2009), but articles reporting ethical approval being sought along a parallel timeline to the project development were unusual.

This chapter thus far has discussed the literature pertaining to the use of AR in the area of pedagogy by health professionals. The following section details why an AR approach was deemed appropriate and beneficial to the design and success of this project exploring practice-based learning in podiatry.

### **3.7 Rationale for using an action research framework**

Action research was considered an appropriate framework for exploring the practice placement experience of both clinical educators and students of podiatry. The research context had particular relevance and a collaborative approach would be required to unite two large organisations in a joint venture. This project provided an opportunity for academics and practitioners to work in partnership in order to unite perspectives, opinions and objectives with regard to each other's roles in supporting the student and promoting teaching and learning (Coghlan and Brannick, 2005; Kember, 2000; Winter and Munn-Giddings, 2001). Similar to many of the papers in the review the impetus for the research was based upon both national and local drivers; the dearth of research in the area of practice-based learning in podiatry required investigation arising from an uncertainty that the placement organisation and implementation was successful and satisfactory to all parties involved.

### **3.8 Contextual suitability of an action research framework**

The aim was for a pre-existing PDT (existing incorporeally) to function tangibly as an Action Research Team (ART) to consider the challenges to practice-based education within the practice setting and to generate actions that would impact positively upon and enhance teaching and learning. Through establishing the ART the proposal was that communication channels and support for students and clinical educators in the selected placement area would be enhanced and partnerships facilitated. Action research has the potential to transform the milieu in which it is based and the process of establishing the ART was anticipated to create a social support network within the placement area with resultant beneficial effects (Hutchinson, 1999). The ART could be viewed as a focus group providing the opportunity for in-depth group discussion offering a synergistic approach whereby stakeholders' unique perspectives and experiences could be brought together, but with the opportunity to challenge one another's views in order to seek clarity. It also allows for a collective, rounded viewpoint of the issues and for meaning to be constructed through discussion.

Over the preceding eight years there had been considerable change with the introduction of assessed placements establishing the need for clinical educators. In 2008 there was a 50% increase in the number of placements required. This initially led to a number of clinical educators having to be trained who were required to undertake the role of mentoring with little supervision or development into the role. There were annual mentorship updates provided by the University and a Placement Co-ordinator (University academic) who could



provide telephone advice, but was not, at that time, authorised to provide face-to-face clinical educator or student support. Due to the nature of podiatry with clinicians working in single clinic situations it is unlikely the new clinical educator had easy access to peer support.

The absence of extra funding to undertake the clinical educator role, whilst commissioned patient contacts remained static, created tension between the placement areas and the University. The University was considered to be imposing an extra burden upon podiatry services where workforce capacity was already reported by podiatry Heads of Service as saturated. Any research undertaken in this arena needed to be sensitive to the practice placement areas and the considerable changes that they had already experienced.

### **3.9 Utility of the action research framework**

There are a number of attributes ascribed to AR which make it a suitable vehicle by which change interventions might be implemented across HEIs and the NHS. Both these organisations are large and complex and comprise a number of key stakeholders requiring consultation and involvement (Williamson, 2012). Both operate hierarchical management systems where decision making can be slow and difficult to achieve (Coghlan and Brannick, 2005). Theory is usually delivered within the HEI and practical experience delivered by the NHS. A physical separation exists for these communities, but often the separation is more fundamental, with tensions between the student experience and patient care. A framework that links across these separations, whether they are related

to distance, viewpoint or core business interests, has the capacity to promote discussion where problems and concerns can be debated and better understood. Ultimately, the process is about collaboration and engagement with change whilst applying rigorous research principles. Many issues potentially exist, such as whether institutional differences in location, employer, drivers, remits and perspectives impact positively or adversely on the teaching and learning for the student. Exposure, discovery and/or recognition of issues, can then be problematised and used to facilitate significant beneficial solutions that could be tested and evaluated (Coghlan and Brannick, 2005).

Action research requires reflexivity during the process, questioning and challenging one's attitudes, actions and thoughts (Coghlan and Brannick, 2005). Throughout the thesis the LR has inserted text boxes which provide a reflexive account alongside the narrative of how this reflection shaped the AR project. These commentaries are written in the first person and provide insight into the potential challenges to the project, how they were mitigated and the LRs decision-making processes and rationales. All the ART meetings were audiotaped and transcribed verbatim by the LR to provide an accurate record of events. However, it was decided to exclude this dataset from analysis, to protect ART members' anonymity given the potential for individuals in action research to be identified within a relatively small group (Löfman et al, 2004). Maintenance of confidentiality and anonymity was a key component of recruitment to the ART and felt to be important for encouraging an atmosphere of openness and honesty within the team without fear of reprisal through identification. The data from the meetings, although not formally analysed, was

essential to the development of the project, methodologies used, data analysis and action research process. The data was also central to the LR's reflexivity and informed the contents of the LR commentary within the text boxes.

This type of enquiry is particularly suited where practitioners from diverse backgrounds or professions wish to work together in collaboration. Although the podiatry programme and the podiatry services have in common 'podiatry' the HEI is theory, research and educationally focused, whereas the NHS podiatry service is patient-centred in the practice of podiatry with theory and research underpinning activities. A collaboration would involve the key stakeholders acting as a participatory group focused upon exploring practice placement challenges in podiatry, which would lead to the identification of the main issues that detract from the practice placement experience and which may inhibit teaching and learning. Rather than carrying out research on clinical educators, students, service-users and academics, AR has the potential to allow for participation by all the stakeholders. For the project to have value to those involved a tangible outcome would be required.

This process has the potential to produce change and therefore new ways of working which may raise more enquiries on reflection and further cycles might be undertaken. Importantly, because these changes would be conceived, implemented and evaluated in partnership, new ways of working might be more readily accepted and incorporated in working practices for the long term. The research findings and developments have the potential to influence the whole South West region where University podiatry students are allocated and provide

the first in-depth research into practice-based learning for the podiatry profession in the UK.

At this stage of the project's development the overarching research question of exploration into podiatry practice placement was investigative and had the potential to be wide-ranging. The next section explains how the research approach was communicated to one practice placement area leading to the development of the ART. The process of negotiating access to clinical educators within a placement area is reported and the initial stages of the implementation of the ART and its inauguration. Identifying all the stakeholders required to produce a balanced project team with a rounded perspective and power to implement effective change, was the aim.

### **3.10 Implementing the action research team**

#### **3.10.1 Recruitment rationale**

Involvement in an AR project as either a co-researcher or consultative group provides an opportunity to feedback criticisms and be involved in developing strategies to overcome some of the issues identified that may benefit students or service-users of the future. Striving for equality of representation across all groups to avoid marginalisation by omission was viewed as important.

Stakeholders such as clinical educators, students, service-users, academic links (AL) and link lecturers (LL) were considered to be important informants and the LR was keen to involve them in the project. Both students and service-users have input to the curriculum and administration of the BSc (Hons)

podiatry programme, but these groups do not directly have influence upon practice placements provision.

An AR approach was more likely to succeed in engaging clinical educators in exploring the issues around practice placement, rather than a unilateral approach which may have been interpreted as an attempt by the University to exert its influence. By working with clinical educators as co-researchers many of these issues could be overcome whilst potentially building new links based on mutual understanding.

Educationalists have valuable experience regarding course content and have a variety of teaching and learning theories at their disposal, but they cannot truly know what it is like to be a student of podiatry undertaking the programme. Students have little power over their situation and no real influence regarding placement location or clinical educator. The power dynamic between student and clinical educator is weighted in favour of the clinical educator with the student requiring clinical educator approval to pass through important barriers by means of assessment.

The service-user is essential to the teaching and learning activities and has some influence over the clinical situation in terms of interaction with the student during a consultation. An alternative perspective from both that of the student and clinical educator could be gained from the service-user.

The AL role was introduced in 2007, whereby a University lecturer supports clinical educators and students in respect of accommodation, travel and pastoral issues during placement. Although at this time this support had not been actively utilised by clinical educators in podiatry, the AL had the potential to bring a great deal of expertise and comprehensive knowledge regarding the business of mentoring across professions that could be beneficial to the ART. The LL role undertaken by a University podiatry lecturer was designed to provide profession specific support to clinical educators with issues relating to students, provision of curriculum updates, and advice on paperwork and processes. The AL and LL roles, under the auspices of the PDT, act as communication and information conduits, have a good understanding of University processes and may intercede on the behalf of the placement area. The LR held the LL post for the proposed placement area and therefore was part of the PDT membership.

Establishing the placement commitment to the project with recruitment of the clinical educators and the AL would represent the PDT partnership within the placement area. Once established the ART could then decide how engagement with students and service-users would proceed.

### **3.10.2 Action research team initiation**

The LR met with the Head of Service for Podiatry of the chosen placement area and the overall project format, aims and time commitment for the project to run was outlined. The initial request was for all clinical educators to be given the

opportunity to participate in the ART. The Head of Service was supportive and the LR was invited to present the project to the whole clinical educator team (eight staff) and gauge their interest. Again, the response was positive and an agreement for the LR to make an application for ethical approval was approved.

Prior to the submission of the ethics application, the LR met with the AL (nursing lecturer) to discuss the project whose response was enthusiastic. During this initial stage, a clinician who was keen to become a clinical educator and who had experienced the Trust as part of their podiatry placement contacted the LR, asking to join the ART.

An application was made to the National Research Ethics Service (NRES), to the Ethics Committee at the University, the Trust ethics committee and subsequently approval was granted. (Evidence of ethical approval for each committee can be viewed in Appendix 3.) The Head of Service and Deputy were asked to read and agree the outline of the project prior to submission to the ethics committees and prepare a statement for inclusion regarding their support for the project.

Subsequently, a request was made by the LR to the Head of Service for time to be allocated for a meeting with the team, which initiated closer consideration of the financial impact of releasing staff on a regular basis over 2-3 years. Based upon cost implications, it was decided that rather than the original eight clinical educators agreed, only three clinical educators, plus the lead clinical educator

(Deputy Head of Service) and the Head of Service could be spared. The expected overall size of the ART was now eight rather than the expected 13 (see figure 7).



**Figure 7** Roles represented by the members of the action research team

An effective ART required the LR to establish an atmosphere where both the managers and staff could work collaboratively and where individuals felt empowered to make decisions and effect change (Bellman and Webster, 2012). The team would need time to explore the issues of placement, share their views and values whilst working towards consensus building. This was an integral process as not all members of the team were known to one another. At the initial meeting the LR encouraged the team to establish their own ground rules and proposed that a different chairperson be elected for each meeting. Each ART member's views were valued with openness and honesty encouraged. Emphasis was placed upon individual's knowledge and expertise rather than their title or position. From the first meeting the LR would encourage the ART members to consider themselves as partners in the research process, rather



than participants, where their involvement in the formulation of research questions, data collection methods and analysis (Baum et al., 2006) would be anticipated.

The first meeting of the ART was held and the project and ethos of AR explained. Information sheets and consent forms were issued at that time and the LR digitally recorded the meeting for transcription verbatim. To allow a period of reconsideration the next ART meeting was arranged two weeks hence. Consent forms were checked and the first initial thoughts about practice placement challenges were discussed. All members of the ART were asked to keep a reflective diary and issued with a booklet. It was explained by the LR that it would be useful to keep a record of events from their perspective and to record any thoughts about the process of being involved with the research project.

It was the intention of the LR to involve service-users and students as part of the ART. However, it was felt by some of the members of the ART that having service-users and students present during the formative stages of the group's discussion might inhibit a full exploration of all the issues, challenges, barriers and concerns. There was also concern that given the professional expertise and specific focus, both medical and pedagogical terminology might be a barrier to service-user and student inclusion. The argument for the formation of a consultative group of service-users and students to feed into the main group, where explanations could be given in a supportive environment, was persuasive. A service-user consultative group (SUCG) and student consultative group (SCG)

to discuss the issues presented by the ART whilst inputting on the formation of ideas and prospective changes would be established.

*Lead researcher's comment:*

It was disappointing at this stage not to be able to involve service-users or students in the discussions, because I had hoped to gain the widest perspective possible. However, I felt it was important to enhance the clinical educators position, but not at the detriment to the service-users' or students' experience. Involving service-users and students without a majority agreement may have created tension at an early stage in the group's formation. Also, the arguments did have value, which I had not previously considered. The reduction in the number of clinical educators was also disappointing, as it was hoped to capture all the views of the clinical educators, but a smaller group would still be representative of the clinical educator perspective.

### **3.11 Conclusion**

Appraisal of publications identified that reporting and transparency of the research described varied considerably across papers. Action research has qualities that are suited to complex, multi-professional environments, but researchers appear challenged to comply and report all aspects of the approach.

It has been possible to establish two overarching drivers motivating engagement with AR where the requirement for change was a very strong theme throughout the review. Action research has the potential to bridge not only the educational and geographical gaps between the educationalist and practitioner, but also the theory-practice gap through fostering close collaboration where all members feel empowered and engaged. Communication via the ethical process forms part of this sharing and equality with information sheets and consent forms promoting clarity and honesty. Focusing the research on the research participants' priorities is key if changes are to be not only acceptable and feasible, but also necessary and worthwhile.

The review revealed the body of work in the area of AR by health educationalists to be beset with inconsistencies. Action research has been described as a 'messy' type of methodology (Baum et al, 2006; Crow et al, 2006), which makes the reporting of this complex process challenging, but the lack of transparency and variability in the quality of the reports as a consequence leads to variable value. From the literature review here, it seems that the initial diagnosis phase was often ill defined and the level of stakeholder engagement was not always well described in terms of the extent of the collaboration, consultancy, cooperation and compliance. Often the researcher(s) appeared to undertake action and then engage others as part of their reflection upon the changes made in order to investigate, challenge or improve a situation. In a self-inquiry AR project this is acceptable, but does not meet the requirements of participatory research where collaboration rather than consultation is required. However, ethical considerations appear to have

improved over more recent years in some areas, but it would appear from this review that some researchers are not clear as to their ethical responsibilities and this is an area for improvement within the AR community.

This chapter has provided a review of the state of the literature relating to the use of AR for pedagogical purposes in health. The rationale for engaging with AR and how the ART was formed has been described.

## **CHAPTER FOUR: PHASE I – DEVELOPMENT OF THE 'CAPACITY TO ENGAGE WITH CLINICAL EDUCATORS' SCALE**

The first and second AR cycles undertaken by the ART are described in this chapter. The diagnosis and planning stages of a pilot study, which was the focus of the first cycle, are outlined in the first instance. The pilot study was undertaken principally to develop an instrument to measure the capacity for engagement in clinical education by podiatry clinical educators in the South West. The survey was piloted to test the scale items; rehearse the methods used to promote the survey; test the online software and collect the data for scale development. The data collection and analysis is described and how this led to the development of the scale and subsequently the second research cycle: the final 'Practice Placement Survey'. The final survey identified factors that impact upon clinical educators' capacity to engage in the role.

### **4.1 Diagnosis phase (Cycle 1)**

#### **4.1.1 First ART meeting**

The initial ART meeting was devoted to the introduction of and familiarisation with AR principles as the over-arching framework structuring the project. This included the exploration and instigation of the first AR cycle with 'diagnosis' as the starting point. The diagnosis phase allows for contexts and issues to be explored, deconstructed and evaluated (Ellis and Keily, 2000; Holter and Schwartz-Barcott, 1993; Kemmis, 2009). The project's aim 'Exploration of practice placements in podiatry' was the basis of enquiry, with the practice placement area for the project providing the context.

The issues discussed related to the positive and negative factors that impact on the delivery of practice placement for both clinical educators and students. This protected time provided the team with an opportunity to reflect upon past issues, discuss those issues openly, and listen to others' views in order that a description of the practice placement area could be outlined (Heron, 1996). The aim was to be as inclusive as possible capturing physical, social and economic barriers and facilitators (Dickens and Watkins, 1999).

*Lead researcher comments:*

Initially, the group appeared to have difficulty focusing on the task of evaluating and identifying the practice placement issues. Although I had explained the concept of an AR framework, none of the team, or myself, had any practical experience of the process. There was a tendency during the meeting for the ART members to look to me for affirmation and guidance, as though I held a plan and outcome that was to be adhered to, but I had not yet shared with the group. I determined that at the next meeting I needed to firmly establish the idea that this was a formative stage of the process with no predetermined plan (Coghlan and Brannick, 2005).

#### **4.1.2 Second ART meeting**

In order to provide the ART with a visual summary of the progress made to date, spider diagrams were developed by the LR from the transcriptions of the previous discussions around the potential issues for placement delivery and facilitation. The main themes were represented at the centre of the spider diagram e.g. 'clinical educator role' with the specific elements relating to the central theme arranged in a radial form. This method displayed the information in a summarised format which was easily accessible and focused the group quickly on the issues previously discussed. Issues that might be linked and areas still requiring discussion could be identified (see figure 8 for emergent themes). The LR emphasised the fact that this was an exploratory exercise with no predetermined outcome.

The spider diagrams focused discussions and post-meeting the LR categorised the data into three areas: aspects that were not within the group's power to change; the perceived advantages and disadvantages of the eight-week placement model; and general placement delivery issues. (At the time of these discussions the placement period had increased from two placements lasting three weeks to two placements of eight weeks for second year students.)

<b>Theme</b>	<b>Sub-themes</b>
<b>Barriers</b>	<ul style="list-style-type: none"> <li>Keeping to patient appointment times</li> <li>Clinical environment</li> <li>Lack of student funding</li> </ul>
<b>Link lecturer role</b>	<ul style="list-style-type: none"> <li>Provides support</li> <li>Provides clinical educator updates</li> </ul>
<b>Eight week placement</b>	<ul style="list-style-type: none"> <li>Longer time to achieve aims of placement</li> <li>Increased responsibility for clinical educator</li> </ul>
<b>Portfolio</b>	<ul style="list-style-type: none"> <li>Some learning outcomes ambiguous</li> <li>Lack of support with failing students</li> <li>Assessment parity and reliability questionable</li> <li>No assessment criteria</li> <li>Lack of guidance regarding how learning outcomes should be achieved</li> </ul>
<b>Benefits to clinical educator role</b>	<ul style="list-style-type: none"> <li>Facilitates continued professional development</li> <li>Increases job satisfaction</li> <li>Students helpful in clinic</li> <li>Student recruitment opportunities</li> </ul>
<b>Clinical educator role</b>	<ul style="list-style-type: none"> <li>Role modelling</li> <li>Teaching</li> <li>No clinical educator peer mentorship</li> <li>Lack of confidence to undertake role</li> <li>Updates do not meet needs of individual clinical educators</li> <li>Clinical educators isolated from the University and peers</li> <li>Feedback channels from student post-placement not established</li> </ul>

**Figure 8** Emergent themes relating to issues around placement delivery from ART meeting



*Lead researcher comments:*

At this stage I felt as though a lot of aspects relating to placement had been thoroughly explored and discussed, but the ART had not begun to formulate an action plan. I was concerned about my ability to facilitate the group towards a plan without exerting my own opinions or preferences. I was also concerned at how I would be able to take an idea and put together a research question and appropriate data collection techniques. At the same time I was aware that with the Deputy Head of Service present, if progress was not made the meetings might be deemed to be just a talking shop. Given that five clinicians amount to some 15 hours lost patient contact hours for each meeting, the management may reconsider the involvement of staff with the project.

#### **4.1.3 Third ART meeting**

At the third meeting of the ART it was felt that the main issues impacting upon placement delivery had broadly been described and the diagnosis phase, in terms of what could be learnt from the group, had been exhausted. The initial exploration and identification of the characteristics of the placement area had been necessarily introspective in order to create a mutually negotiated understanding of the challenges, barriers, issues and skills involved in providing student placements. The diagnosis phase encouraged individuals to reflect upon and share their experiences and to comment upon others' experiences to seek explanation or clarification (Coughlan and Coughlan, 2002). From these

discussions there emerged a description of the practice placement area and philosophy which was shared by the whole service. The view was of a friendly, welcoming, enthusiastic and motivated team who had always valued the opportunity to be clinical educators for the University podiatry students. The placement area was considered to be committed to practice placement, student development, as well as having an overall enthusiasm for podiatry and for the development of future colleagues. The team also identified potential challenges and barriers to providing practice placements expressing concerns regarding clinical education skills, achieving parity of assessment between clinical educators and some uncertainty in the area of identifying and supporting borderline students.

A decision was made regarding the focus of the first cycle of action. Although the themes in figure 8 were of interest to the group there was unanimous agreement from the ART that clinical educators at the practice placement area enjoyed mentoring and were able to overcome the challenges presented. Anecdotally, the ART was aware that some placement areas were less enthusiastic to undertake the role, but it was unclear as to why this alternative attitude existed: 'why was there this difference?' Group discussions focused upon undertaking research which would generate knowledge about the challenges to practice placement in podiatry in the South West.

## 4.2 Planning phase (Cycle 1)

During the team's discussions the 'character' of the practice placement area was described and it was decided in the first instance the research literature relating to the role of the clinical educator, or similar, would be reviewed by the LR. The purpose was to gain insight into factors that influence clinical educators' engagement with the role of clinical education.

The review revealed that studies have sought to identify attributes that might enhance or impede student learning (Hesketh et al, 2001) as well as the challenges and barriers to the successful facilitation of effective placement learning experiences (Corlett, 2000; Duffy and Scott, 1998; Hewison and Wildman, 1996; Licqurish and Seibold, 2008). However, the link between characteristics considered desirable in clinical educators and how that translates into effective learning experiences has yet to be established.

This search of the literature in the area of healthcare uncovered the term 'capacity' which seems to be used mainly to indicate the number of students that can be allocated and supported in a particular placement area (Baglin and Rugg, 2010; Barnett et al, 2008; Courtney-Pratt et al, 2012; Hutchings et al, 2005; Magnusson et al, 2007; Murray and Williamson, 2009; Pease and Kane, 2010). (The term 'capacity' when used here refers to the limited definition of student allocation numbers.) A number of issues concerning 'capacity' were identified in the literature, such as limited student allocations (Courtney-Pratt et al, 2012), inability to increase student numbers, resistance to offering

placements due to organisational culture, a dearth of experienced staff (Barnett et al, 2008) and concerns relating to improving quality whilst endeavouring to increase student numbers (Cox and Lindblad, 2012). A tension exists in some professions between 'capacity' in terms of increasing allocated numbers and the provision of quality placements whilst delivering quality patient care and maintaining professional standards (Murray and Williamson, 2009). Within podiatry, at that time, student commissioning was decided by the SHA with capacity negotiated between the University and Head of Service for each podiatry department.

It appears that research in the area of capacity is concentrated in nursing and midwifery and limited to gaining insights from staff involved in clinical education including perceptions regarding the negotiation of student numbers between those undertaking the role and the HEIs. This has led to a range of solutions being identified such as allocating students to placement areas on a regular basis rather than creating peaks and troughs (Barnett et al, 2008); finding under-utilised areas that could be used for placement (Magnusson et al, 2007; Pease and Kane, 2010); providing new opportunities by working inter-professionally; supporting clinical educators by providing dedicated staff such as placement facilitators/educators (Hutchings et al, 2005) and establishing accurate databases for collation of placement information and utilising more flexible working patterns such as night shifts (Barnett et al, 2008).

#### 4.2.1 Initial planning meeting with ART (Cycle 1)

The LR met with the ART and reported the findings from the literature and it was felt that these studies raised some important questions around the issue of capacity for the ART and how the term 'capacity' perhaps had a wider impact for the individual clinical educator delivering the placement and their ability to engage with the role. There appeared to be an opportunity to redefine and broaden the concept of capacity in healthcare clinical education to include a structured approach to building the capacity of individuals, groups and organisations to provide sustainable clinical education within the placement environment (Baillie et al, 2008). Introducing practice-based learning or indeed increasing student numbers at an established placement, but without facilitating that increase, or supporting the clinical educators to undertake the task, raised questions regarding the sustainability of the capacity model which related to student allocation only. Two questions emerged from the ART:

- *How could the individual clinical educator's capacity to engage with the role of clinical education be measured?*
- *How could the factors that might impact on that clinical educators' ability to engage with the role of clinical educator be identified?*

In the first instance, the idea of capacity-building in relation to clinical education was viewed as a complex problem that required a multi-factorial approach if the issues were to be addressed. The term 'capacity-building' is defined in the following section.

#### 4.2.2 Conceptual framework

The ART defined the term capacity-building to embrace a number of areas (see figure 9) e.g. resource provision, leadership, organisational, clinical education and student development and collaborative partnerships (Heward et al, 2007). Baillie et al, (2008) suggest that capacity could be thought of as the ability of a person/group/organisation to achieve a stated objective and that capacity-building encapsulates a set of processes that facilitate the attainment of those objectives. Capacity-building is a multi-factorial concept involving a whole system approach not just a focus upon student numbers. Allocating students to a placement area without addressing the mechanisms that will support the delivery was viewed as unsustainable. Figure 9 illustrates a conceptual framework which presents capacity-building as a whole system. The supporting constructs of the concept will be explained in the section below.



**Figure 9** Capacity-building conceptual framework for placement learning

### ***i. Resourcing***

Resourcing of administration and management was identified as an important consideration, not only for capacity-building, but for providing working conditions and placement environments that facilitate clinical educators in their role (Jokelainen et al, 2011a). Investment in recruitment and training of staff was viewed as critical for the facilitation of students and for providing the optimal situation for learning in the placement environment.

### ***ii. Leadership***

Professional, governmental and educational drivers and initiatives require effective implementation for the desired impact and influence upon the training of healthcare professionals of the future which is important to an integrated approach to capacity-building (Baillie et al, 2008). Commissioning of healthcare student numbers has to be managed at an organisational and strategic level (Murray and Williamson, 2009) and take account of, and align with, the capacity-building strategy. The organisation and management of placements calls for a cross-organisational approach where communication systems to help plan and share information regarding curricula, students and supporting paperwork is essential (Barnett et al, 2012).

### ***iii. Intelligence***

This whole system approach includes the promotion of evidence-based research, including the sharing of experiences and opinions relating to clinical

education in support of clinical educators' effectiveness. This should involve developing the research capacity of healthcare professionals, in both their clinical and educational roles, in order that they are able to transform practice at the point of delivery. Education staff at both strategic and organizational levels have been identified as a requisite for enhancing quality and supporting learners in the clinical environment (Hutchings et al, 2005; Murray and Williamson, 2009). The integration of evidence-based knowledge and local experiential knowledge are both important to the delivery of effective placement learning.

#### ***iv. Partnership***

Partnerships between placement areas, clinical educators, students and HEIs needs to be established and maintained, so that feedback can be obtained and acted upon (Cox and Lindblad, 2012). This is key to the organisation, management and problem-solving of placement issues. To maximise and enhance the student experience it has been recognised that preparation prior to placement and support during the placement, are important (Barnett et al, 2012; Magnusson et al, 2007; Murray and Williamson, 2009; O'Keefe et al, 2012). As stated previously the planning, administration and co-ordination of placements between the HEIs and placement areas is often organized at a strategic level, but is negotiated and modified at a local level (Hutchings et al, 2005).



**v. Organisational development**

Policies that support practice placement delivery whilst creating a culture supportive of teaching and student development are fundamental to the investment in the next generation of clinicians. Patients too have an important role in practice-based learning, but must be prepared for the student encounter prior to the student's active engagement in their care.

**vi. Clinical educator development**

Investing in clinical educators is critical to the provision of student support (Williamson et al, 2011a) and mentorship. Clinical educators require regular mentorship training in an endeavour to improve clinical practice by enhancing student training (Dadge and Casey, 2009). Support and resourcing from their own organisation and respective HEIs, for example allocation of link lecturers, is also fundamental to equipping the clinical educator for the task (Hutchings et al, 2005).

**vii. Student development**

Preparing students for placement and providing resources to support them prior to and during placement is essential. Students should have clear guidelines of expected responsibilities, aims and expected outcomes from the placement and who to contact if problems arise (Williamson et al, 2011). Gaining feedback post-placement is important for developing the placement area and maintaining quality.

The conceptual framework was viewed by the ART as working towards sustainable outcomes in healthcare clinical training, where capacity-building could be based upon partnership, organisation, clinical educator and student development and created upon a foundation of leadership, intelligence and resourcing. It was decided that the first cycle of AR would focus on the clinical educator within the capacity-building framework in an attempt to understand and explain the current landscape within podiatry placement provisions in the South West.

#### **4.2.3 Rationale for data collection method**

It was decided that a scale should be developed with multiple concepts designed to measure the capacity of clinical educators to engage with the role of clinical education whilst acknowledging the importance of organisation, team and individual contributions. The ART discussions and practice-based learning literature generated a number of concepts that theoretically and experientially were considered to be integral dimensions of capacity for engagement by clinical educators with the role.

A 'clinical educator questionnaire' (Lobiondo-Wood and Haber, 2006) would be the most appropriate tool for administering the scale and for identifying the factors that might influence and explain the variability of clinical educator capacity to engage with clinical education across the South West. The idea of capacity to engage in clinical education was considered multi-dimensional requiring a multiple-indicator approach in order to identify the underlying factors or concepts that interrelate with one another (Bryman, 2001; Oppenheim, 1992;

Spector, 1992). An attitudinal questionnaire would allow for the collection of structured data, potentially accessing a large number of respondents (Cohen et al, 2007). The podiatrists in the South West who act as clinical educators would be identified and targeted to complete the questionnaire. The scale would contribute to the capacity-building framework in the area of 'clinical educator development' by potentially identify training and support requirements to increase effectiveness. Identification of predictive variables for clinical educator capacity to engage with the role would inform HEIs, placement providers and policy makers in terms of the organisation, investment and support requirements for students and placement areas within the podiatry profession. The question posed by the ART was:

- *'What are the factors that impact upon the capacity for clinical educators to engage with clinical education across the practice placement areas in the South West?'*

A survey would capture a large number of views across the whole of the South West region providing baseline knowledge regarding the attitudes of clinical educators to clinical education. Crucially, data could be used to compare and evaluate the strengths and weaknesses of the practice placement area against the wider practice placement community. The questionnaire would seek to explore what capacity clinical educators had for developing podiatry students' practical placement skills. The findings from this questionnaire had the potential to form the basis of a much needed evidence base in relation to practice placement in podiatry.

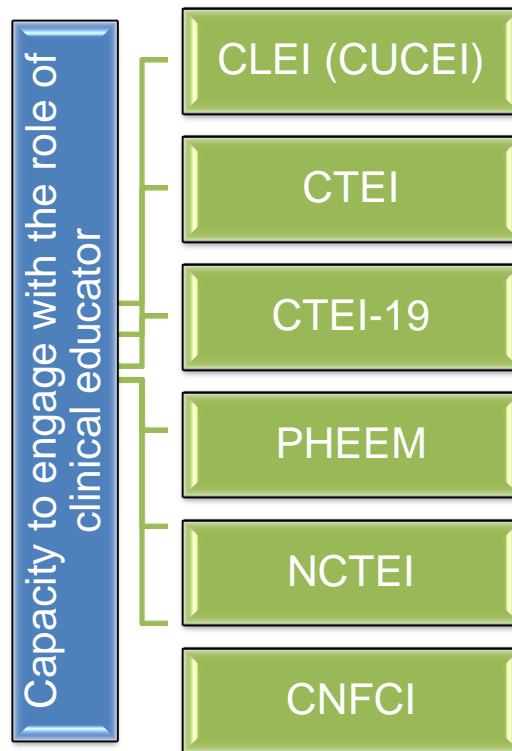
#### **4.2.4 Instrument and scale development**

In order to construct the questionnaire, the concepts that underpin the complex elements that impact upon the clinical/learning environment needed to be operationalised into specific questions that access the dimensions that determine the concept (Schwarz, 2007). At this stage the ART had identified some of the elements considered to be implicated in influencing capacity from the literature and through expertise within the team, such as having protected time (Finnerty et al, 2006).

Initially, a database search was undertaken to identify any scales that may have already been developed. A number of instruments have been developed to measure students perceptions with regard to clinical teacher effectiveness: clinical learning environment inventory (CLEI) (Chan, 2002); clinical teaching effectiveness instrument (CTEI) (van der Hem-Stokroos et al, 2005) (subsequently reduced to the 19 item CTEI-19) (Salamonson et al, 2011); clinical learning environment and supervision (CLES) scale completed by students (Saarikoski et al, 2008) later validated in Sweden (Johansson et al, 2010); postgraduate hospital educational environment measure for student completion (PHEEM) (Boor et al, 2007); the nursing clinical teacher effectiveness inventory (NCTEI) developed by Morgan and Knox (1987) and replicated by Nehring (1990) and later Lee et al (2002) used to consider not only student, but also clinical educators' views from the perspective of their recollections as students or being peer mentored. The clinical nursing faculty competency inventory (CNFCI) was developed with students and faculty members across 6 universities in China. The scale focused upon the skills

required for quality teaching within the role of clinical educator producing an inventory: 'leadership ability, problem-solving ability; educational intelligence; general teaching ability and clinical nursing skills' (Hou et al, 2010). The majority of the scales listed were for completion by nursing students except the PHEEM scale relating to medical students. The CNFCI is more comprehensive for completion by the main faculty stakeholders, including nursing clinical educators and administrators, but results in a scale measuring nursing faculty's competence to deliver clinical education, but did not evaluate the effectiveness of clinical education.

None of the scales had specifically considered the complexity of the clinical educators' environment with competing demands, such as the student, service-user, organisation and wider team requirements. Nor had the clinical educator's readiness for the role been addressed. The ART viewed the clinical environment as highly complex, and that a holistic scale measuring clinical educators' capacity to engage with the role would contribute to the range of scales already established (see Figure 10). The clinical educators' capacity to undertake the role was felt to be critical and an absolute prerequisite upon which the effectiveness of the learning environment and the student experience would be derived. It was felt that a scale to measure clinical educators' capacity for engaging with clinical education (CECE scale) to consider these complex factors was justified.



**Figure 10** CECE scale fundamentality to other clinical education scales

#### 4.2.5 Workshop 1: Defining the underlying concepts

The ART team met to discuss the research question and identify the factors that influence clinical educators' capacity to engage in the role. This was viewed as an integral construct to the capacity-building conceptual framework for placement learning which would advance knowledge in a previously under researched area. The ART performed as an expert group, informed about the area of research and the possible responses likely from the target group to be surveyed (Boynton and Greenhalgh, 2004). From the discussions a number of hypotheses were generated which were considered to be potential factors influencing the capacity to engage with clinical education (see Appendix 4). Concepts were identified from the literature, in particular around leadership, job

satisfaction and anxiety and pedagogical experience amongst the ART. A variety of concepts (see Appendix 5) and underlying dimensions thought to access these concepts were produced.

#### **4.2.6 Workshop 2: Developing the pilot questionnaire**

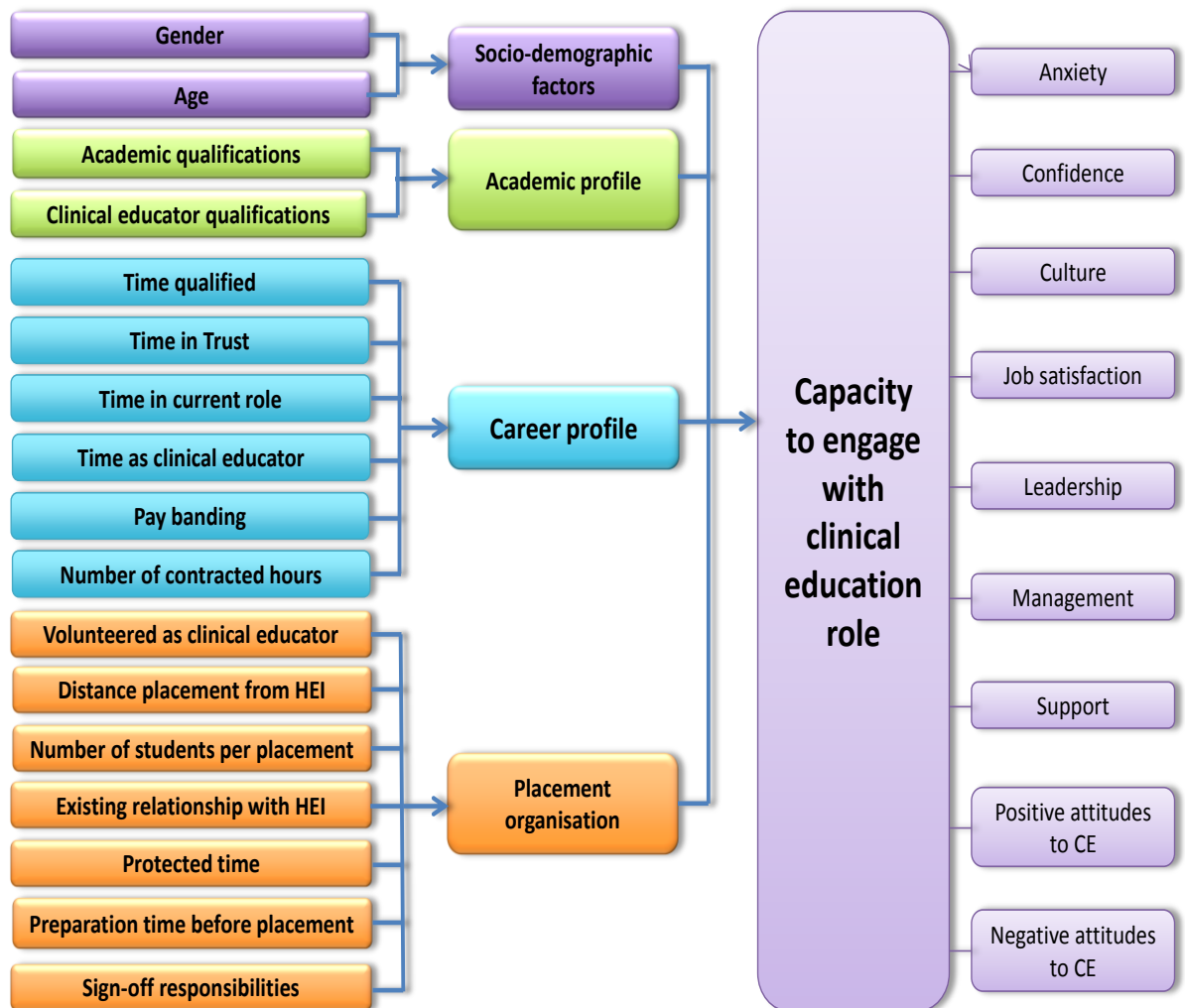
Following the literature review and ART discussions the LR produced a pool of 118 items designed to access each of the underlying dimensions of the concepts identified. These concepts and rudimentary questions were then presented to the ART members and discussed in detail. The members agreed the explanations for the concepts as being ideas and themes that had arisen out of group discussion. Where concepts had come from the literature these were discussed and agreed as justifiable inclusions. For each construct a number of items were produced. This presupposed that each respondent had a particular attribute residing within them and it was possible to manufacture a 'tool' for accessing that attribute (Krosnick and Fabrigar, 1997). A single item on its own could not be relied upon to access the attribute and may not be interpreted by the respondent as intended. A group of questions would be generated as more than one item seeking to access a scale may mitigate minor issues with an individual item's precision as a measurement tool. This multi-item approach provided stability to the component attitude or behaviour that was being accessed and helped to negate any fluctuations that might be caused by respondent mood, misinterpretation or unbalanced emphasis of the question. If this premise was correct, there should be a consistency between these questions, assuming the set of items for the particular scale was reliable (Bryman, 2001; Oppenheim, 1992).

Concurrent 'think aloud' procedures were used by the ART to explore the utility of individual items (Banning, 2008; Cotton and Gresty, 2006). The group was divided into pairs with one-half reading the question and the other half articulating their interpretation of the question. These interpretations were written down for discussion with the wider team. This method allowed the group to consider each item and how the question might be interpreted in unintended ways (Schwarz, 2007). Where questions were considered ambiguous the team reworded the item. Each questionnaire item was discussed in depth in terms of its legitimacy in relation to the dimension it represented, the suitability of the wording for possible ambiguity in the questions, inherent bias, or language that was either pretentious or in some way likely to alienate the respondents (Schwarz, 2007). Asking more than one question in the item was avoided as was language that was loaded and had the potential to lead the participant to respond in a particular way (Krosnick and Presser, 2010). These discussions led to additional questions being added to the questionnaire leading to 123 items which were divided into nine sub-scales within the 'Capacity to engage with clinical education' scale (CECE).

#### **4.2.7 Hypotheses relationship with the CECE scale**

The hypotheses represent factors identified by the ART as having the potential to impact upon clinical educator capacity to engage with the clinical educator role. The relationship between the factors, how they are grouped and the sub-scales forming the CECE are represented in Figure 11.





**Figure 11** Independent variables shown in relation to dependent variable: Capacity to engage with the role of clinical education

#### 4.2.8 Principles of questionnaire construction

To increase respondent engagement, reliability and validity of an instrument, there are a number of steps during the design stage that the researcher can take to increase scale effectiveness. Reverse items are used to try and reduce the potential for participants to complete a survey using the same response for each question (Rust and Golombok, 1999). A mixture of positively and negatively worded items were incorporated to reduce or identify response sets where respondents answers were conflicting or inconsistent. This also helped

reduce bias produced by response tendencies displayed by respondents with a propensity to agree with statements (Spector, 1992). These types of respondents can be identified during the analysis stage by calculating separate scores for each of the positive and negative items.

To ensure the questionnaire's success it was important that participant responses were optimal. Each respondent is required to divine the researcher's meaning from the question, recall information that was relevant to the question being asked and formulate this into their response (Krosnick and Presser, 2010). The respondent must be motivated to answer the questions, stay focused and be diligent in their responses. Three areas influence respondents' ability to perform optimally when completing the questionnaire; task difficulty and the ability and motivation of the respondent (Krosnick and Presser, 2010). Task difficulty was addressed by ensuring that as many barriers to completion and comprehension as possible were removed during the development stage.

#### **4.2.9 Structuring the survey**

This first development stage led to a number of changes, following which, three experienced researchers scrutinized the revised questionnaire. Throughout the process, the LR was involved to ensure a clinical and professional perspective pertaining to podiatry was represented. The recruitment of experienced researchers and podiatry professionals in the development of the questionnaire provided face validity for the survey (Bryman, 2001). The survey had an initial introduction explaining the rationale, the paucity of research pertaining to the

podiatry profession and the benefits to clinical education, which it was hoped would optimise participant responses. This was followed by a socio-demographic section, which included questions relating to the factors thought to influence clinical educator capacity to engage. The questionnaire was entitled the 'Practice Placement Survey in Podiatry'. At the beginning of each section a short paragraph was given which signposted a shift in the focus of the questionnaire, thereby reducing the barriers to completion and focusing respondents' thoughts upon the subject area being surveyed. The survey was constructed with sensitivity toward building rapport with the potential respondent by introducing easy to answer and less contentious questions at the beginning of the questionnaire (Krosnick and Presser, 2010). This led to items being grouped together under 5 overarching themed sections; 'being a podiatrist'; 'team work'; 'student mentorship'; 'support'; 'confidence'.

All item stems involved agreement statements which required the respondent to make a declaration as to their level of agreement with the statement made (Spector, 1992). A 5-point Likert scale was utilised using the following descriptors:

1. *Strongly disagree*
2. *Disagree*
3. *Neither agree nor disagree*
4. *Agree*
5. *Strongly Agree*

These descriptors were chosen as likely to be interpreted similarly by each respondent and representative of the range of responses given by respondents

when trying to map their attitudes. The use of fully labelled scales has been recommended to increase validity and reliability (Krosnick and Fabrigar, 1997). A neutral midpoint was included so respondents without a positive or negative attitude to the question could map themselves accurately to the scale. A 5-point Likert scale was decided upon to reduce the number of conceptual interpretations required by each respondent in deciding which descriptor best represented their attitude. A longer rating scale has been identified as having the potential to increase the number of interpretations made and this can lead to inconsistency over time and between individuals (Krosnick and Presser, 2010). Summated rating scales are underpinned by classical test theory; that the subjects targeted embody the trait being tested for and the trait can be observed via the use of statements (items) which elicit a response that is able to measure that trait (Spector, 1992). The items in each section were numbered and re-ordered using randomising tables. Question sequence may also affect respondent comprehension as a result of preceding question exerting an influence upon the perception of subsequent questions (Schwarz, 1997).

### **4.3 Pilot survey development**

#### **4.3.1 Rationale for pilot survey**

It was important to pilot the self-completion questionnaire to ensure that any problems concerning the instructions, response choices, question ambiguity or poorly constructed items could be identified and tests for reliability and validity undertaken (Bryman, 2001; Oppenheim, 1992) . Crucially, the pilot study would provide data for analysis to identify those items which provided a reliable and valid measure of the concepts of interest. The decision was made to host the

survey online for three main reasons. Firstly, this would minimise the researcher-respondent interaction which can influence participant responses (Schwarz, 1997). Secondly, online delivery would assist the promotion and distribution of the survey to the placement areas. Thirdly, an online survey permitted completed questionnaire data to be entered straight into a spreadsheet which would save researcher time and minimise errors due to human error during transfer from hardcopy responses onto an electronic spreadsheet. Choosing an online questionnaire dispenses with an interviewer, but does mean the respondent must interpret the questions within the context presented (Schwarz, 1997). This does, however, provide a standardised approach to the administration of the survey.

Where possible, pilot studies should be undertaken using a representative sample of the targeted population for the main study. A member of this representative sample might be expected to have similar knowledge and views as those participants targeted for the main study (Oppenheim, 1992). Ideally, the pilot area should share as many similarities as possible with the final study group targeted.

#### **4.3.2 Pilot population**

Information regarding other UK podiatry programmes was obtained through the 'Placement Educators Group' part of the Undergraduate Education and Development directive of SOCAP. Based on the criteria of frequency and length of time podiatry students attend practice placement within the NHS, a

city-based university (known hereafter as the 'pilot University') was identified as the programme that corresponded most closely to that of the University based on information provided by the Placement Educators Group, February 2010. It was identified that students of the pilot University all undertook their placements within a 50 mile radius of the pilot university.

Other possible pilot areas had placements that covered a wider geographical area, but were for shorter periods of time. It was felt that the closeness of the placements to the pilot University was a compromise, but that the organisation of their placements provided many more similarities than dissimilarities. Table 1 compares the placement frequency and length between the two universities:

Pilot university		
1st year podiatry students	2nd year podiatry students	3rd year podiatry students
3 week NHS placement	2 x 4 week NHS placement 8 weeks overall	2 x 5 NHS placement 10 weeks overall
The University		
1st year podiatry students	2nd year podiatry students	3rd year podiatry students
8 week NHS placement staffed by the University podiatry academics and dedicated Practice Educators within 4 miles of University campus	2 x 7 week NHS placement 14 weeks overall	1 x 4 weeks and 1 x 8 weeks NHS placement 12 weeks overall

**Table 1** Practice placement periods for the pilot university and the University

#### 4.3.3 Administration and structure of pilot survey

There were a number of issues to overcome in order that the survey reached the pilot target population. To engage the pilot area it would be necessary to collaborate with the university who allocated students to the selected placement area. This would require the placement co-ordinator for the pilot university facilitating the LR's access to, and providing information about, the placement area. It would be important to minimise the amount of work this might generate

and therefore make the prospect of involvement appear less onerous and more appealing.

The number of podiatrists engaged in a clinical educator role was unknown. It was decided that the best strategy would be to contact the Heads of Service directly, for both the pilot and the final survey and for them to act as gatekeepers for their staff. This would serve two purposes. Firstly, it ensured that managers were fully informed of the survey and had some involvement in the distribution of the information, which should assist engagement with the project. Secondly, it increased the likelihood of contacting relevant staff and that out of date contact details would not result in some potential respondents being excluded.

## **4.4 Procedural decisions**

### **4.4.1 Pilot study pre-testing prior to online version**

The ART and critical friends were asked to read the survey information and complete the questionnaire in order that clarity and intent were optimal. The issue of respondent ability and motivation was addressed by ensuring that the recruitment information and further correspondence encouraged engagement and explained clearly why the questionnaire was important and how its findings would be utilised for the benefit of podiatry as a profession and regionally in terms of practice placement provision.



In order to test the questionnaire before going live online it was re-formatted into a Microsoft Word document for further scrutiny by three experienced researchers for typographical errors or other issues. (See Appendix 6 for the online questionnaire in Microsoft Word format.) Two critical friends completed the online questionnaire, a lecturer in podiatry and a band 8a physiotherapy manager to identify any problems with question comprehension and to establish the time for completion. The two participants completed the questionnaire in 19.02 minutes and 14.34 minutes respectively.

#### **4.4.2 Online pre-testing of pilot survey**

The online self-completion pilot questionnaire was created using the software package Perseus which saves to a tvs.file and populates data directly into a format transferrable to Microsoft Excel. Once the questionnaire was online, but prior to going live, all members of the ART were asked to complete the online questionnaire to identify any issues with comprehension, typographical errors or problems with the data populating the spreadsheet. To ensure that all the data transferred correctly, the LR entered spurious data and checked the population of the tvs.file. This data file was immediately deleted upon completion of testing.

#### **4.4.3 Pilot administration schedule**

In order to advertise the questionnaire a postcard was designed inviting respondents to access the online questionnaire and offering a prize of two £25 book vouchers (Appendix 7). A letter accompanied the postcard sent to each Head of Service for podiatry where practice placements were undertaken for the

pilot University explaining the aim of the questionnaire. It also requested managers' support for the project by forwarding the postcard to their staff. After two weeks a reminder email was sent to the Head of Service for podiatry with a second reminder email sent after a further two weeks.

#### **4.4.4 Ethical approval**

Ethical approval was obtained from the National Research Ethics Service for the pilot study to be undertaken with the practice placement areas who provided placements to podiatry students at the pilot University and for the final study to be undertaken with the University clinical educators across the South West region. Confidentiality and anonymity was assured, although respondents wishing to enter the prize draw or to receive a short report of the final findings were asked to provide an email address. To minimise the potential for respondents to be identified, a University administrator, who was unconnected with the project, was recruited to access the spreadsheet on one occasion to retrieve the winning participants email addresses. They were also asked to access the spreadsheet once more at a later date to retrieve email addresses in order to send out the short report of the final findings.

#### **4.5 Action phase (Cycle 1)**

The initial invitation to complete the online 'Practice Placement Survey in Podiatry – Pilot Study' and postcard were sent out by the LR to 25 Trusts (see Appendix 7) with two reminder emails sent out at two weekly intervals.

#### 4.5.1 Post-pilot response and data preparation

The pilot study was administered as described. The reminder emails, however, did result in unexpected correspondence from some managers expressing their interest and co-operation with the survey. The LR received no correspondence requesting further information or explanation. At the closing date, 33 respondents had completed the on-line questionnaire. Interestingly, prior to the last email reminder, only 24 respondents had completed the online survey, which demonstrates a 27% increase in the last 2 weeks of the collection period. The reminder emails were a good strategy for increasing the response rate.

The data were transferred from the tvs.file into Microsoft Excel. The LR then inspected the data for any obvious problems such as missing data and in particular comments from the respondents in terms of issues pertaining to the completion of the survey. It was noted that there was an issue with a few of the initial questions relating to length of time where participants recorded their responses to these questions in hours rather than minutes (See figure 12).

<p><b>How much time is generally allowed for appointments for the following type of patient encounter?</b></p> <p>New patient   <input type="text"/> hours   <input type="text"/> minutes</p>
---

**Figure 12** Example of a question from pilot survey completed incorrectly

As a consequence there were a number of instances where respondents had indicated that they had 30 or 40 hours for a task, which would be an inconceivably long time for the tasks involved. In these instances it was assumed that the respondent had made an error by populating the hour box rather than the minute box, as 30-40 minutes to see a new patient made more sense. It was decided that this would be rectified in the final survey by only giving minutes as an option in most instances, except where multiple hours might be involved thus avoiding the respondent having to undertake a calculation to convert hours to minutes resulting in error or aversion to the survey.

Not all respondents chose to comment upon the pilot. Of the 55% (n=18) that commented 44% (n=8) had a very positive attitude to the survey stating that the instructions were easy to understand, the questions were clear, with a good layout and a thorough examination of the views, attitudes and beliefs relating to clinical education. However, there were a couple of comments relating to the length of the survey and repetitiveness of some questions. One respondent did not understand the relevance of a question relating to their manager. Two respondents also requested a comments box next to the Likert scales in order to clarify or justify their answer.

It was felt overall that the survey was successful in terms of the layout and structure. The length of the survey would be reduced following data analysis relating to scale development where items would be discarded. Some items may appear very similar, because they form part of a particular scale, but

represent a different dimension of that scale and therefore are justifiable. When developing scales and surveys it is necessary to be cautious about how much information is provided to the respondent in terms of what the specific questions are asking in order that the respondent is not biased (Oppenheim, 1992). The objection relating to an item enquiring as to respondent's perception of their manager's supportiveness appeared conspicuous to the respondent, but in fact relates to leadership which is a key underpinning theory of the survey and therefore valid. The request to be able to give supportive information alongside responses on the Likert scale does not fit with the objective of the survey and would require more respondent input, potentially demotivating some respondents. It was also noted by the LR that there was an error on the drop down boxes relating to time qualified as a podiatrist and time in post. The drop down box omitted the option of '1 year' which was amended for the final survey.

#### **4.5.2 Missing values**

The raw data relating to the responses to the individual items were transferred into Predictive Analytics SoftWare (PASW®) version 18 (previously known as SPSS). With a possible 4,059 responses, it was determined that 24 cells had missing values. Of these 24 missing values one respondent was responsible for seven missing values and another for two. All the others were scattered across the items with only the same four items left blank by two respondents. Due to the overall good response to individual items it was decided that where there was a missing value the average response for an item would be submitted (Brace et al, 2009). It was felt important to utilise as many of the responses as possible in the scale construction.

### 4.5.3 Reverse responses

The overarching aim of the survey was to produce a number of sub-scales which together could measure the capacity for engagement with clinical education by clinical educators. Therefore, before analysis of the data could take place it was imperative that any negative questions were re-scored in order that the scoring system was measuring in the correct direction (Oppenheim, 1992).

### 4.5.4 Response rate for pilot study

To determine the response rate, the Head of Service for each Trust involved was contacted again via email, thanked for their cooperation and requested to provide details of how many podiatrists they currently employed. Of the 25 Trusts contacted 21 replied reporting that 335 podiatrists were employed by 21 Trusts. In order to estimate the number of podiatrists employed by the other 4 Trusts the mean number of podiatrists was calculated at 15.9. The mean was then multiplied by 4, and added to 335 to estimate the approximate total number of podiatrists working in all 25 Trusts (398 podiatrists). The placement coordinator was contacted with regard to the number of clinical educators currently working with pilot University students who stated the following:

*‘...We have a minimum of one clinical educator per placement provider, but some [Trusts] have two or three [clinical educators]...’*

This meant that for the 25 Trusts contacted there could be a minimum of 1 or maximum of 3 clinical educators. In the absence of a definite number of clinical educators, it was decided to take the mean for all 25 Trusts, which resulted in 50 clinical educators ( $25 \times 3 = 75$ ,  $75 \div 3 = 50$ ). To calculate the response rate the 33 respondents were divided by 50 clinical educators and multiplied by 100 resulting in an estimated 66% response rate.

## **4.6 Evaluation phase (Cycle 1)**

### **4.6.1 Final scale development**

It had been anticipated that once the data had been received from the pilot study exploratory factor analysis would be undertaken to determine the underlying determinants and their interrelatedness (Oppenheim, 1992) to develop the sub-scales and reduce the number of piloted items (Pallant, 2001). Sample size is an important issue when considering the suitability of factor analysis. The advice relating to the optimal ratio of respondents to variables is not definitive, but there appears to be consensus that ideally to undertake factor analysis confidently requires at least 10-15 responses for each item (Field, 2009; Pallant, 2001) or at least 300 responses. With only 33 responses from the pilot study exploratory factor analysis was not possible and item analysis and internal consistency was considered to be the most reliable method to use for exploring the data.

#### 4.6.2 Item analysis

During the conceptual phase of the questionnaire development, nine concepts were identified with a number of dimensions that were thought to underpin those concepts. Individual items were designed to 'tap' into those dimensions and therefore create a bank of questions that represented the distinct aspects of the constructs involved. The items generated are latent variables; a way of trying to measure attitudes and behaviours that cannot be easily measured in a conventional sense (Field, 2009).

Item analysis was used to identify the items that formed an internally consistent scale by calculating the item-total correlations; identifying to what extent individual items shared commonality and formed an internally consistent scale (Spector, 1992) because they were measuring the same underlying concept. Importantly, each item should have a degree of common variance, but also a degree of unique variance. The unique variance is the contribution of that variable to measuring an element that none of the other items does within that concept. Each variable within the sub-scale should demonstrate homogeneity with one another, but crucially should have its own unique facet that adds to the overall multi-dimensionality of the sub-scale (Brace et al, 2009; Field, 2009; Spector, 1992).

Initially, all the potential items for a particular scale were included with the analysis undertaken in PASW® version 18 with the item-total correlation coefficient set at .3, .4 and then .5, with .5 representing good ability by that item



to discriminate between respondents for that particular scale (Rust and Golombok, 1999). This approach was taken in order to establish the highest coefficient threshold possible and the average inter-item correlation from which the proportion of variance explained by the sub-scales was calculated (Sapsford, 2007). This process also produced a Cronbach's  $\alpha$  coefficient for each sub-scale, which relates to the reliability of a scale. The item-total results and Cronbach's  $\alpha$  can be viewed in Appendix 8. Through the item-total correlations it was possible to demonstrate the construct validity of the sub-scales (Lobiondo-Wood and Haber, 2006). Cronbach's  $\alpha$  for the nine sub-scales are presented in table 2 including the number of related items.

<b>Scale</b>	<b>Total number of items</b>	<b>Cronbach's <math>\alpha</math></b>	<b>Proportion of items reversed</b>
<b>Anxiety</b>	4	.782	4
<b>Confidence</b>	6	.837	1
<b>Culture</b>	8	.864	1
<b>Job satisfaction</b>	12	.932	0
<b>Leadership</b>	10	.951	2
<b>Management</b>	3	.921	1
<b>Support</b>	11	.916	4
<b>Positive attitudes to the role of clinical educator</b>	16	.933	4
<b>Negative attitudes to the role of clinical educator</b>	4	.832	0
<b>Sum</b>	74		17

**Table 2** Attitudinal scales with number of items and Cronbach's  $\alpha$  value

There was an issue with the 'positive attitudes to the role of clinical educator' analysis due to the following warning:

*'The determinant of the covariance matrix is zero or approximately zero. Statistics based on its inverse matrix cannot be computed and they are displayed as system missing.'*

This warning alerted the LR to the fact that at least one item had a high degree of common variance with other items and therefore had a high degree of correlation with other items. On inspection of the data item SM21, "I believe that mentoring is an effective way of training students", was highly correlated with other items with an item-total correlation of .915. The analysis was run again without this item and the warning did not recur, resulting in a capacity to engage in clinical education scale with 16 items and a Cronbach's  $\alpha$  of .933. (See Appendix 9 for a full description of each sub-scale.)

#### **4.6.3 Response-set bias**

The item analysis resulted in a reduction in the reversed questions with two scales that did not include any reversed items at all. The survey, however, was not presented online with the items categorised within the sub-scales, but under umbrella headings and each of these sections included reversed questions. Of the original 123 items piloted, 40 items were reverse worded. Of the 74 items remaining, 17 items were reversed representing 22% of the overall items distributed throughout the survey sections.

## 4.7 Reflection phase (Cycle 1) and diagnosis phase (Cycle 2)

The ART met once during the period of the pilot data collection and analysis. At this stage not all the analysis had been undertaken, but the data on the individual items was available and the team discussed in general terms the response to the socio-demographic questions and items. This was helpful in keeping the group engaged with the project, engendering ownership of the measurement tool being developed and to offer opportunities to develop understanding of the process of scale development. The team helped to examine the respondents' comments and decide to what extent criticisms were valuable and, therefore, appropriate adjustments should be made.

*Lead researcher comments:*

The members of the ART who were clinicians were committed to clinics 3-4 months ahead of time, which meant that we had to plan our meetings well in advance. This created some timing issues as I had to manage ethics applications, the project and a full time workload, so it was not always possible to have meetings at the most optimal time. Therefore the diagnosis and planning phase was managed by me in the main so that I could drive the project forward and avoid delays updating the group face-to-face. During these periods updates were via email.

## **4.8 Planning phase (Cycle 2)**

### **4.8.1 Preparing the final survey**

The pilot study had identified a few minor issues with the online survey which were amended by the LR. In an attempt to increase engagement with the survey the prize value was increased to four £25 book vouchers. It was decided to include the clinical educators at the project placement area within the final survey. The ART members were confident that they had not discussed the survey with their colleagues or any aspects relating to its construction. Trust is a core principle of the AR ethos and the LR felt it important to demonstrate this trust by inviting the ART's colleagues to participate in the survey. The LR sent an email to the members of the ART, once the initial contact letters had been sent to the Heads of Service for podiatry, to remind them not to complete the survey as this would bias the results. The nine sub-scales now incorporated 74 items for measuring capacity to engage in clinical education scale.

Each Head of Service for the Podiatry Services in the South West region was contacted via email. A short explanation regarding the aims of the survey was provided and information requested regarding the number of podiatrists each Podiatry Department currently employed and of those how many supervised podiatry students. Of the 15 Podiatry Services contacted, 13 responded, and a figure of 137 potential clinical educators was calculated. In order to arrive at a representative figure to inform the response rate, the numbers of potential clinical educators from the 13 placements was totalled (137) and the mean calculated at 10.53. The mean was then used to represent the two missing

placement areas resulting in an overall population of 158 potential clinical educators.

## **4.9 Action phase (Cycle 2)**

### **4.9.1 Final survey administration**

The final survey was launched using the same administration schedule as that used for the pilot study. There were no problems during this phase and all the data was collected through Perseus.

## **4.10 Evaluation phase (Cycle 2)**

### **4.10.1 Response rate for final survey**

Sixty-six responses were received representing a response rate of 42%. For an online survey this response rate was considered satisfactory. A meta-analysis of organisational survey response rates found that the average response rate to be 52.7% (Baruch and Brooks, 2008). A trend, however, was reported in that response rates were seen to be falling between the period 1975-2005 (Baruch and Brooks, 2008; Yehuda Baruch, 1999). A later meta-analysis of 199 online surveys (523,790 invites) reported the response rate on average to be 26% (Braun Hamilton, 2003). Although, the response rate to the final survey was lower than the pilot survey and falls below the rates suggested by Baruch and Brooks (2008), it represents a 16% increase on the rate quoted by Braun Hamilton (2003). The lower response rate to the final survey may be a representation of an opposition or resistance to undertaking any further work for or with the University.

#### **4.10.2 Socio-demographic responses**

Socio-demographic data was collected and descriptive statistics produced to consider the gender, age, qualifications and other pertinent information relating to factors influencing respondents' attitudes to clinical education. The results are reported below, but not all respondents answered each question and therefore 'n' is not always 66.

#### **4.10.3 Gender and age**

Of the 65 respondents to this question, 23% (n=15) were male and 77% (n=50) were female. This represents a ratio of approximately 1 : 3 (male : female) reflecting the professional trend (HPCP 2012; personal email). At October 2012, there were 12,662 chiropodists/podiatrists registered with the HCPC of which 9,165 were female and 3439 were male.

The respondents were asked to disclose their age and this was categorised into five groups: 20-29; 30-39, 40-49; 50-59; 60-65. None of the respondent fell within the 60-65 age bracket. Of the 66 respondents, 18.2% (n=12) were between 20-29 years of age, 24.2% (n=16) between 30-39 years of age, 31.8% (n=21) between 40-49 years of age and 25.8% (n=17) between 50-59 years of age.

#### 4.10.4 Academic profile

Data were analysed pertaining to academic achievement in relation to respondents' professional roles as podiatrists and also the clinical educator role. All podiatrists must be registered with the HCPC and are required to hold a BSc in Podiatry or a Diploma of Chiropody with State Registration. Of the 65 responses to this question, 62% (n=41) held a BSc in Podiatry with 15% (n=10) holding a Diploma in Chiropody with State Registration only, 12% (n=8) held an MSc, with only one respondent holding a PhD. A Post Graduate Certification in Education had been attained by 8% (n=5).

Of the 66 respondents, only 39% (n=26) stated they had undertaken clinical educator training, 18% (n=12) had attended the University training day (non-assessed), 14% (n=9) had undertaken a module with assessment, 4.5% (n=3) had undertaken a clinical educator module as part of their degree and 3% (n=2) reported undertaking clinical educator training, but gave no other details. It is interesting to note that 61% (n=40) of the respondents claimed to have no clinical educator training. Clinical educator training in this case might relate to attending a day with the University, which includes reviewing the paperwork relating to the clinical educator role and discussing aspects of the role. It could, however, relate to a more formal module where the attendee had to undergo assessment in order to receive a qualification. It is not mandatory for clinical educators to hold a qualification in clinical education and podiatrists are able to undertake the clinical educator role having only attended a non-assessed, non-mandatory, clinical educator training day every two years.

#### **4.10.5 Career and employment profile**

The data were analysed in relation to the length of time the respondent had worked as a podiatrist for a particular NHS Trust and in a particular professional role. The banding levels relating to pay and responsibilities within that role and number of hours worked per week were also explored. Finally, the data were analysed with regard to relationships with the University that lay outside the clinical educator role.

The mean length of time qualified as a podiatrist for the 65 respondents was 15 years 7 months with a range of 37 years, minimum 2 and maximum 39 years.

(The maximum length of time that a podiatrist could be qualified was 45 years.)

Of the 66 responses, the mean for the length of time that clinical educators had been working within the same NHS Trust was 11 years 7 months with a range of 38, with the minimum less than 1 year and maximum 38 years. The mean for the length of time clinical educators had held their current role was 7 years with a range of 31, minimum 2 and maximum 33 of the 65 responses.

The length of time that a clinical educator had undertaken the clinical mentorship role was explored and of the 64 respondents the mean was 5 years 8 months, range 20 years, minimum 1 and maximum 21. It appears that some clinical educators have undertaken a mentorship role, but not in relation to training university students, as this has been a requirement for a shorter period of time than some of the respondents declare acting as clinical educators. It



may, therefore, be related to clinical mentoring of new members of staff joining their organisation or mentoring staff into new roles.

Respondents were asked to report their pay bands representative of salary and level of clinical responsibility. Analysis of the data showed that of the 66 respondents, 9% (n=6) were at band 5, 54.5% (n= 36) at band 6, 32% (n= 21) at band 7 and 4.5% (n=3) at band 8a. Band 5 is a basic grade with the majority of clinical educators at band 6 level. Band 7 relates to practitioners with specialist roles and those at band 8a are likely to have considerable managerial responsibility or are in a consultant role.

Full-time and part-time hours were analysed revealing that of the 60 responses, 60% (n=36) of the clinical educators work less than 37 hours per week, or part-time, and 40% (n=24) work 37 or 37.5 hours per week. (Both 37 hours and 37.5 hours were considered full-time within the study.)

Links with the University were explored and respondents were asked to give details of other relationships outside the clinical educator role. From the 65 respondents that answered this question 21.5% (n=14) did have some other relationship with the University with 78.5% (n=51) having no other relationship other than the clinical educator role. The majority of those who did have some other relationship with the university were either current 9% (n=6) or former students 11% (n=7).

#### 4.10.6 Volunteer status

Within podiatry the method of recruitment to the role of clinical educator was thought to be variable between podiatry departments. From the 66 respondents, 54.5% (n=36) volunteered, but 45.5% (n=30) did not.

#### 4.10.7 Role descriptor

Prior to January 2012 clinical educators at the University were referred to as 'mentors'. Additional terminology included 'sign-off mentor' referring to those clinical educators with responsibility to sign-off learning outcomes and 'practice educator' used by clinical educators within the podiatry programme training clinic. Table 3 lists the varying terms used in the research literature relating to practice placements. The clinical educators were asked to assign themselves a title that they felt best described their role. If, however, they did not consider themselves to be clinical educators, but only supervised students on an infrequent basis, they were asked to assign themselves to this category.

<b>Nomenclature</b>	<b>%</b>	<b>Number of respondents (n=66)</b>
<b>Supervise students on an ad hoc basis</b>	38	25
<b>Sign-off mentor</b>	24	16
<b>Mentor</b>	14	9
<b>Practice educator</b>	4	3
<b>Clinical supervisor</b>	9	6
<b>Clinical educator</b>	11	7

**Table 3** Nomenclature used to describe the podiatrist's role with students

#### **4.10.8 Preparation time prior to placement**

The clinical educators were asked about the length of time to prepare prior to students arriving on placement. Of the 60 respondents, 78% (n=47) were not given any preparation time and 22% (n=13) were allocated preparation time ranging from a minimum of 10 minutes, maximum of 7.5 hours with a range of 7 hours, 20 minutes.

#### **4.10.9 Protected time**

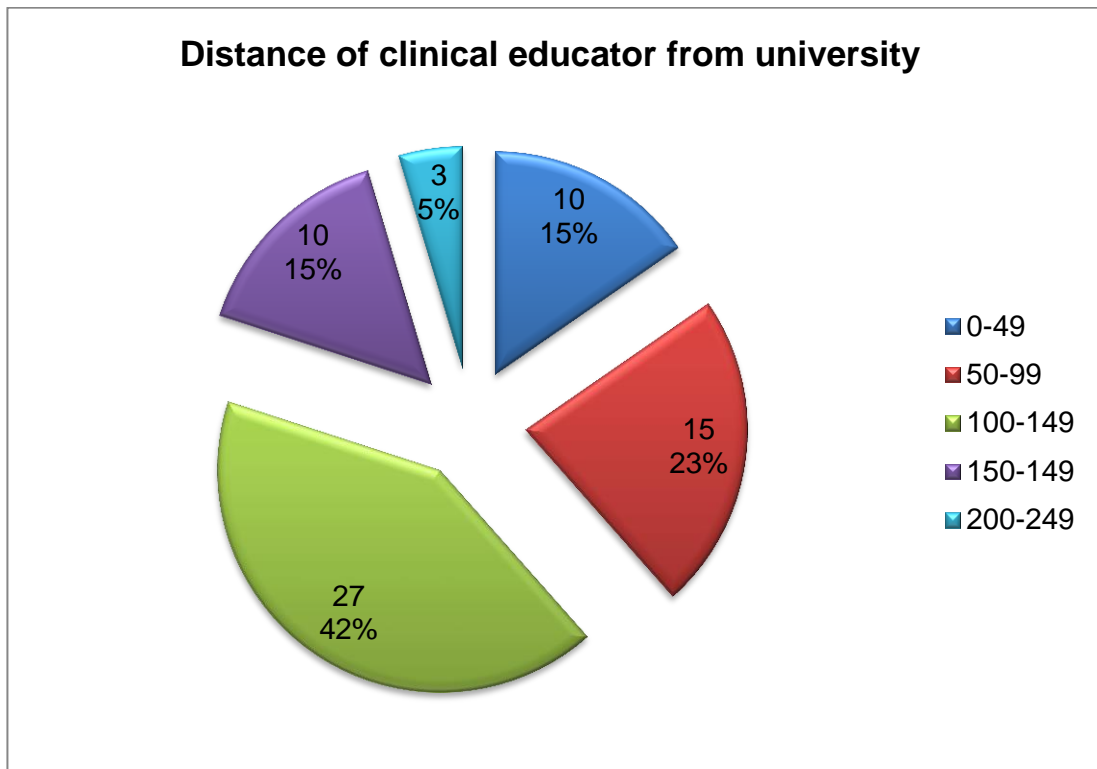
The respondents were asked whether they were allocated protected time during the working day outside clinical hours, to meet with their students. Of the 59 respondents, 20% (n=12) were allocated protected time for clinical educator duties outside clinical hours, but 80% (n=47) had no time allocated. The time allocated ranged from a minimum of 30 minutes to a maximum 7.5 hours with a range of 7 hours.

#### **4.10.10 Clinical educator : student ratio**

Clinical educators were asked if they ever supervised more than one student per session. There were 66 responses to this question with 39% (n=26) stating that they had more than one student at a time and 61% (n=40) stated that they only had one student per session.

#### 4.10.11 Distance from the University

The distance of the placement area from the University was considered a possible influencing factor in terms of support, which could influence capacity to engage with the clinical educator role. There were 65 responses to this question. (See Figure 13 which presents the distances clinical educators are from the University in miles.).



**Figure 13** Distance in miles of clinical educator from the University

#### 4.10.12 Length of new patient appointment times

The time available for clinical educators to conduct patient care was investigated in relation to any adjustments made during period of student supervision. Clinical educators were asked how much time was normally allocated for new patient appointments when not supervising a student. Of the

66 responses, the minimum was 20 minutes, maximum 60 minutes with a range of 40 minutes. The mean length of time allocated for new patient appointments without a student observing or undertaking clinical practice was calculated at 41 minutes and 17 seconds.

The length of time allocated for new patient appointments when one or more students was present resulted in a minimum of 20 minutes, maximum 90 minutes and range of 70 minutes. Of the 66 responses to this question, the mean for new patient appointment times with an accompanying student was calculated at 46 minutes and 41 seconds. This results in an average additional allocated time of 5 minutes and 24 seconds for new patient appointments when students are present.

#### **4.10.13 Length of review appointment times**

Clinical educators were asked to provide information on the length of review appointment times practicing alone. Of the 66 responses, the minimum was 20 minutes, maximum 60 minutes with the range at 40 minutes. The mean for the length of time that clinical educators are allocated to see review patients within the usual working day was 27 minutes and 16 seconds.

There were 66 responses to the question regarding the length of the review appointment where care may be provided directly by the student or the student is observing. There was a minimum of 20 minutes, maximum of 90 minutes

with a range of 70 minutes. The length of review time increased to 31 minutes and 29 seconds when a student was involved in the review appointment. This resulted in a mean additional allocated time of 4 minutes and 13 seconds.

#### **4.10.14 Hypothesis testing of scale**

Analysis was undertaken in order to test the following hypotheses and is presented below.

H0 The CECE scale will not measure the level of capacity of clinical educators to engage with the role of clinical education

H1 The CECE scale will measure the level of capacity of clinical educators to engage with the role of clinical education

In order to validate the internal consistency of the sub-scales, the data from the final survey were analysed by undertaking item-total correlations. Some items fell below 0.5; the coefficient threshold that had been set when developing the scale during the pilot data. Only four items, however, fell below 0.3, which is considered acceptable for scale development (Field, 2009). The results of the item-total correlations suggested that those items below 0.3 did not measure the concept represented by the sub-scale and therefore did not contribute to the scale. It was decided to remove these four items from the scale. There was also an adjustment to the Cronbach's alpha scores from those calculated from the pilot study data. A comparison between the original Cronbach's alpha and the values for the new scales is presented in table 4. The Cronbach's Alpha scores demonstrate good reliability.

<b>Sub-scale concepts</b>	<b>Number of items at pilot</b>	<b>Pilot Cronbach's <math>\alpha</math></b>	<b>New Cronbach's <math>\alpha</math></b>	<b>Number of items</b>
<b>Anxiety</b>	4	.782	.676	3
<b>Confidence</b>	6	.837	.857	6
<b>Culture</b>	8	.864	.670	7
<b>Job satisfaction</b>	12	.932	.828	10
<b>Leadership</b>	10	.951	.926	10
<b>Management</b>	3	.921	.722	3
<b>Support</b>	11	.916	.886	11
<b>Positive attitudes to clinical education</b>	16	.933	.898	16
<b>Negative attitudes to clinical education</b>	4	.832	.733	4
<b>Sum</b>	74			70

**Table 4** Comparison of Cronbach's Alpha scores between pilot and final survey results

From these items, therefore, it was possible to develop a capacity to engage with clinical education scale. The scale has a possible theoretical minimum score of 70 and a theoretical maximum score of 350. Of the 66 respondents, the mean was 254.95, range 132, minimum 184 and maximum 316. The capacity to engage with clinical education scale comprises ordinal data and therefore non-parametric tests were appropriate for further analysis (Miller, 1984).

#### **4.10.15 Content validity index (CVI)**

Content validity reflects the extent to which a scale accesses and represents the construct being measured (Polit and Beck, 2006) and it was decided to review the items within the scale at this stage. In order to calculate the content validity for the final survey the LR engaged three experienced academics, two of whom had experience working closely with clinical educators, to review the content validity index (CVI) for each of the items and the overall scale. The CVI measures the congruency of each item with the dimensions of the constructs in question. A 4-point scale was used to assess the assessors' views, which is the usual format for this procedure. A neutral point is not offered, forcing a response to either the category 'not relevant' (point 1) or the positive categories represented by points 2-4 ('somewhat relevant', 'quite relevant' or 'highly relevant'). Each item on the scale was individually rated by each of the experts (item-level context validity index I-CVI). A range of between 0.78 and 1.00 is considered excellent where there are between 3-5 assessors (Polit and Beck, 2007). For the scale content validity index the average (S-CVI/Ave) method was used where there could be some discord between experts, but the standard criteria is no less than .90 or higher (Polit et al, 2007). All three experts were in agreement that all 70 items were relevant and the average I-CVI value was calculated at 1.0 which is considered excellent.



#### 4.10.16 Hypotheses testing of factors

H0 The distance that the clinical educator works from the university would not result in the clinical educator feeling less supported by the university.

H1 The distance that the clinical educator works from the university would affect how supported the clinical educator feels by the university.

A Kruskal-Wallis test was undertaken to compare the CECE scores for the five categories of distance from the university. This resulted in  $H(4)=8.78$ ,  $p>.05$  at 0.67. In order to investigate this statistic further, 10 Mann-Whitney U tests were carried out for each category, pairing one with another. This resulted in ten paired independent samples. The significance level was relaxed to  $p\leq .1$  and results were significant for four of the paired independent samples; 0-49 miles and 50-99 miles  $p<.046$ ; 0-49 miles and 100-149 miles  $p<.046$ ; 0-49 miles and 150-199 miles  $p<.096$ ; 0-49 miles and 200-249 miles  $p<.063$ . Although the results for distance from the University were not all significant at  $p>.05$  they were at  $p\leq .1$  and these four variables were subsequently included within the regression analysis in order to determine whether they had any explanatory value for predicting capacity to engage with clinical education within the regression model. The null hypothesis was rejected as the distance a clinical educator works from the University did affect perceived levels of support.

H0 Volunteering to be a clinical educator would not result in higher CECE scores

H1 Volunteering to be a clinical educator would result in higher CECE scores

To establish whether there was a difference in capacity to engage between those that volunteered and those that did not volunteer to be a clinical educator a Mann-Whitney U test was undertaken. There was a significant difference between those podiatrists who volunteered to be clinical educators and those who did not ( $U= 306.00$ ,  $N=66$ ,  $p=.003$ , two-tailed). By comparing the means for both groups, it was possible to determine that the volunteer group had higher scores on the capacity to engage with clinical education scale and the null hypothesis could be rejected.

H0 Relationships with the university, outside the clinical educator role, would not affect capacity to engage scores.

H1 Relationships with the university, outside the clinical educator role, would affect capacity to engage scores.

A Mann-Whitney U test was undertaken to establish whether there was a difference in capacity to engage between those with a relationship with the University outside the clinical educator role and those without. There was no significant difference between those clinical educators who had a relationship outside their clinical educator role and those that did not ( $U= 253.500$ ,  $N=65$ ,  $p=.099$ , two-tailed). However, for the purposes of regression the significance level was raised to  $p\leq .1$ , so that the any potential explanatory value this variable might have in predicting clinical educator capacity to engage with the

role could be explored within the regression model. The null hypothesis was therefore rejected.

H0 Clinical educators contracted to work full-time will not demonstrate higher capacity to engage scores.

H1 Clinical educators contracted to work full-time will demonstrate higher capacity to engage scores.

To investigate whether there was a difference in capacity to engage scores between full-time and part-time clinical educators a Mann-Whitney U test was employed. There was a significant difference between full-time and part-time (U= 260.500, N=60, p=.010, two-tailed). By comparing the means for both groups, it was possible to determine that full-time clinical educators had higher capacity to engage levels.

H0 Clinical educators allocated preparation time will not demonstrate higher capacity to engage scores.

H1 Clinical educators allocated preparation time will demonstrate higher capacity to engage scores.

A Mann-Whitney U test was undertaken to compare those clinical educators who were allocated time prior to the student arriving on placement and those who were not, against the scores on the CECE scale. There was a significant difference between those podiatrists who were allocated preparation time and those who were not (U=132.500, N=59, p=.002, two-tailed). Comparison of the

means for these two groups demonstrated that those allocated time outside their clinical hours scored higher on the capacity to engage scale.

H0 Clinical educators allocated protected time to undertake clinical education duties outside clinical hours would not demonstrate higher capacity to engage scores.

H1 Clinical educators allocated protected time to undertake clinical education duties outside clinical hours would demonstrate higher capacity to engage scores

To compare those that were allocated protected time outside the clinical environment for clinical education, and those without protected time, against the scores on the CECE scale a Mann-Whitney U test was undertaken. There was a significant difference between those podiatrists who were allocated protected time to undertake clinical education duties outside clinical hours and those who were not ( $U=115.000$ ,  $N=59$ ,  $p=.002$ , two-tailed). By comparing the means for each group the results showed that those with protected time scored higher on the CECE scale.

H0 Clinical educators who were allocated more than one student per session would not demonstrate higher capacity to engage scores.

H1 Clinical educators who were allocated one student per session would demonstrate higher capacity to engage scores.

A Mann-Whitney U test was undertaken to compare those that were allocated responsibility for more than one student and those with responsibility for supervising one student, against the CECE scale scores. There was a

significant difference between those podiatrists who were allocated more than one student at a time and those who were not ( $U=361.500$ ,  $N=66$ ,  $p=.037$ , two-tailed). Comparison of the means for each group demonstrated that those clinical educators that had more than one student at a time score higher on the capacity to engage scale.

H0 Clinical educators with responsibility for signing off students' learning outcomes would not demonstrate higher capacity to engage scores.

H1 Clinical educators with responsibility for signing off students' learning outcomes would demonstrate higher capacity to engage scores.

To compare whether those clinical educators who had responsibility for signing off learning outcomes for students, and those clinical educators who did not, against the scores on the CECE scale, a Mann-Whitney U test was undertaken. There was a significant difference between those podiatrists who had responsibility for signing off students' learning outcomes and those who did not ( $U=248.000$ ,  $N=65$ ,  $p=.006$ , two-tailed). By comparing the means for each group it was identified that those clinical educators with responsibility for signing off students' learning outcomes demonstrate higher scores on the CECE scale.

There were a number of statistical analyses undertaken that yielded statistically non-significant results. These can be accessed in Appendix 10.

#### **4.10.17 Regression**

All results statistically significant at  $p \leq .05$ , were used to determine which variables would enter the regression analysis. The variables relating to the distance clinical educators work from the university and levels of support and non-clinical education relationships with the university were included as statistically significant at  $p \leq .1$ . This culminated in 11 variables used within the multiple linear regression analysis to generate a model to establish to what extent the variables identified from the initial analysis were able to predict the variability of the dependent variable: clinical educator capacity to engage.

A stepwise approach was employed initially to consider each variable systematically. All the variables were viewed together with the one best able to predict the outcome based on levels of significance being chosen. The variable identified was then retained and the second predictor variable identified and the process repeated until all the variables had been included or excluded from the regression model. Eleven variables were entered into the initial regression, which produced a model comprising four variables. Table 5 provides a key to the titles assigned to the variables.

<b>Title of variable</b>	<b>Explanation of variable</b>
<b>Clinical educator volunteer</b>	Clinical educators volunteer to undertake clinical education role
<b>Protected time</b>	Protected time allocated outside clinical environs
<b>Sign-off clinical educator</b>	Clinical educators are responsible for signing-off students' learning outcomes
<b>University relationship</b>	Clinical educators have a relationship with university other than being a clinical educator

**Table 5** Explanation of variables entered into the regression model

Regression produced an adjusted  $R_2$  of .447 and was significant at .000. In order to consider the model without the extraneous variables the regression was re-run using just the four variables previously identified. The results are presented in table 6 and the model summary in table 7.

The assumptions of the model were checked in order to ensure that the model could be generalised outside the sample used (Field, 2009). Appendix 11 presents the probability plot, scatter and histogram of the residuals. The probability plot illustrates a normal distribution with the observed residuals sitting close to the regression model line. The scatter plot showed no discernible pattern with 95% of the dots dispersed at + or -2. There was one dot at 2.5, but this fell within 5% of the sample. Overall, the assumptions of linearity and homoscedasticity had been met (Field, 2009). The histogram for the residuals was also normally distributed.

Variables	B	SE.B	$\beta$
<b>Step 1</b>			
Constant	247.96	4.08	
Protected time	31.48	9.00	.42*
<b>Step 2</b>			
Constant	242.28	4.21	
Protected time	32.80	8.36	.44**
University relationship	26.10	8.36	.35**
<b>Step 3</b>			
Constant	227.96	6.13	
Protected time	27.01	8.01	.364**
University relationship	26.91	7.80	.36**
Sign-off clinical educator	21.70	7.13	.33**
<b>Step 4</b>			
Constant	221.47	6.40	
Protected time	25.52	7.67	.34**
University relationship	27.71	7.45	.37**
Sign-off clinical educator	19.00	6.89	.29**
Clinical educator volunteer	15.51	6.18	.25**

**Table 6** Results of multiple regression

Note: adjusted  $R_2 = .17$  for Step 1 \* $p \leq .001$ , adjusted  $R_2 = .28$  for step 2, adjusted  $R_2 = .37$  for step 3, adjusted  $R_2 = .43$  for step 4. \*\* $p < .001$

	$R_2$	F-test	P-value
Regression	.428	11.664	<.001

**Table 7** Model summary



It should be noted that only 55 of the 66 respondents were entered into the regression model, because PASW® excluded any respondent that had missing data within any of their responses for those variables. If, however, all the respondents' data were utilised, an extra 17%, would have been included within the regression model, which may have resulted in a model that included more explanatory variables than the four identified. However, this reduction in data and sample size does not affect the confidence with which those explanatory variables identified should be considered.

#### **4.11 Reflective phase (Cycle 2)**

Following the evaluation phase the ART met to review and discuss the implications of the findings from the final 'Practice Placement Survey'. The group explored how the findings, in particular the predictive variables, might impact the placement area and how the information could be used to improve current practices. Table 8 shows that the placement area embodies many of the attributes that influence capacity to mentor students. (It should be noted that the optimum levels for protected time and the number of sign-off clinical educators required is unknown.) Having ten sign-off clinical educators allows for some flexibility, so clinical educators do not have a student at each placement block, offering a period of respite.

The ART observed that all the predictive variables were embedded within the organisation of the placements. These findings support the view that the ethos of the placement was positive which influences the clinical educators' capacity

to undertake clinical education. However, these discussions did not naturally indicate the next phase of activity, given that the predictive variables were already present within the organisation of placement and it was felt that this exploration was concluded.

<b>Predictors of increased capacity to engage with clinical education</b>	<b>Profile of placement area</b>
<b>Protected time outside clinical environs</b>	Time allocated for induction, mid-point and end-of-placement review
<b>University relationship (current/prior)</b>	70% (n = 10) of the clinical educators trained at the University
<b>Sign-off clinical educator</b>	Sign-off clinical educators currently at 10
<b>Volunteer status</b>	All clinical educators volunteered

**Table 8** Comparison of the current placement profile against predictors of capacity to engage with the role of clinical education

## 4.12 Conclusion

This chapter presented the initial diagnosis phase of the AR project and the rationale for the ‘Practice placement survey in podiatry’, along with the development of the CECE scale through the piloting and final implementation of the survey. The reliability and construct validity of the sub-scales which form the CECE scale have also been established. The findings and the evaluation of the findings, in terms of how they were interpreted by the ART, have also been presented. Chapter Seven will discuss the findings in relation to the overall thesis, and wider implications for podiatry.

## **CHAPTER FIVE: PHASE II – DEVELOPING CORE PODIATRY SKILLS IN A REAL-WORLD ENVIRONMENT**

Following the first and second AR cycles, this chapter describes the project development following the reflection phase of the second AR cycle, moving to the diagnosis phase of the third AR cycle. The third AR cycle centres on the development of a teaching and learning tool for the development of clinical podiatry skills. The diagnosis, strategic and operational planning and action stages of this phase of the project are described in detail.

### **5.1 Diagnosis phase (Cycle 3)**

Further areas for exploration were not immediately apparent and the members of the group were not forthcoming in identifying activities from the evaluations of the first AR cycle, which created a small hiatus progressing the project. Initially, one member of the team was keen to consider the initial orientation and induction that clinical educators undertake with students on the first day of placement and develop a checklist to standardise the process. After some further investigation, however, by the proposer and discussion by the ART at the next meeting, this idea was not progressed.

*Lead researcher comments:*

By the end of this meeting I felt that no real progress had been made towards identifying another area for investigation. Reflecting upon the meeting I was concerned that the ART members still did not fully understanding the nature of AR and developing ideas from the previous cycle.

I decided it might be useful to revisit the comments made by the student focus group (n=3), which had been garnered in the first phase of the project. This had formed part of the diagnosis phase (cycle 1), with the ART recruiting students into a focus group where they had previous experience of the placement area. This exercise was primarily to gather data as to how the placement was perceived by students in comparison to the ART's views of the placement. This had required a major amendment by NRES, the University and Trust ethics committees, which was granted. The students' comments were reported to the ART by the LR during the diagnosis phase (cycle 1) which supported the views of the ART, that clinical educators overall provided a positive experience. There were some comments, however, within the student focus group transcript that I felt provided a critique detailing less satisfactory aspects of the placement that could be further explored.

### **5.1.1 Student focus group data analysis**

The LR decided to analyse the data from the focus group for the reason stated in the above text box. Content analysis was used to identify themes (Wilkinson, 2011), reading the focus group transcript on three occasions. The initial reading revealed a theme relating to observation, where the students identified extended periods observing the clinical educator, with limited opportunity for practical experience, as an issue. On the second reading all comments relating

to observation were cut and pasted from Microsoft Word into a table with each sentence numbered. The concerns appeared to be essentially linked with the acquisition of scalpel skills and the use of sharp debridement for wound care. Therefore, direct quotes that related to skills acquisition were also cut and pasted into the Word document. On the third reading the LR checked that all the comments relating to observation and scalpel skills had been recorded, including positive comments regarding placement experiences. The latter consideration was to present a balanced view of the students' comments. Due to ethical considerations stipulated in relation to anonymity it was not possible to share the full transcript with the group.

### **5.1.2 Focus group findings**

The students reported that placement provided real-world experiences making learning easier than in the classroom or skills lab with patients providing diverse experiences and an opportunity to improve skills. Clinical educators were thought of positively and seen as integral to the student experience and skills development, but crucially some areas for improvement had been identified.

The length of time spent observing clinical practice was felt to impact on skills progression. The requirement for initial observation was appreciated, providing insight into the idiosyncrasies of individual clinics, new paperwork and routines. Extended periods of clinical observation were reported, sometimes with little explanation from clinical educators as to the rationale and objective of the treatment undertaken. In some cases students felt their abilities were

disregarded and they were regressed rather than progressed. Frustration, boredom and static skill acquisition was reported. Over cautiousness on the part of the clinical educator was suggested as an explanation for extended observational sessions.

The students also discussed skills development and appreciated that using a scalpel on high risk patients may have significant consequences if the patient was accidentally cut. Scalpel skills, however, are essential and should be facilitated with support and guidance from the clinical educator. The clinical educator maintaining a narrative during treatment, with the student observing, was viewed as a useful learning strategy when student participation was not possible. Exposure through observation to different techniques provides a learning opportunity, which can be reflected upon and used in future situations. Reflection was seen as an important way of improving practice, alongside implementation of new practices when possible. Ultimately, students valued clinical educators' support, particularly when things did not go quite as planned. Overall, students felt that confidence levels had increased. Details of the themes and sub-themes can be viewed in Figure 14.

## Placement experiences

Theme	Subtheme
<b>Placement reality</b>	
	Limited patient time
	Facilitates learning
	Develops communication skills
	Patient/environment diversity
<b>Skill development</b>	
	Experiential learning
	Learn from mistakes
	Learn to deal with new or difficult situations
	Overcome anxieties
	Achieve learning outcomes
<b>Clinical educators</b>	
	Encouraging, friendly, build confidence, supportive
	Open to questioning
	Interested in the student and learning
	Clinical educators scaffold learning
	Use narration
	Affirm student competency
	Hark back to the 'good old days'
<b>Areas for Improvement</b>	
	Decrease observation time
	Larger clinic rooms
	Learning outcome sign-off during placement
	Longer patient appointments
	Patients booked for student
	Opportunity for extra-curricular activities

**Figure 14** Summary of themes from student focus group

The LR felt that the student focus group had provided a critical perspective regarding the realities of placement. Some basic questions at this stage presented themselves:

- *How do students progress skills if observation periods are protracted?*
- *When observation is used, how do clinical educators make it effective as a learning opportunity?*
- *Are the second and third year students managed in the same way?*

Currently, little is known of how clinical educators develop and progress core podiatry skills in practice. The learning outcomes in the portfolio act as a framework for skills development for a range of areas: professionalism; communication; clinical competency; and multidisciplinary working. How skills are monitored and judged, so that small, but crucial incremental steps are made, allowing higher risk tasks to be undertaken to achieve the required standard just prior to registration, is presently unclear.

The area of skills progression the students focused upon was that of debridement of callus. Scalpel skills are initially acquired within a skills laboratory practiced on simulated skin manufactured from alginate at the University. By the end of the 1st year, students begin to develop and practice their debridement skills upon NHS patients within a training clinic whilst under close supervision. By the end of the third year, students must be able to



demonstrate that they are able to undertake debridement of callus, enucleation of heloma dura and debride ulcers effectively and safely, which requires a high degree of fine motor control and dexterity. Ideally, students require opportunities to undertake debridement on healthy patients (without comorbidities or ulceration) and patients with more challenging callus presentations due to position, non-uniformity and ulceration, in order for skills to be developed safely and effectively.

### **5.1.3 Advancing phase II**

An email was sent by the LR to the ART prior to the next meeting to explain that the previous meetings had not resulted in identifying the next area for investigation, partly due to the group having difficulty engaging with the cyclical nature of AR by building upon what had gone before. The LR planned to cover the key principles of AR again, review the progress of the project to date and how that fitted with the AR cycle to focus the members on the project.

A further email was sent prior to the meeting with anonymised quotes from the students who participated in the focus group from which some of the key views and themes had been identified. A proposal was made for the ART to consider the information presented as a possible direction for further research and to contact the LR prior to the meeting with any contrary views (See Appendix 12.)

*Lead researcher comments:*

This strategy was used to focus the group's attention prior to the main meeting. I was keen to provide an opportunity to discuss and evaluate the student feedback, but recognised that there was a timeframe that needed to be acknowledged to progress the project before the students were on placement again. Email correspondence allowed me to maintain momentum, but also gave members time to reflect and consider the information presented. The group needed to remain problem focused and to agree the overall strategy for the next phase of the project to maintain direction and impetus.

## **5.2 Planning phase (Cycle 3) – Strategic planning**

This section describes the meeting with the ART, which concluded the diagnosis phase of cycle three. The planning stage is split into two sections: the strategic phase which represents the planning by the ART and the operational phase, where the LR, having been tasked with operationalising the ART's strategic plan, developed and progressed the project further.

### **5.2.1 Developing phase II with the ART**

The ART met to appraise the document tabled and consider phase II of the project. Initially, the LR re-acquainted the ART with the basic principles of AR and the group appeared on-board with the concepts. Thus, the meeting quickly moved towards discussing the comments from the student focus group. The

focus group suggested that extended observation could be a symptom of time pressures, clinical educator inexperience or lack of confidence to supervise certain tasks. The ART considered that part of the issue may also relate to the students' level of competence not fitting with the risk status of the patient.

The ART thought that observation by the student was necessary and valid in certain situations, due to extrinsic factors influencing the clinical situation, and the skill set of the student. Clinical educators, however, should identify learning opportunities inherent within the situation and create a positive experience for the student by providing clear learning objectives. The group considered how students' level of ability and knowledge was currently evaluated and by what standards those judgements were made. Some of the group were keen for the student to observe initially, in order to demonstrate techniques before allowing the student to proceed to hands-on; an acclimatisation phase. One member stated that second year students should have a short period of observation, but that third years should have hands-on experience immediately, in recognition of their progression towards complete autonomy upon registration. Initial skill evaluation was thought by others to be important and it was agreed that discussion with the student might help in evaluating skill level, but discrepancies between student confidence in their skills and actual ability might still be an issue. It was felt important to be able to reconcile the student's self-assessment with the evaluation made by the clinical educator. Concerns were raised regarding managing patient risk whilst facilitating experience with high-risk interventions.

The ART agreed that the question of how students were evaluated on arrival and through the placement in relation to their stage of learning was a combination of subjective measures. There was reliance upon previous experiences with students at similar stages, comparisons made with other students on placement as a benchmark and individuals' own ability setting the standard. These discussions revealed some confusion regarding the programme curriculum and timing of theory delivery and influencing the clinical educator's ability to gauge competency levels at each stage.

Discussions moved towards the question of callus debridement and a few techniques were identified which were not specified currently in the portfolio, but which were considered by the group as definite prerequisites pre-registration. These skills related to debridement and enucleation of inter-digital callus and heloma dura, recognition and treatment of sub-ungual ulceration.

The group agreed that to an extent the learning opportunities that present during placement govern the learning outcomes that can be achieved in respect of practical skills. Debridement is a technical skill and the related theory regarding skin changes, pre-cursors to ulceration, wound care, and tissue viability is essential knowledge for podiatrists, including off-loading of pressure over lesions. The group observed that in the second year portfolio, the learning outcome related to debridement only states 'debridement of skin'. The third year portfolio, however, states 'debridement of ulcers'. For a student to progress from debridement of callus to the challenges of debriding an ulcer requires detailed understanding of local anatomy, foot deformity and function,

wound classification and skill to debride macerated, necrotic or sloughy tissue, which behaves quite differently from 'normal' callus and skin. Periods of observation, explanation/feedback and experiential learning under close supervision are required to progress this knowledge and skills. The activity of debridement and enucleation is practical, but underpinned by a large corpus of theory.

It was felt that scalpel skills, wound care and off-loading were inter-related and could form the focus of exploration. The ART discussed how the use of a scalpel to debride skin does in fact off-load an area by reducing pressure. This simple concept feeds into much more complex paradigms of foot function and tissue stress that must be understood in order to be effective as a musculoskeletal or wound care practitioner.

To help the group visualise the student journey a timeline of the students' curriculum, including theory delivery and expected level of practical skill competence was mapped. Agreement was established regarding the categorisation of risk status for patients, the appropriate stage at which the student might practice on that patient group and a guide to observation to hands-on ratio for each placement block which was included on the timeline. This schema would be used to develop an outline of how core podiatry skills progression could be achieved during placement, attempting to bring key information into one place and act as a framework against which clinical educators could map the student and guide progression.

### 5.2.2 Focus of enquiry

As a consequence of the meeting, the LR was tasked with:

- *Developing the schema to include details of the curriculum relating to theory teaching*
- *Developing a practice-based learning framework, inclusive of the schema, designed to support the clinical educator and student*
- *Planning an intervention with the practice-based learning framework engaging both podiatry clinical educators in the Trust and students allocated to the Trust*
- *Garnering the CSUG's views and identifying any potential barriers or issues*
- *Forming a CSG of the students allocated for their placement during the initial period of the project to garner their opinion regarding teaching and learning tool*

*Lead researcher comments:*

From the discussion it was clear that individual clinical educators within the group had different approaches to the level of clinical educator observation required prior to student hands-on experience. Some clinical educators applied self-generated 'rules' regarding the level of student experience and patient-type, where others did not, but based their opinion on a variety of competing factors. What was most striking was the lack of clarity regarding the progression of the student through the acquisition of scalpel skills, a foundation skill that must be attained in order to gain mastery over more complex and challenging sharps debridement that occurs in the management of wounds. To be an effective

clinical educator a clear understanding of the skills to be taught is required, where those skills fit within the programme of learning and for the clinical educator to be confident supporting the student to reach the required competency. Crucially, the student has to understand the theory that underpins the pathogenesis, and the treatment, so that they are more than technicians.

The clinical educators did not have the learning outcomes within the portfolio clearly defined, nor how those learning outcomes provide a structure for the overall programme with no formal strategy for achieving the learning outcomes in relation to scalpel skills. From the discussions it was apparent that observation of the student may lead to decisions influenced by the level of confidence the student instils within the clinical educator. Students were currently benchmarked against internal, but not easily articulated standards, measuring one student against another. The idea of a schema that mapped out the key learning outcomes related to scalpel, wound care and off-loading skills, the underpinning theory, and the ability of the student to undertake a risk assessment relating to the patient and their own technical skills, would be practical and beneficial raising students' awareness of situations where observation was the most suitable interaction. Perhaps most importantly this intervention would provide a clearer structure and rationale for decision-making and provide a succinct overview illustrating a particular set of interconnected skills. Overall responsibility, however, in the clinical area would remain firmly with the clinical educator who makes the final decision with regard to patient safety versus student skill acquisition.

### **5.3 Planning phase (Cycle 3) – Operational phase**

The following section presents a conceptual framework relating to practice-based education. In accordance with the ART's request the LR initially developed the 'core podiatry skills progression schema' (CPSPS) from the

ideas generated. This was then incorporated within a practice-based learning framework which utilised existing tools, or created new ones as appropriate, called the 'Core podiatry skills progression framework' (CPSPF), which became the phase II intervention. The CPSPF is fully explained and the data collection and analysis methods outlined.

### **5.3.1 Core podiatry skills progression schema**

The LR reviewed the transcript from the ART meeting which included a detailed outline of the student progression through the programme to registration and the skill competence expected at each stage. From the transcript and flip chart annotations made on the day, the CPSPS emerged as an A3 sheet detailing the principal information relating to scalpel skills, wound care and off-loading (see Appendix 13).

The CPSPS provided an overview of the students' progression through the programme in relation to scalpel skill acquisition, wound care, off-loading and underpinning theory. Crucially, the schema provided an overview of the curriculum, mapping the learning outcomes to the curriculum and establishing when underpinning theory was delivered and therefore what knowledge might be expected at each stage. This would not only potentially help to assess students' experiences to date and establish what was expected at each stage for the student, but also assisted in focusing learning towards opportunities and experiences that had not yet occurred.



Establishing guidelines to support clinical educators to make decisions in keeping with their peers, such as suitable patient-types at a given stage of study, might give the clinical educators confidence in their decisions. For example, patients with ischaemia were considered to form a substantial part of the podiatrist's caseload and therefore essential, but deemed suitable for third year students only. Guidelines for the ratio between observation and hands-on experience were specified. The schema was intended to focus the clinical educator on the complex journey that the student and the clinical educator embark upon in order that the student achieves the competence levels required. In addition, it was felt that the student may find it helpful to view these skills within the wider context of the whole programme of study, providing an overview to the incremental development of their skills.

The CPSPS outline was constructed specifically around the requirements of podiatry students at the University and the LR looked to the literature pertaining to clinical education to consider how the framework could be enhanced to increase effectiveness for both clinical educators and students alike.

The next section explains how the schema was then situated within a range of new or existing teaching and learning tools. These other tools were incorporated within a wider practice-based learning framework, designed to assist the clinical educators and students working together, with more focus on and direction towards gaining the appropriate practical skills whilst linking the appropriate theory.

### **5.3.2 Developing the ‘Core podiatry skills progression framework’**

Following review of the relevant literature, ART discussions and development of the schema, the LR began to develop the CPSPF into a practice-based learning tool. The tool was designed to be used by both clinical educators and students, collaboratively or separately. Some of the tools are well established as teaching and learning tools and some were new innovations to meet the needs of the project and incorporated: learning agreements; a portfolio; journals; theory-practice acquisition checklists (TPACs); and a student self-assessment form. The following section explains each of the learning tools individually which sit within the CPSPF. Figure 15 provides an overview of how the CPSPF engages both the student and clinical educator to work together to develop key practical skills. Finally, a workshop with the clinical educators was planned to disseminate the details of the project, the theory which had informed the development of the CPSPF and how it would be implemented with the students.

<b>Intended participant</b>	<b>Teaching tool application</b>
	<b>Prior to placement:</b>
Student	Complete generalised self-efficacy scale Complete student self-assessment of podiatric experience form
	<b>Induction:</b>
Clinical educator & Student	Review student self-assessment of podiatric experience pre-placement form Review core podiatry skills progression schema Learning agreement
	<b>Day-to-day skills progression</b>
Clinical educator	Provide narrative of actions (Think aloud technique) Break skills down into smaller steps moving towards fluid application Theory-practice acquisition checklists Keep journal
	<b>Theory-practice acquisition checklists</b>
Student	Theory-practice acquisition checklists Keep journal
	<b>Mid-point review</b>
Clinical educator & Student	Review core podiatry skills progression schema Learning agreement Review portfolio
	<b>End-of-placement review</b>
Clinical educator & Student	Review core podiatry skills progression schema Learning agreement Review student self-assessment of podiatric experience post- placement form Review portfolio

**Figure 15** Overview of core podiatry skills progression framework

### 5.3.3 Learning Agreement

Learning agreements or contracts have been utilised in healthcare to promote self-directed learning opportunities that focus the adult students' intentions on how they are to achieve mandatory learning outcomes (Chien and Chan, 2000; Cross, 1996). The learning agreement should be negotiated by the student with

the clinical educator, reviewed periodically and used as a vehicle to promote the student taking control of their own learning (Chien et al, 2002). They have been identified as mechanisms by which commitment, motivation, independence, flexibility and ownership can be fostered and promoted with students (Cross, 1996) with some evidence that learning agreements can help bridge the theory-practice gap (Matheson, 2003). The current second and third year podiatry portfolios contain a learning contract, which states:

*'The following are my identified learning needs for this placement'*

The student lists their learning needs prior to placement and both student and clinical educator sign the contract whereby the student agrees to:

*'do all that I can to achieve my learning objectives...I will practice safely and professionally at all times'.*

The clinical educator states:

*'I will work with the student...to ensure the student's learning needs are being met and that I am able to monitor her/his progress'.*

It was decided that completion of a learning agreement at induction would promote negotiation between both parties, prompt discussion and support the identification of learning requirement and plan to achieve the aim. Inspiration was taken from Chien et al (2002); Gaipman and Anthony (1989); and McAllister (1996) and can be viewed in Appendix 14.

### **5.3.4 Portfolio**

The student portfolio would continue to be the vehicle for judging student competency and remain central to assessment (Hill, 2012). As part of the research project the portfolio would be accessed to review if any issues arose relating to core podiatry skills. Useful insights into the portfolios utility for focusing and directing student learning might be revealed (Davis et al, 2009) and the extent to which the clinical educators guide this process.

### **5.3.5 Personal journals**

Both the clinical educator and student were asked to keep a written journal, recording events either impacting positively or negatively upon 'learning' and the utility of the CPSPF. The clinical educators were asked to record any new teaching techniques used, moments viewed as significant to the student gaining new skills and/or knowledge, new insight or perspective on their own teaching. The students were encouraged to record moments of insight or connection when understanding or elucidation occurred (Jacelon and Imperio, 2005). It was hoped that this might illuminate the difficult concept of the 'theory-practice gap' and instances of its reduction or closure. The journals were to act as a contemporary commentary by the participants (Jones, 2000). Journals also provide opportunity for the participant to write reflectively acting as both the '*observer and informant*' (Jacelon and Imperio, 2005, p. 992).

### **5.3.6 Theory-practice acquisition checklist**

The TPAC was conceived to support the journals and to provide insight into the clinical and potential learning activities of the clinical educator and the student (Baglin and Rugg, 2010). (A separate version was designed for the clinical educator and student (see Appendix 15 and 16 respectively) for completion after an interaction with a service-user where teaching or learning was felt to have occurred.) The student and clinical educator would complete these separately, detailing the date and time of the incident in order that the two checklists could be correlated, triangulating the information between the student and the clinical educator's journals and checklists, checking for concordance or discordance between accounts. The questions on the checklist were constructed from the issues that arose from the focus group and also from the structured components of the schema (CPSPS), such as who conducted the risk assessment for the patient, the patient risk status, whether objectives and scope of practice appropriate to the individual patient were discussed, levels of hands-on to observation, feedback to student and levels of confidence at the end of the consultation.

### **5.3.7 Student self-assessment form**

The self-assessment form asks the student to answer questions regarding experience and confidence levels in the area of scalpel skills, wound care and off-loading (see appendix 17) pre and post-placement (Boud et al, 2013). A 5-point Likert-type scale is included, ranging from 'strongly agree' to 'strongly disagree' relating to each question, generated based upon the pedagogical

expertise within the ART. At induction the clinical educator reviews the form, promoting discussion with the student to gain insight into the student's prior experience and confidence relating to each skill area: scalpel, wound care and off-loading. The form would also be used for data collection pre and post-placement with the scales undergoing analysis in conjunction with the generalised self-efficacy scale, which has been previously validated and is explained in this chapter under the heading 'Data collection techniques'.

All the above teaching and learning tools were sent to the ART via email with a request to read and comment on face validity. It is not suggested that these methods measures participants' behavioural, emotional, or cognitive functions, but that they are attempting to record, within the milieu of the placement, some of the phenomena, which might help understand the effects of the CPSPF on those individuals. Given the complexities of the clinical environment and the CPSPF it was decided that a workshop with the participant clinical educators to explain the rationale for the project and how the CPSPF might be used to most benefit would be key to ensuring that the project was implemented as intended. Further details of the clinical educator workshop can be viewed in appendix 18.

### **5.3.8 Provisional research questions**

The following prima facia questions were compiled (See Figure 16) from the transcript of the previous meeting with the ART, which was developed alongside the tools within the framework and data collection methods.

---

## Provisional research questions

- 1 How do clinical educators facilitate the acquisition of scalpel skills?
- 2 How do clinical educators facilitate the acquisition of off-loading skills?
- 3 How do clinical educators facilitate the acquisition of wound care skills?
- 4 How do clinical educators explore student knowledge that underpins debridement?
- 5 How do clinical educators explore student knowledge that underpins off-loading?
- 6 How do clinical educators explore student knowledge that underpins wound care?
- 7 How useful is the 'core podiatry skills progression schema' in focussing attention on skills and knowledge base acquisition?
- 9 How useful is the 'core podiatry skills progression schema' in mapping progress achieved and progress still to be achieved?
- 11 How useful is the 'core podiatry skills progression schema' in assisting the setting of goals?
- 12 Can the 'core podiatry skills progression schema' increase clinical educator confidence to undertake the clinical educator role?
- 13 Can the clinical educators recognise and articulate what constitutes competency and when a new step in skills progression could be introduced?
- 14 Will the student perceive that this project has facilitated the integration of theory with practice?
- 15 What are the issues that impact on the placement experience?

**Figure 16** Prima facie questions that underpin tool development and data collection methods



### **5.3.9 Consultative service-user group meeting**

At this stage of the project, two service-users of the podiatry services at the placement area had been recruited and the LR wrote to them with a project update and request to meet. Due to conflicting engagements, however, it was not possible to organise a group meeting, so the LR spoke to them individually on the telephone and the concept for the next phase of the project was outlined. The first service-user (patient1) felt strongly that patients like to hear the student and clinical educator discussing the details of their condition. She felt personally she learnt new information about her own health status when this occurred. She could see no problems with the project as long as the patients had consented to student treatment. The second service-user (patient2) felt that she would be happy to hear the student and clinical educator discussing her treatment. She said that she would feel she could ask questions, but that patients should not feel they have to have a student treat them. It was explained that the clinical educator or receptionist would give a consent form to the patient prior to the patient meeting the student in order that they did not feel pressurised to comply.

### **5.3.10 Consultative student group inception**

A substantial amendment to the project was requested from NRES, the Faculty, a Trust's ethics committee, to form the consultative student group (CSG) which was approved. Second and third year students due to attend placement between January and June 2012 were invited, via email, to attend the CSG.

The information sheet and consent form was attached to the email and they were requested to respond to the LR if they wished to attend.

Of the eight students invited (five second year students and three third year students), seven responded and attended the meeting (one was absent due to sickness). At the beginning of the meeting, the LR checked the consent forms and the group were advised that the meeting would be recorded using a digital dictaphone. The rationale for the project and overall aims were outlined. The project and all the attendant teaching and learning tools were outlined via a PowerPoint presentation. It was explained that the project was still at a formative stage and they were invited to influence the planned intervention. It was hoped that this would engender feelings of ownership and engagement with the project and perhaps be a factor in their decision to participate in the project. The group overall felt that this initiative sounded useful and interesting. They also felt that keeping a journal of their learning experience and progress would be acceptable. The third year students seemed more engaged and asked appropriate questions regarding the intervention and this may well be an indication of their greater experience of the placement phenomenon in contrast to the second years who had only a few weeks' experience of placement.

#### **5.3.11 ART engagement to progress phase II**

Both of the consultative groups were supportive of the project and the planned intervention and there were no material changes suggested. The ART members were all contacted via email and invited to comment upon the

interpretation of the proposed CPSPF and project protocol along with the clinical educator and student information sheets and consent forms and the application of a substantial amendment from ethics. No adverse comments were received and NRES, the Faculty and Trust ethical committees were approached and approval was granted.

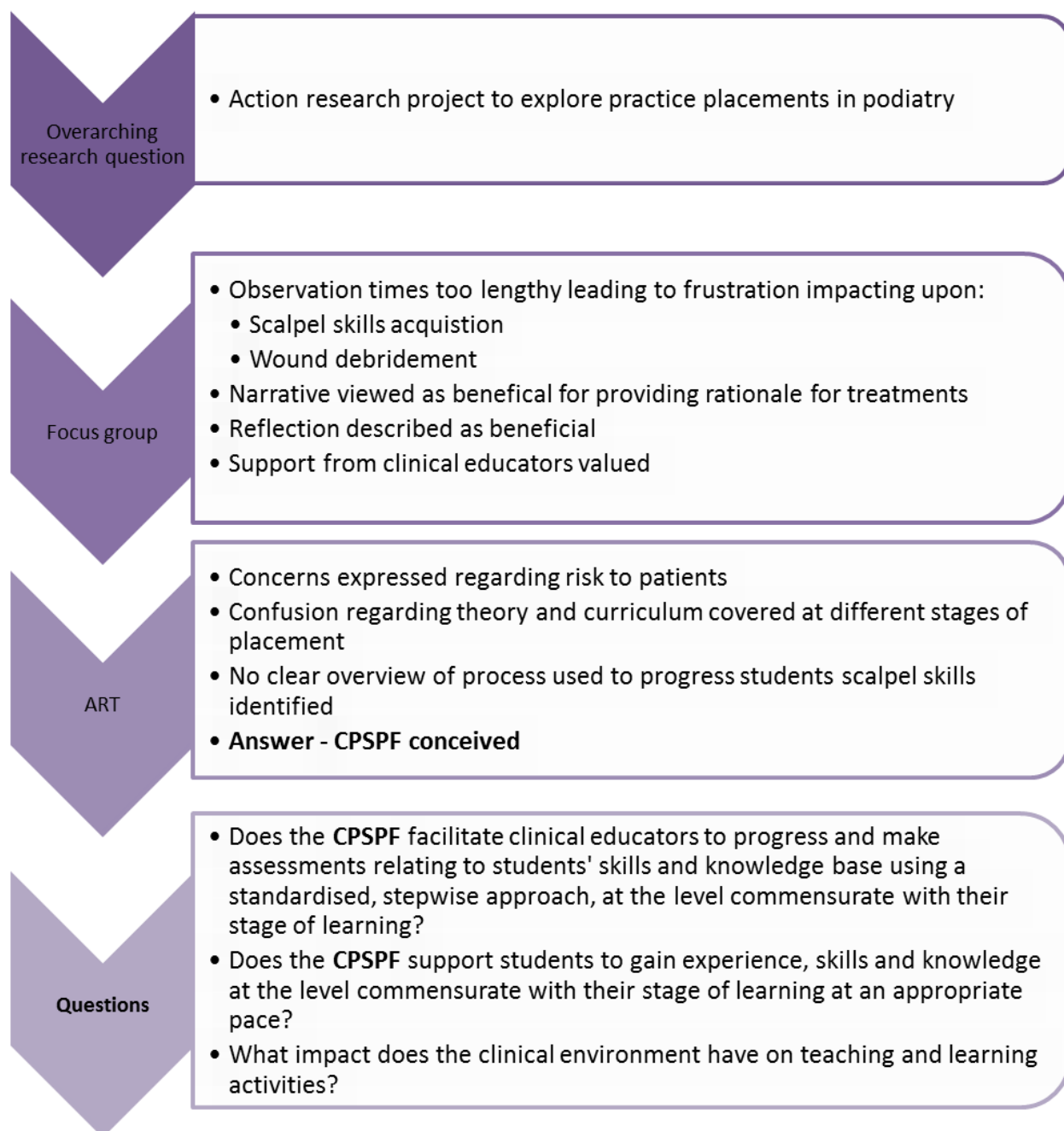
## **5.4 Planning Phase (Cycle 3) – Project implementation**

### **5.4.1 Project design and data collection methods**

This section outlines the development of the research questions, sample to be used, proposed teaching and learning intervention and the timing of events within phase II. The rationale for using the chosen data collection methods is discussed and the data analysis method described and justified.

### **5.4.2 Development of research questions**

The LR in collaboration with the ART developed the research questions. Figure 17 provides an overview of the progression from overarching research question of the project to the specific research questions of phase II, detailing how the student focus group influenced the ART's deliberations.



**Figure 17** Developing research questions

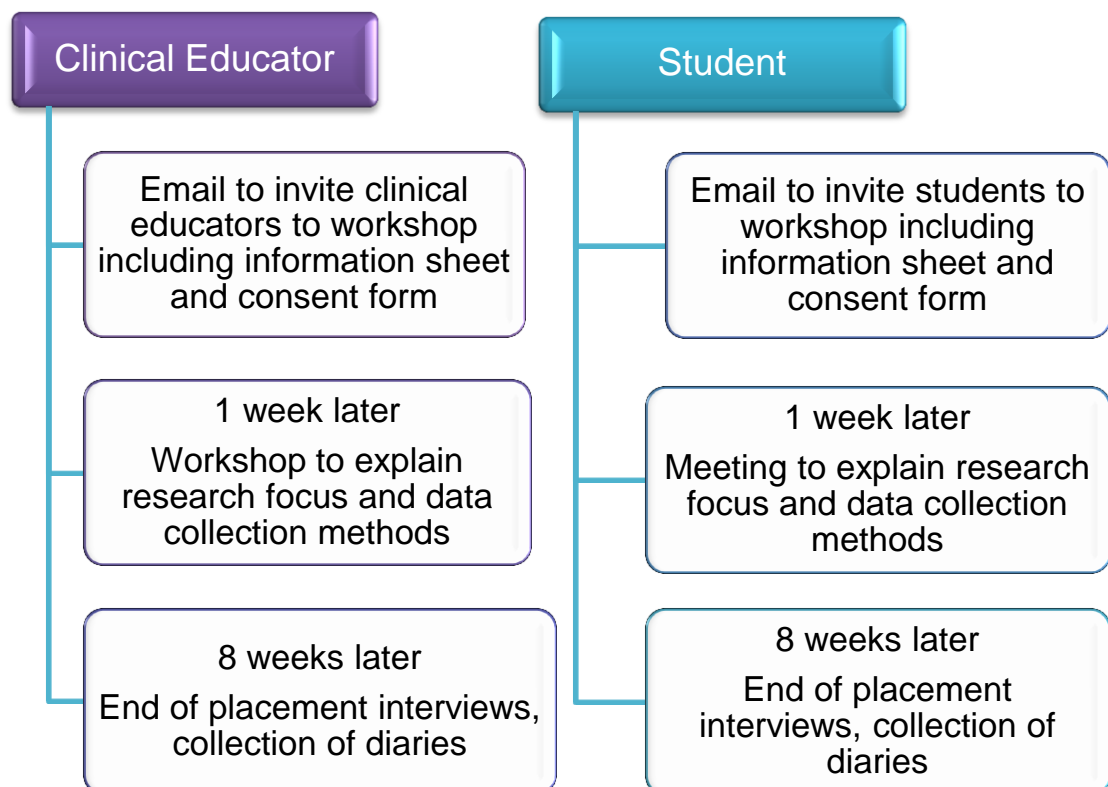
### 5.4.3 Sample

A purposive approach to sampling was taken where all the clinical educators at the practice placement area would be invited to participate and all the students through one academic year. It was felt this would provide data that would

answer the research questions and given that the clinical educators would be involved with four placement blocks with 3-4 student involved in the placement, saturation might theoretically be achieved (Bryman, 2001). Phase II of the project would engage second and third year students with the CPSPF during all four placement blocks collecting data from students and clinical educators over a period of one academic year.

#### 5.4.4 Recruitment strategy

Figure 18 outlines the planned recruitment strategy and data collection methods for both students and clinical educators. The recruitment of clinical educators and students is described in detail in Chapter Six of the action phase (Cycle three).



**Figure 18** Overview of participant engagement and data collection timings

This phase of the project did not directly involve service-users, but they were informed in writing on arrival at the clinic that there would be a student working with the clinician (see Appendix 19) and asked to complete a consent form. It was not envisaged that the project would in any way alter or impede the consultation beyond the usual changes that occur when a student is on placement.

#### **5.4.5 Case study design**

A case study approach was chosen, because it supports in-depth, multi-perspective analysis where complex situations exist within a natural context (Crowe et al, 2011). However, a case study is not a research design protocol, nor is it prescriptive, therefore decisions regarding variables, sampling, methods used for data collection and analysis were determined by the research questions (Van Wynsberghe, 2007).

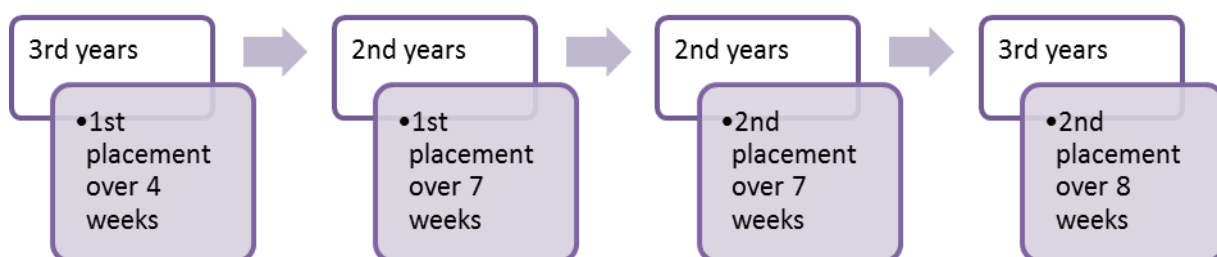
Stake (1995), conceptualises the case study as a 'bounded system', which he describes as the object, and labels 'theta'. The case study is able to capture the unfolding of events within the context they occurred (Flyvbjerg, 2013). The complexity, context and individuality of a specific case can be captured within a system where the issue(s) of interest can then be considered. Stake (1995) refers to these issues as the subject of the case study and labels them as 'iota'. Within the instrumental case study, iota takes precedence over theta and describes a situation where the instrument is a tool, utilised with the purpose of

investigation, such as an intervention where not just understanding, but evaluation of the innovation is the aim (Baker, 2010; Thomas, 2011).

Some criticism of the case study, however, has been made due to concerns relating to small sample size and generalisability (Baker, 2010). The rationale for using the case study approach was to understand as fully as possible the phenomenon at this particular practice placement (Stake, 1995; Thomas, 2011). The placement area was purposively selected (Walshe, 2011) because it was the focus of the overarching aim of the whole project where agreement to approach clinical educators had already been sanctioned. The strength of the case study is its ability to allow close, in-depth investigation of complex relationships and processes (Baker, 2010; Van Wynsberghe, 2007) which was deemed to be highly suitable for this phase of the project. Hammersley (2010) argues that although the case study can be limited to examining relationships within a case it is also possible to view commonalities that exist across groups of related cases, which enables theoretical inferences to be drawn, which might then be generalisable to a wider population. Rich description can also facilitate naturalistic generalisation (Van Wynsberghe, 2007). An instrumental design was therefore used to inform the study design, where the primary focus is placement learning with each case (student) serving to illustrate a different aspect of the issue.

The approach to the case study was to 'test' the theory behind the CPSPF, which was constructed based on research literature in the area of skills progression, practice-based learning and upon the experiential knowledge of

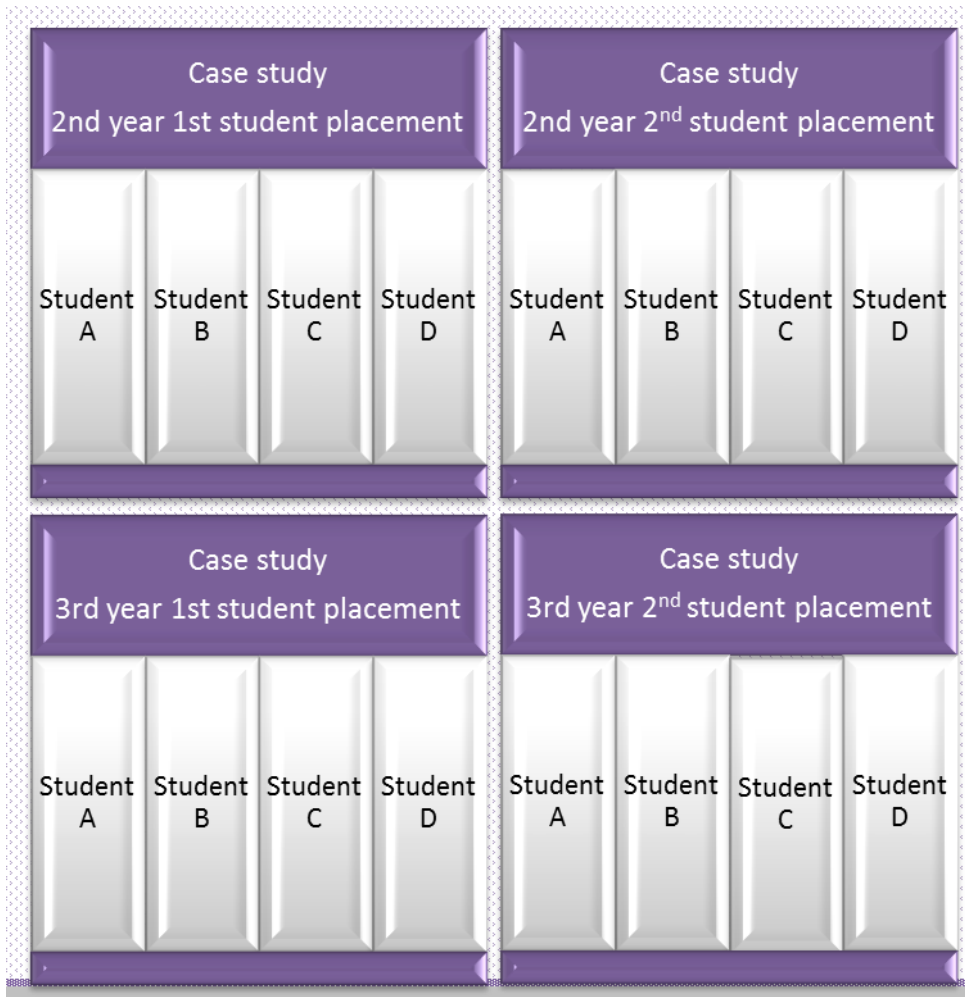
the ART group (Thomas, 2011). The case study was bounded by the placement area, within which a number of 'nested' case studies (Thomas, 2011) formed a multiple-case design (Yin, 2009). Each case study was represented by a placement period. The student was central to the case, around which one or more clinical educators would be involved. There were four separate placement periods over one calendar year and at each placement period 3-4 students attend placement (see figure 19).



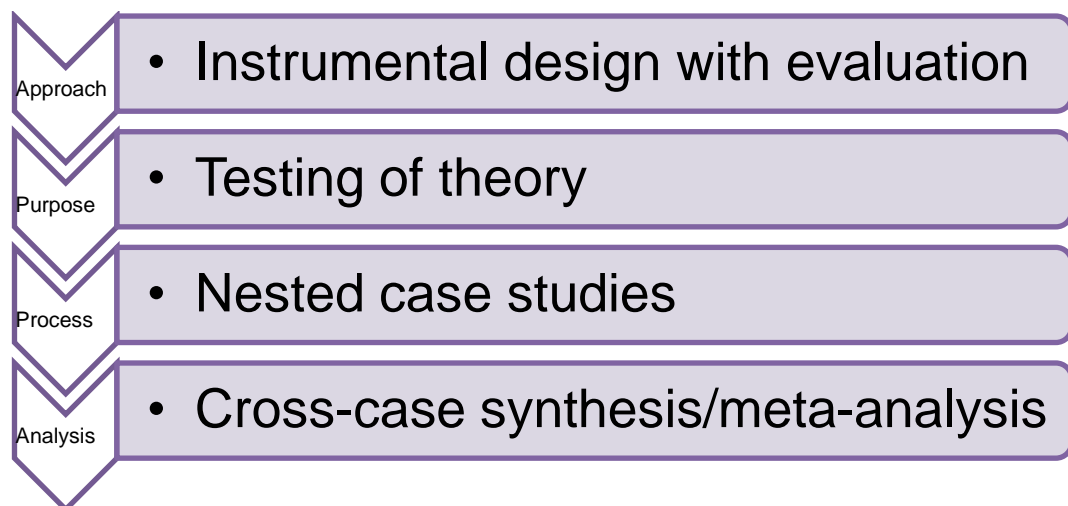
**Figure 19** Placement format

The context was the placement area, but the intervention of the CPSPF was replicated with each student (as far as possible in the dynamic system of the clinical environment) thereby facilitating case comparison (Thomas, 2011) (See figure 20 for visual representation of case studies). For each placement period data would be captured for each student and the clinical educators involved in their clinical education. Cross-case or framework-based synthesis of the nested cases within the wider project was planned (Simons, 2009; Stake, 1995; Thomas, 2011; Yin, 2009). The approach to the structuring of this case study is presented in figure 21 based upon Thomas (2011).





**Figure 20** Visual representation of case studies



**Figure 21** Case study design

#### 5.4.6 Data collection techniques

The individual tools of the CPSPF generated a proportion of the data for analysis with regard to the pre and post- self-assessment of podiatric experience forms, TPAC, journals, portfolios and learning contracts and the rationale for their use has been discussed earlier in this chapter. The generalised self-efficacy questionnaire and interviews were also utilised and the rationale for their use is discussed in the next section. Figure 22 outlines the tools comprising the CPSPF, listing each tool, its purpose within the project and which participant completes it.

---

#### **'Core podiatry skills progression framework'**

<b>Tool</b>	Teaching & learning or data collection tool	Completion
<b>Student self-assessment form</b>	Both	Completed by student pre and post-placement
<b>Portfolio</b>	Both	Utilised by the student and clinical educator
<b>Learning contract</b>	Both	Utilised by the student and clinical educator
<b>Theory-practice acquisition checklist</b>	Both	Utilised by the student and clinical educator
<b>Generalised self-efficacy scale</b>	Data collection	Completed by student pre and post-placement

---

**Figure 22** Elements of the CPSPF and data collection tools

#### **5.4.7 Generalised self-efficacy scale (GSES)**

GSES measures the individual's belief in their ability to deal with stressful events that may occur, perhaps related to the environment or situation (Luszczynska et al, 2005). It is a global measurement of an individual's confidence to deal with a range of situations that may prove demanding or difficult. Levels of low self-efficacy have been linked with anxiety, helplessness and pessimism in relation to accomplishments and personal development (Rimm and Jerusalem, 1999). By measuring students' self-efficacy prior to the intervention (working with the clinical educator using the CPSPF) and again at the end of the placement, it could be used to help interpret data collected in relation to the placement environment and new learning experiences. The generalised self-efficacy scale has been widely used and Cronbach's alpha scores range from .79 - .90 representing high construct validity (Luszczynska and Gutierrez-Dona, 2005). The students were asked to complete the GSES at the beginning and end of the placement in order to capture data that may help to support and interpret the qualitative evidence from the journals, interviews and portfolios, in relation to the student's levels of confidence.

#### **5.4.8 Interviews**

Interviews were chosen as a key data collection method for this phase of the project to capture both the clinical educators' and students' views, experiences and engagement with the CPSPF within the context of the placement area (Banner, 2006; Kvale and Brinkmann, 2009). The interview schedules for the clinical educator and student were different and appear in Appendix 20 and 21

respectively. The interviews were semi-structured with specific key questions, but with the expectation that the interviewer (LR) had flexibility to respond to emerging themes by pursuing different trains of thought and allowing for interviewees to elaborate upon them (Banner, 2006; Gill et al, 2008; Kvale and Brinkmann, 2009). In practice this meant that where material changes occurred, such as the placement induction not taking place, this impacted on a number of the subsequent questions, which then became irrelevant or needed to be changed in order that they appeared relevant to the interviewee. When necessary the interviewer was prepared to expand upon the question to help with interviewee's understanding and ask the interviewee to elaborate on their answers. Initially, the interview schedules asked general questions about the placement, progressing to more specific questions about the components of the CPSPF that helped to answer the research questions (Gill et al, 2008; Whiting, 2008). The schedules were planned with open-ended questions and were sequenced to reflect the chronology of the placement experience (Banner, 2006; Gill et al, 2008). There were both broader and more focused questions in relation to the CPSPF (Banner, 2006).

The interviews were conducted with both the student and the clinical educator at the end of the placement lasting between 25 minutes and 1 hour 15 minutes. The student interviews were mostly conducted face-to-face, but the clinical educator interviews were all conducted over the telephone due to logistical and accessibility issues. (The clinical educators were offered daytime interviews, but opted for calls at home during the evening.) The interviews were all recorded using a dictaphone for transcription verbatim by the LR and started

with a briefing and ended with a debriefing. The information sheets and consent forms included information regarding the right to withdraw at any time from the project and that this would in no way affect the participant's academic progress or relationship with the University, as appropriate (See ethics application for further details in Appendix 22). Where the interviews were conducted over the telephone, the interviewee was put on speakerphone and advised that no one could overhear the conversation.

## **5.5 Data analysis methods**

### **5.5.1 Overview of framework analysis**

Framework analysis provides a highly structured system for data synthesis and shares features with thematic analysis. During analysis the researcher creates a framework, which orders the themes from which the data can then be described, synthesised, typologies sought and explanation for the data made (Carroll et al, 2011). The researcher is required to consult the original data sources constantly, so that there is an auditable trail documenting the rationale for decision-making, thereby rendering the data analysis process as transparent as possible (Dixon-Woods, 2011; Ritchie and Lewis, 2003; Smith and Firth, 2011).

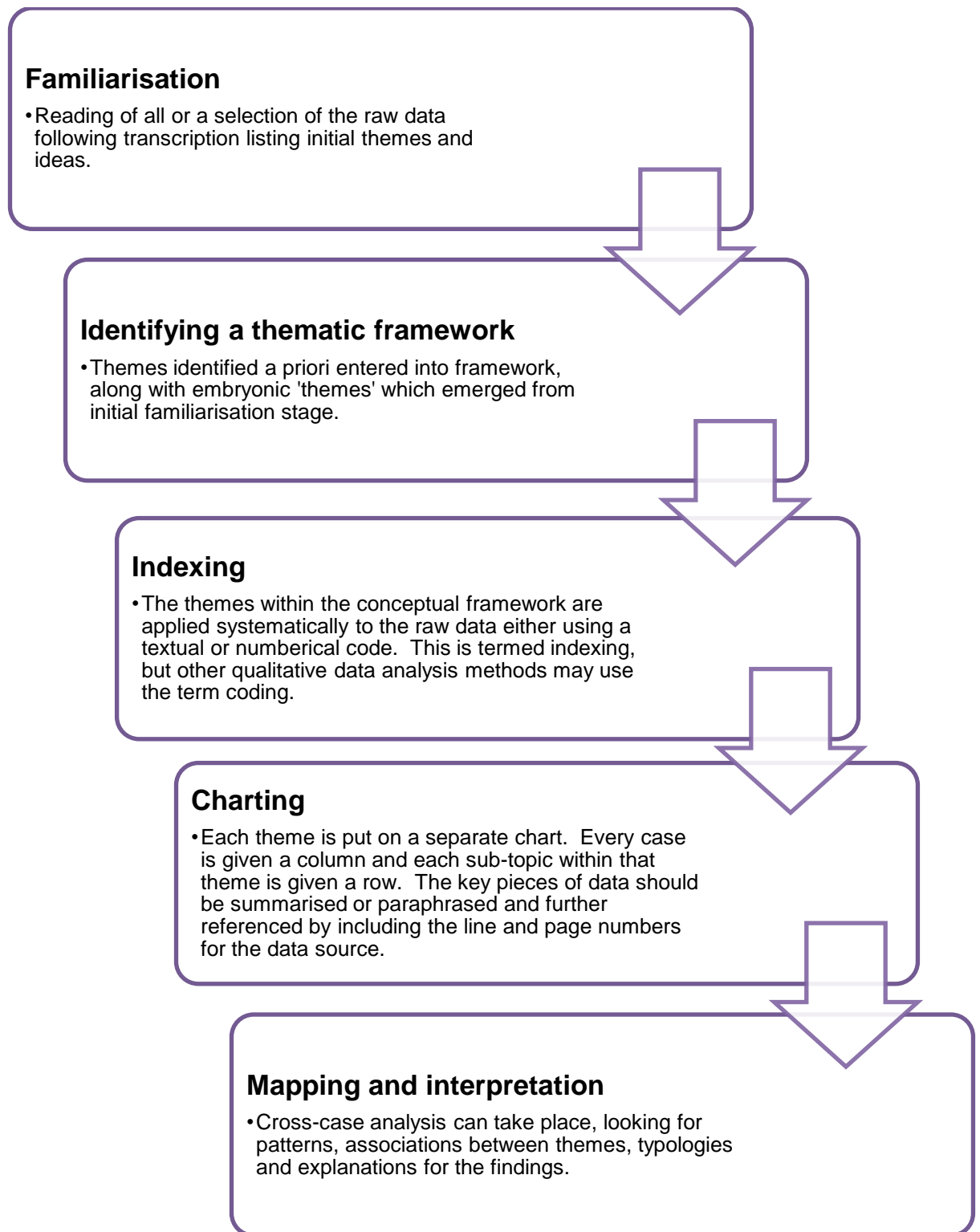
### **5.5.2 Rationale for framework approach**

The case study approach has the potential to present large amounts of data to which framework analysis offers a rigorous approach (Barnett-Page and Thomas, 2009). Framework analysis provides the novice researcher with a

stepwise approach whereby each 'step' has a clear aim. It can be used both deductively or inductively (Barnett-Page and Thomas, 2009; Dixon-Woods, 2011; Lacey and Luff, 2009; Ritchie and Lewis, 2003). Due to the nature of the CPSPF, some of the 'themes' were identified a priori and would be strongly represented within the data collection methods. The framework, however, allows the researcher to incorporate those 'themes' within the framework, whilst not excluding emergent themes during the analysis stage (Carroll et al, 2011; Dixon-Woods, 2011). Framework analysis is suited to the case study design and allows for cross-case synthesis (Carroll et al, 2011), not only between those cases nested within one placement period, but subsequently across the case studies within the four placement periods. Framework synthesis also has a heritage of informing policy and practice (Barnett-Page and Thomas, 2009) and would not present limitations to the outcomes of phase II of the project.

### **5.5.3 Application of framework analysis**

The approach of framework analysis can be divided into five distinct stages (see Figure 23) although, it is inherent within the process that the researcher moves back and forth between stages to review and 'ground' each stage within the data (Lacey and Luff, 2009; Pope et al, 2000; Ritchie and Lewis, 2003; Smith and Firth, 2011).



**Figure 23** Overview of framework analysis (Lacey and Luff, 2009; Pope et al, 2000; Ritchie and Lewis, 2003)

#### **5.5.4 GSE scale and self-assessment forms**

The Wilcoxon signed-rank test, a non-parametric test (similar to the dependent t-test used where data is normally distributed) was used to analyse the quantitative data derived from the GSE scale and self-assessment forms. This test can be used to compare two conditions where the participants are tested for each condition, in this case, confidence levels prior to and post-placement.

### **5.6 Conclusion**

The diagnosis and planning phases of cycle three encompass the design stage of phase II of the project. The rationale and development of the teaching and learning tool, along with data collection methods and approach to the research through a case study design has been outlined.



## **CHAPTER SIX: ACTION PHASE (CYCLE 3) – PROJECT IMPLEMENTATION**

This chapter details the qualitative and quantitative data collection techniques administered and the analysis relating to the clinical educators and students recruited to this phase of the project. The findings of phase II of the project and subsequent analysis, interpretation and synthesis of the data are presented. The analysis of the CPSPF intervention is presented in relation to its influence upon the clinical educators and students framed within the context of the placement.

Prior to data collection the project design was based upon individual case studies centred upon the students. Indeed, the data were collected and analysed using a case study methodology. During the interpretation stage of the analysis, however, it was clear that there were many more similarities emerging from the data as opposed to differences. Therefore the data are not presented from the perspective of individual students, but in a cohesive model inductively derived during the interpretation of the data.

### **6.1 Action phase (Cycle 3)**

Data were collected over a 12 month period during which all four placement blocks for the second and third year students assigned to the podiatry programme, occurred (the table 10 on the next page illustrates the coding system to be used during this chapter for ease of reference).

Placement block	Code
1st second year placement	2.1
2nd second year placement	2.2
1st third year placement	3.1
2nd third year placement	3.2

**Table 9 Placement block codes**

### **6.1.1 Clinical educator recruitment**

All clinical educators at the placement area were emailed with an invitation to attend a workshop where the LR would outline the proposed research and answer any questions. An information sheet and consent form were attached (see Appendix 23 and 24). There were nine replies expressing an interest in attending the workshop (including three members of the ART).

At the beginning of the workshop all the consent forms were scrutinised and then the LR outlined the rationale for undertaking the research. The attendees were introduced to the 'teaching tool' (CPSPF) and different ideas were discussed on how to work with students in order to fully utilise the opportunities in the clinical environment. The LR facilitated a discussion around various strategies and techniques deemed to have potential for enhancing clinical education. The clinical educators were introduced to the research questions and different data collection methods to be used. They were asked to consider alternative ways of working with their student and to try some of the ideas suggested at the workshop. Ultimately, the clinical educators were encouraged to work with their student in a way that suited them and their student, in order

that CPSPF could be used flexibly to enhance the student's learning needs. The data collection methods to be used for the project were introduced as follows:

- To use a journal or dictaphone (provided by the LR) to record thoughts and events. A choice of attractive journals and pens were offered to the clinical educators in an attempt to enhance engagement.
- TPACs were introduced with advice to use when the clinical educator believed that a teaching or learning event had occurred.
- An interview would be scheduled for the end of each placement block. Figure 24 provides details of the clinical educators' pseudonyms, the placement blocks they were active during and whether they were subsequently interviewed.

Pseudonym	Interviewed			
	2.1	2.2	3.1	3.2
<b>Adrian</b>	√	√	√	x
<b>Annette</b>	√	√	√	√
<b>Angela</b>	x	√	x	x
<b>Elizabeth</b>	√	√	√	√
<b>Sonia</b>	Interview not possible			
<b>Evelyn</b>	Withdrew			
<b>Helen</b>	No students allocated			
<b>Julian</b>	√	√	√	√
<b>William</b>	x	√	x	√

**Figure 24** Clinical educators recruited and interviewed

### 6.1.2 Student recruitment

Two weeks prior to placement commencing, the LR emailed each student separately with an invitation to a meeting explaining the aims of the project. The students were about to commence the 2.2 placement and all, bar one, had been part of the CSG which informed the project development. A meeting was held at the University where it was explained that all the necessary ethics committees had approved the project and the LR planned to outline the research in more detail and answer any questions. The student information sheet and consent form (see Appendix 25 and 26) were attached to the recruitment email.

At the meeting, the consent forms were checked by the LR who also gave a presentation explaining that the research pertained to the acquisition of scalpel, wound care and off-loading skills and the progression of those skills during placement. The students were introduced to the CPSPF and the rationale behind its development. The LR informed the students that it would be for them and the clinical educator to use the CPSPF flexibly in a way that suited their learning needs. The students were introduced to the range of data collections techniques to be used:

- Personal journals: A selection of attractive journals and pens were offered to the students to record events during the placement that either impacted positively or negatively upon learning.
- TPACs: During clinical sessions the TPACs could be used to record learning experiences.
- Interviews: These would be arranged at the end of the placement.
- Portfolio: As part of the consent form the student agreed for the LR to have access to their portfolio to review how progress was recorded and new goals set.

The students were each issued with a pack which included the following; a generalised self-efficacy scale which was completed at the meeting and retained by the LR; the student self-assessment pre-placement form with

instructions to complete and take to the first meeting with their clinical educator; a generalised self-efficacy scale and a student self-assessment post-placement form, both for completion at the end of placement. The packs also included an aide memoire for the process (See Appendix 27). Identical procedures were employed for all four placement blocks and 15 students were recruited to the project. (Appendix 28 provides an overview of the students recruited to the project, the pseudonym assigned and whether they were interviewed.)

### **6.1.3 Project commencement and data collection**

Once the project began the LR contacted all the students and clinical educators frequently via email to check for problems or concerns, to prepare and plan for interviews and to remind all the participants that the LR was available to give support. With the exception of one student, who had a telephone interview, all the student interviews (n=15) were face-to-face with the LR. Interviews were digitally recorded, lasted between 25-90 minutes and were held at the University. During the 2.2 placement, one student decided to withdraw from the project, but gave an exit interview. Their journal, theory-practice acquisition checklists, learning agreements, pre- placement generalised self-efficacy scales, and pre-placement self-assessment forms were also collected at that stage.

There were nine clinical educators who consented, but only six were interviewed and provided journal or TPAC data. Telephone interviews were conducted during the evening with the exception of one interview undertaken at lunchtime. Clinical educators were asked for their permission for the interview

to be digitally recorded and confidentiality was assured with the LR conducting the interview from a location where privacy was assured. Eighteen (n=18) interviews were conducted lasting between 10-45 minutes. Two of the clinical educators did not give interviews due to withdrawal from the project and personal circumstances. Therefore potential data were not collected in relation to the 2.1, 3.1 and 3.2 placements. The clinical educators mailed journals and TPACs to the LR, some after each placement block and some at the end of the project. Appendix 29 details the types of data collected for each participant.

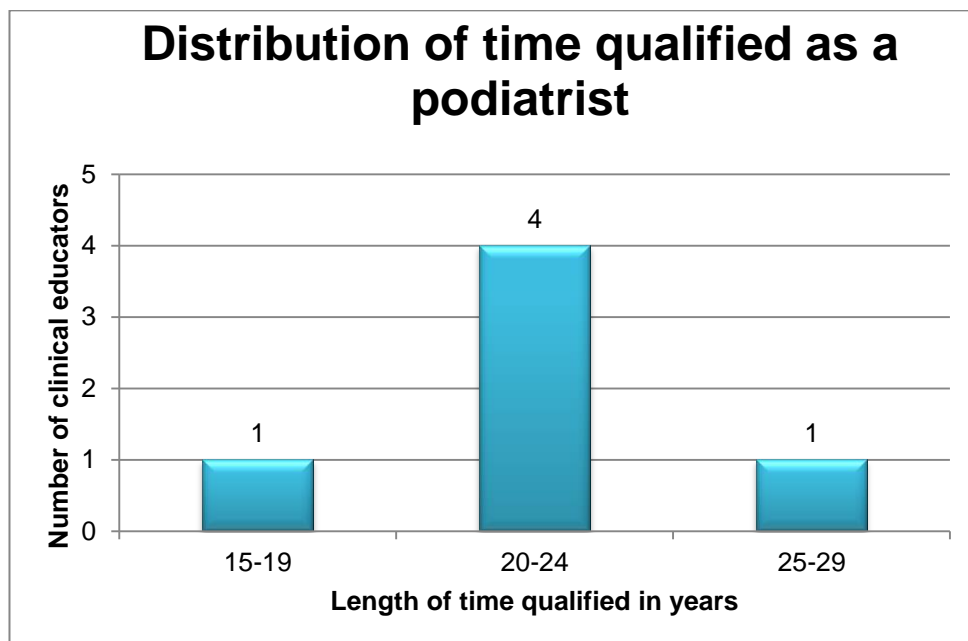
## **6.2 Data analysis**

All 33 interviews and 21 journal entries were transcribed verbatim. The LR used 'Dragon NaturallySpeaking' voice recognition software to speed the process of transcription. By listening to the audio through earphones, or reading the journal entries aloud, the LR repeated interviewee's comments aloud into a microphone, which was subsequently transcribed by the software into a typed transcript within Microsoft word. The transcriptions were then imported into NVivo which supports qualitative data analysis and has been designed to support framework analysis and the development of framework matrices. Pseudonyms are used throughout the thesis to represent the individual participants' data and experiences. The pseudonyms chosen are gender specific to assist the reader to interpret the data.

### 6.2.1 Demographic data for participants

Of the 15 students, 66.7% (n=10) were female and 33.3% (n=5) were male. Of the clinical educators, 50% (n=3) were female and 50% (n=3) were male.

The age distribution for the 15 students showed 7% (n=1) under 20 years of age; 33% (n=5) were between 20-24 years of age; 13% (n=2) were between 25-29 years of age; 27% (n=4) were between 35-39 years of age; 7% (n=1) was between 40-44 years of age; and 13% (n=2) were between 45-49 years of age. Fifty per cent (n=3) of clinical educators were between 40-44 years of age; 16.7% (n=1) were between 45-49 years of age; 16.7% (n=1) were between 50-54 years of age; and 16.7% (n=1) were between 60-64 years of age. The length of time that clinical educators had been qualified as podiatrists is represented in Figure 25.



**Figure 25** Distribution of length of time clinical educators have been qualified as podiatrists



The length of time that clinical educators reported they had been mentoring students ranged between 5-10 years with 33.3% (n=2) mentoring for 5 years; 16.7% (n=1) mentoring for 6 years; 16.7% (n=1) mentoring for 9 years; and 33.3% (n=2) undertaking the role for 10 years.

## **6.2.2 Familiarisation and identifying a thematic framework**

To begin the process of familiarization, the LR read a selection of the raw data. At this stage a list of initial themes and ideas, which would inform the framework matrix, were also made. The interviews from the 2.2 placement were chosen (9 interviews) as broadly representative of the data collected. The transcripts were read and reread with potential themes highlighted, notes made in the margin and the theme recorded on an individual post-it. At the end of this process the post-its were ordered onto a flip-chart into main themes and sub-themes. At this point some of the sub-themes were collapsed into one sub-theme. It was important that the themes/sub-themes were reflective of the data, but at the same time too many themes/sub-themes can be counterproductive and make indexing the data to the framework matrix too difficult (Smith and Firth, 2011). The interview questions asked about specific aspects of the project, such as the utility of the schema and therefore this was a theme that would be inherent within all the interview data. These a priori themes were therefore added to the framework matrix.

The framework matrix was entered into NVivo and in the first instance there were 105 nodes (a node is the terminology used in NVivo to describe either a

theme or sub-theme). The LR then imported all the interviews and journal transcripts into NVivo to initiate indexing of the interviews and journals to the framework matrix. The framework matrix was viewed as embryonic and the LR was open to the generation of new themes or theme modification as data analysis progressed.

### **6.2.3 Indexing (coding)**

Within framework analysis the term indexing is used rather than coding to describe the researcher's engagement with the raw data and systematic application of that data to a theme. Initially, the LR indexed just two interviews from the 2.1 placement to 'test' the framework matrix. At this stage two sub-themes were removed because they were duplicates. The LR continued to read through each interview and journal transcript and indexed the data to specific themes. Some sections of data were deemed to be complex and related to more than one theme and were indexed accordingly. This process involved re-evaluating the themes, collapsing/merging themes together and renaming them in order for them to reflect the sentiment of the data as closely as possible. An example of a sub-theme merger was the sub-theme 'assessment' being merged with 'types of assessment', which was represented in the final framework matrix as 'achieving learning outcomes'. It is important that the researcher remains sensitive to the meaning of the data and as engagement with data increases, so the researcher's depth of understanding and view of the data develops. Some of the superseded nodes were considered to be too specific or were underutilised. The researcher recorded all

of these decisions in the project journal with a justification as part of the audit trail and embryonic analysis of the data.

#### **6.2.4 Validation of coding**

The LR's coding was peer checked by another member of the research team not directly involved with the indexing of the data, but who was familiar with the project, research questions and overarching themes in order to promote consistency and rigour (Ward , 2013). The LR arbitrarily retrieved data from NVivo and this was presented to the secondary coder for indexing to establish face validity. The task was two-fold: firstly, three sections of data were read by the secondary coder who was required to identify to which sub-theme(s) the primary coder had indexed the data. Secondly, sections of data that were all coded to the same six sub-themes were chosen with the intention that the secondary coder should be able to identify the mutual sub-themes. The secondary coder was provided with a list of all the sub-themes with a short explanation of the concepts represented by those themes.

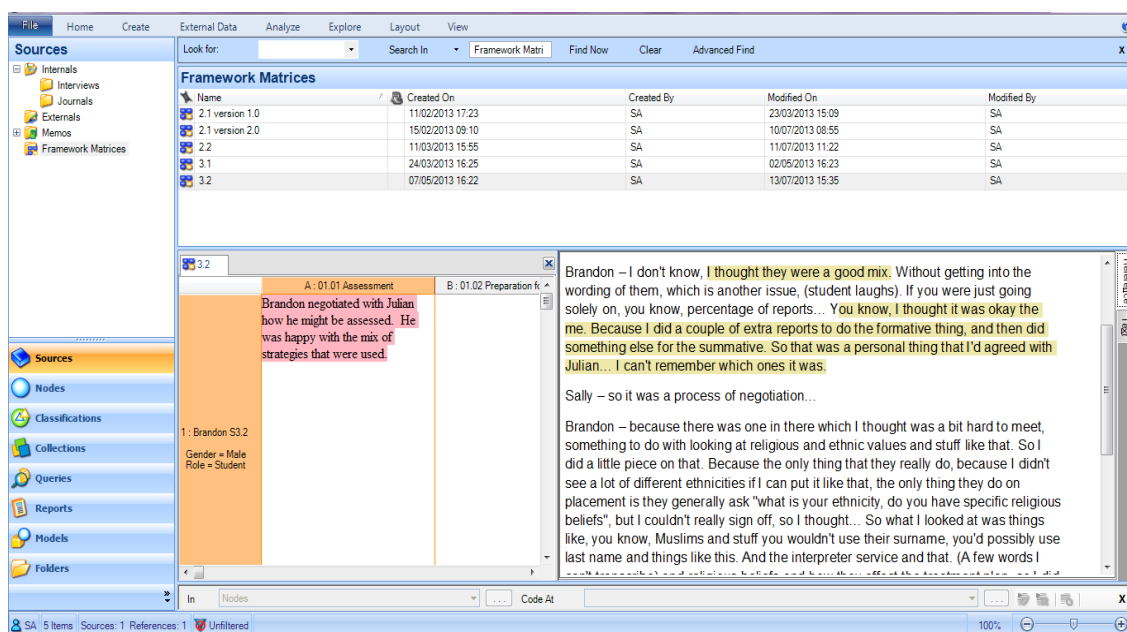
Both coders were in broad agreement. There were occasions where some discussion regarding alternative ways of coding was necessary, but upon further explanation from the primary coder regarding the distinct characteristic of the theme, the secondary coder agreed with the primary coder's rationale and interpretation of the data. It was felt that the initial discrepancy between coders was due to the secondary coder being less immersed in the data.

This led to a further discussion in relation to the current sub-themes and it was decided there was a requirement to re-examine the data specifically to identify data which related to 'learning processes'. This was considered a complex sub-theme, which had not been identified specifically by participants, but was inherent in their comments and represented a tangible dimension. At the end of this process the themes and sub-themes were established representing specific dimensions and concepts (see Appendix 30).

### **6.2.5 Charting**

Charting involves the application of the data to the conceptual framework.

Therefore, all the data were re-read and the important sections highlighted and indexed to the relevant themes/sub-themes. At that time a summary of all the data were made and entered into the framework matrix within Nvivo. This was accomplished in the following way. Four matrices were created for each of the four placements: matrix 2.1, 2.2, 3.1 and 3.2. The rows of the matrices related to each participant, which included both students and clinical educators and the columns represented all the themes to which the data might be indexed. The interview was read and the data were then summarised to a cell; for example, Brandon's comments regarding the sub-theme 'assessment'. Where a cell was populated with a summary, it represented the data for the individual participant in relation to a particular sub-theme (see figure 26 showing a screen shot of a particular participant's summary indexed to a sub-theme).



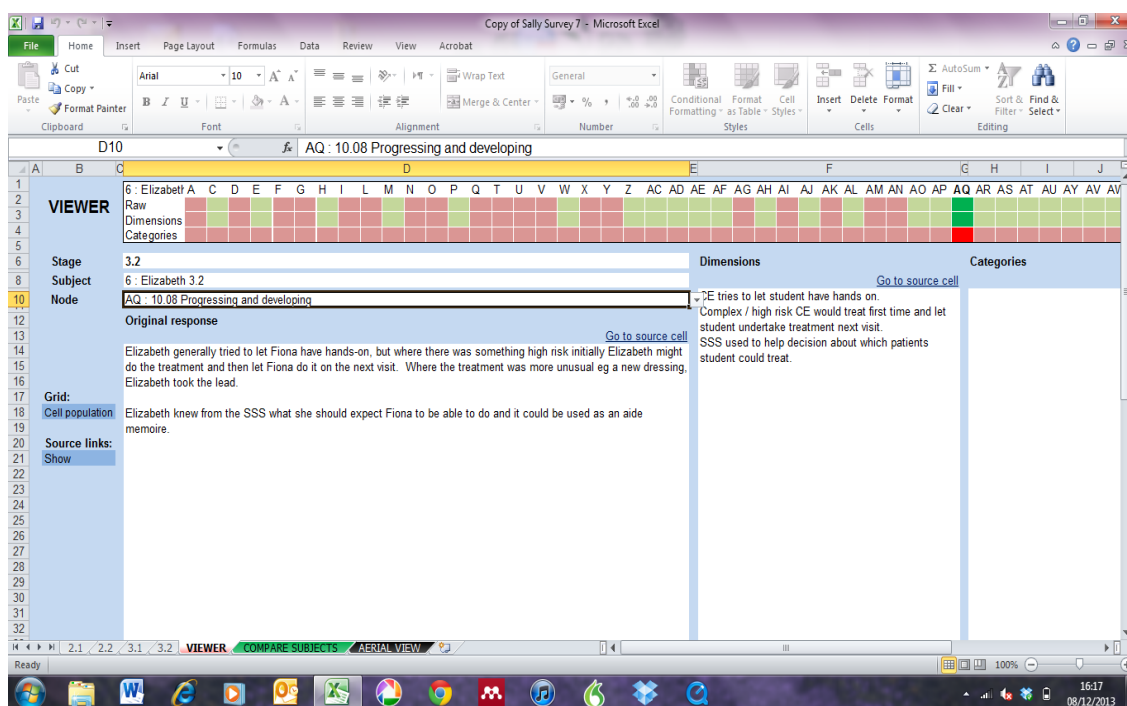
**Figure 26** Illustration of a framework matrix within Nvivo

This stage of the analysis was a further opportunity for the researcher to engage with the raw data and consider the meaning of the participant and how that helped to interpret the rest of the data within the framework. The summaries were all highlighted and linked back to the raw data, so that the participant's actual statements could be easily returned to and the meaning clarified within a wider context if required.

### 6.2.6 Central chart

The summary information for all four framework matrices was exported to Excel. The format remained the same (rows for participants/columns for sub-themes) with an extra column after each sub-theme entitled dimensions. The summaries of the data within each cell were re-read and this time distilled into the dimensions column in order to make collation of the data within that case study manageable. It was also a further opportunity to ensure that the data

were in the correct theme/sub-theme and where necessary the raw data could be accessed within NVivo. The Microsoft Excel spreadsheets were then developed displaying the data in a variety of ways. One screen showed each placement block and which participants had data populated within a cell. Another view allowed the researcher to use a drop down box in order to pick a participant, then choose a theme/sub-theme and allow immediate access straight to the summary of the data and dimension (see Figure 27 an example of the Microsoft Excel central chart with summary and dimension). This was extremely useful for moving between participants and data fairly easily, whilst remaining in close contact with the data.



**Figure 27** Example of the central chart within Excel

## 6.2.7 Mapping and interpretation

This stage of the framework analysis approach required the LR to take a cross-case analysis, looking for patterns, associations between themes/sub-themes, typologies and explanations for the findings. The three research questions

were used to identify the themes/sub-themes that were likely to enable answering of the questions. The dimension data relating to those theme/sub-themes were then transferred into a Word document from the central chart. All the themes, sub-themes and dimensions relating to each research question for each of the four placement periods were therefore collated onto one sheet making referral to the data relatively straightforward. The LR analysed each theme/sub-theme and started to map relationships from one theme/sub-theme to another. These relationships were considered in some instances to be inter-dependent or consequential to another theme/sub-theme.

The LR viewed the placement as a dynamic environment within which the project intervention operated. The project was designed to be introduced at the beginning of the placement, but also to support the students and clinical educators throughout. The mapping process was viewed with these two factors in mind and how that might provide structure with the development of practical skills underpinned by theory as the potential resultant outcome. With this formative structure in mind the data were interrogated to establish how these ideals fitted with the reality of the data. Where necessary the LR was able to easily access the summary of the data within the Excel central chart or NVivo or if necessary the coded raw data, so that the participants' meanings could be explored and clarified within the context of the wider interview or journal entry.

The mapping was undertaken systematically, analysing the placement periods in the order of stages of development; 2.1 placement, 2.2 placement, 3.1

placement and 3.2 placement. The research questions were viewed in the following order:

- *What are the issues which impact upon practice placement?*
- *Does the CPSPF facilitate CEs to progress and make assessments relating to students' skills and knowledge base using a standardized, stepwise approach, at the level commensurate with their stage of learning?*
- *Does the CPSPF support students to gain experience, skills and knowledge at the level commensurate with their stage of learning at an appropriate pace?*

#### **6.2.8 Analytical approach to data**

An instrumental case study design was used to inform the development of this phase of the project. During the analysis and interpretation phase the data indicated that the individuals within each placement block were in concordance with one another and therefore the placement model emerged with each individual presenting aspects of the phenomenon. The placement model will be presented and discussed in the following section of this chapter.

### **6.3 Evaluation phase (Cycle 3) – Findings**

This section reports the findings of phase II of the project and subsequent analysis, interpretation and synthesis of the data. The data is not presented from the perspective of individual students as previously discussed, but in a



cohesive model that was inductively derived during the interpretation of the data. At the end of each explanation of the subordinate themes a synthesis of the findings and how they might be interpreted in terms of their affect upon practice-based education are made.

### **6.3.1 Operationalising the placement setting**

The focus of this phase of the project was to evaluate the implementation of the CPSPF intervention within the dynamic, super-complex environment of the placement context. From the data it appeared that the character of placement experiences is influenced strongly by the placement context, a concept which will be explored in more detail later in this section. The findings of the analysis are presented in a thematic framework (see Figure 28) which is grounded in the data and presents an explanatory model of the four main constructs and how they are linked: macro-environment; micro-environment; progression phase; and appraisal phase. The term 'macro' and 'micro'-environment will be explored in more detail, but broadly refer to the organisational control at the macro-level and local control of the clinical educator at the micro-level. These definitions have some resonance with the work of Carr and Kemmis (1986) where the macro-level relates to management systems, by which 'education' is administered with the micro-level associated with curriculum issues and how teachers convey knowledge and skills to their students.

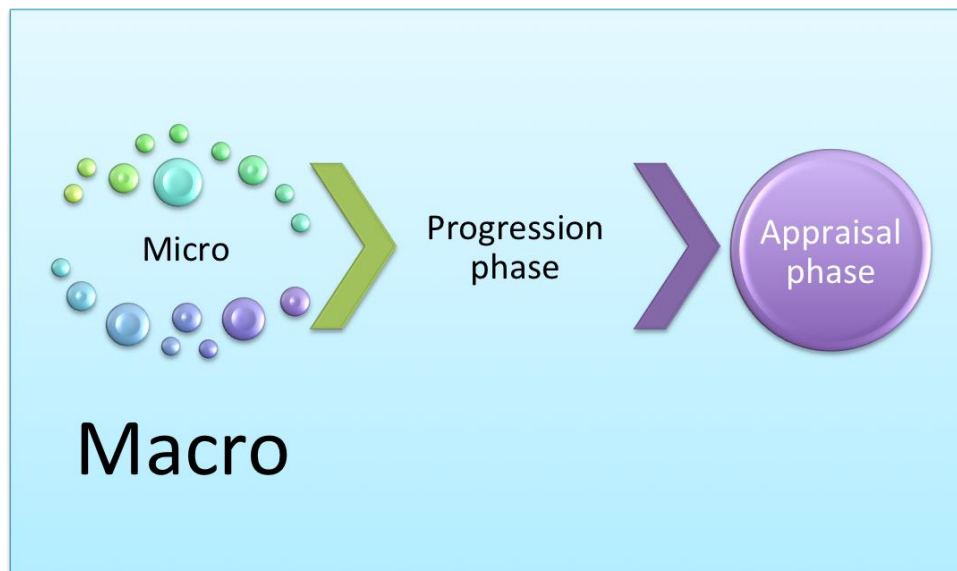
<i>i. Superordinate Themes</i>	<i>ii. Themes</i>	<i>iii. Sub-themes</i>
<b>Macro-environment</b>	Placement society	
	Protected time	
<b>Micro-environment</b>	Clinical educators' approach to role	Benefits to being a clinical educator
	Relationship impact	
	Placement challenges	Portfolio
		Co-mentoring
		Time management
		Professional issues
	Confidence	Self-efficacy
		Increasing confidence
Placement impact	Emotional impact	
	Physical impact	

**Figure 28** Thematic framework of the placement context

***i. Superordinate theme: Macro-environment***

Two themes underpin the construct 'macro-environment' representing the organisational infrastructure of the clinical environment within which the placement experience functions: placement society; and protected time. The concept 'placement society' is used to include not only the organisational aspects, but also the community of staff that actualise the core business and create a community. The macro-environment is viewed as an edifice, which is not within the power of the clinical educator or student to change. The

overarching placement model is illustrated in Figure 29, where the micro-environment sits within the macro-environment with the student moving through the progression phase into the appraisal phase.



**Figure 29** Placement model

**ii. Theme: Placement society**

All the students consistently reported that the podiatry team were friendly, welcoming and supportive, particularly of achieving learning outcomes. More informal interactions with the wider team, such as staff meetings or seminars, were enjoyed and valued. The whole team appeared committed to hosting students and created a feeling of collegiality as Kelly describes:

*“...in different clinics podiatrists talked to me, who I hadn't met ...tell you little things that were helpful to know. You felt part of it... accepted and treated as though I was a member of the team...” (Kelly – interview 2.1)*

There was widespread agreement between the student and clinical educator samples that the clinical environment was busy with little control over the patient experiences available on placement and clinical educators must identify learning opportunities 'in-action'. One student observed that even the experienced podiatrists found it difficult to undertake all the tasks required in the 20 minute appointment time. Short appointment times were considered challenging by the majority of students, making some tasks such as note-keeping difficult to fulfil. A Trust standard exists for note-keeping, but one student at their first placement felt that clinicians relied on their knowledge of the patient rather than the records and handwriting was difficult to read. In a busy environment note-keeping may not easily be accomplished, and legibility of handwriting may be offset against speed. For second year students whose knowledge of terminology is limited, and in a new clinical environment, reduced information may limit their ability to contextualise and comprehend the patient encounter.

The placements were reported as mainly well organised, but last minute changes to timetables did create feelings of anger or anxiety for students, where financial costs were incurred or where plans to complete a specific learning outcome were disrupted. The 3.2 placement was characterised by limited clinical educator availability for two students in particular, due to two clinical educators being absent. This led to varied student experiences, with some working with close supervision moving towards working in their own clinics while others worked without close supervision immediately. Even so, it was viewed as a positive experience, but for the clinical educators, this was a

less enjoyable placement and there were concerns that the students may have viewed the situation negatively, because time was pressured trying to mentor two or three students per session.

The placement environment is alien to the student initially and a period of acclimatisation is required. Integrating into an established community takes time and 'natives' explaining systems and protocols are important to this process. The following extract symbolises how a student feels part of the community:

*“Great day today, after 10 days away I slipped back into things easily, I even remembered the door code...” (Eleanor – interview 2.1)*

Overall, students felt welcomed and well supported. Time was pressured for both students and clinical educators. Unexpected changes occur that impact upon the placement experience, which can be difficult to manage effectively.

## **ii. Theme: Protected time**

This theme relates to the allocation of protected time during the placement, outside clinical hours, to meet with students for the induction, mid and end-of-placement reviews. The induction, mid or end-of-placement reviews did not occur for the majority of students. On rare occasions when the induction took place, it was reported as useful providing an opportunity for planning and discussion. Mostly the induction was not timetabled, which resulted in no time

set aside to introduce the clinical environment, discuss working practices, or for rapport building. Nor was there time to formally discuss learning agreements, placements objectives and learning outcomes.

Where a domiciliary visit was the focus of the first meeting between the student and clinical educator, the induction was conducted whilst travelling and proved unsatisfactory for the student. A further issue occurred if the student's first demonstration of their clinical abilities was observed during a domiciliary visit.

The following student describes their experience:

*"...we have to get to the care home, can you just come" [clinical educator]. So we did the induction on the road... it wasn't quite the induction that I've had previously. I read out my learning outcomes in the car..." (Ross interview 3.2)*

The lack of protected time results in clinical educators feeling that they have not supported the student through the placement, missing vital opportunities to review their progress during placement. For one clinical educator the end-of-placement review was the only opportunity to meet outside clinical hours with the student and was felt not to be useful without the induction and mid-placement review time. One clinical educator explains the issues raised by not having the induction:

*"...At one time we got an hour or an hour and a half at the beginning to do all this stuff and now students are turning up and actually we are all being thrown in the deep end together..." (Will)*

In summary, protected time was rare and its absence was missed by both the student and clinical educator and limited the opportunity for planning, rapport building and support.

### **6.3.2 Synthesis of the macro-environment**

The placement society derives structure from the NHS organization and protocols that are established to support staff in the delivery of patient care, including the management of the clinical area. This can facilitate or constrain the activities that take place in the placement arena. Some aspects such as patient appointment times (frequency and length), protocols and procedures limit the clinical educators' ability to make fundamental changes and there are also the University expectations such as learning outcomes and periodic reviews. The clinical educator's approach to managing the placement, however, and that of their manager, can mitigate the influence of these fixed structures, which may impact negatively upon the student journey. This is demonstrated in the way that the clinical educators operationalise the placement within this dynamic context as will be demonstrated by the micro-environment construct.

#### ***i. Superordinate theme: Micro-environment***

The concept of the micro-environment operates as a facet of the macro-environment, representing the arena where the clinical educator has agency over both their professional and educational role. Although bound by NHS protocols, service requirements, professional standards of practice and University requirements, the clinical educator can exert some influence over the

management of these obligations and duties. Within the micro-environment challenges present and the clinical educator and student attempt to diminish the impact of these upon their situation and the student's learning. The micro-environment is viewed as dynamic, but malleable, where the clinical educator and, to a lesser extent the student, have agency within it. Five themes underpin the construct micro-environment which includes 10 integral sub-themes (see Figure 28 on page 227).

**ii. Theme: Clinical educator approach to the role**

The clinical educators' approach to the role with regard to developing an effective learning environment involving both attitudes and behaviours is captured in this theme. Benefits to being a clinical educator are presented as a sub-theme, because the data suggests that an individual's motivations for undertaking the role is an underpinning dimension of the thematic construction: clinical educator approach to the role.

Clinical educators made many references to the strategies used to develop students' clinical skills, such as providing encouragement, giving praise and helping students to find their own solutions to problems, whilst offering support as required. Establishing with the student what experiences and goals they had was useful for focusing activities. All the clinical educators appeared mindful of their approach to the students, including making light of and sharing one's own mistakes in order to reduce the student's embarrassment; being prepared to provide answers rather than always questioning to avoid the student feeling



uncomfortable or inadequate; and trying to remember what it was like to be a student.

The majority of clinical educators allowed students to work without close supervision, in some cases when this was the student's first placement. Students sometimes worked without close supervision because the clinical educators were not available, but where the decision was made for learning purposes the student's maturity, compassion or ability with patients was cited as deciding factors. Although, the majority of clinical educators agreed that allowing the student time to treat the patient was important there were times when this approach had to be modified due to patient needs.

The student supported the comments of the clinical educators, with consistent reports that clinical educators were professional, encouraging, supportive, respectful, knowledgeable and of the 'right' temperament. Allowing the student to treat from start to finish was universally viewed as an important element for a positive learning experience. One student, however, felt they did not receive close enough supervision and feedback to develop their skills. Others viewed less close supervision positively, because it indicated a level of trust, which was felt to be good for the patient, giving them more confidence in the student's skills. Where this emerged from the data it was used as a strategy with initial close monitoring moving towards more independence over time.

The perception was that clinical educators were approachable, promoting new skill acquisition and frequently giving praise, alongside constructive feedback. Students felt able to ask questions without fear of penalties if answers were incorrect. Attempting new skills with support was encouraged and praise contributed to a positive learning environment as this student explains:

*“...My first bit of padding ...I did such a good job that I amazed them. But things like that, being praised...” (Eleanor – interview 2.1)*

Being viewed as an individual was important and some clinical educators included students in discussions relating to care management planning with other health professionals. This resulted in students feeling valued, but it was also viewed as a useful strategy for revising and consolidating knowledge.

### ***iii. Sub-theme: Benefits to being a clinical educator***

The majority of clinical educators' felt that mentoring had benefits for both student and educator. For example, some students were viewed as an asset and contributed positively to the smooth running of the clinic. For others, the benefits lay in the potential for discussions prompting reflection on their own actions in practice and acting as a form of continued professional development:

*“...That's why it's good to have students, because you question yourself as well...” (Adrian - interview)*

Overall, the students viewed the clinical educators to be effective in creating a positive learning environment. The decision to allow students to work without close supervision was sometimes the result of circumstances rather than a sound risk assessment.

***ii. Theme: Relationship impact***

This theme sits within the subordinate theme: micro-environment without any related subthemes. The effect of relationships pervades the placement and appears to have considerable influence over the development of the student. This theme captures data relating to both the clinical educators' and students' perceptions of one another and what they identify as good or poor relationships.

Relationships between the students and clinical educators for the main part were reported as excellent. The students, however, also experienced one-off interactions with ad hoc non-clinical educator staff, which were not always satisfactory. A good relationship was described as open; feeling as though podiatric practice was a team effort and that certain aspects, such as learning outcomes, could be negotiated. A friendly, relaxed atmosphere created by the clinical educator was thought to be positive feature. The following extract illustrates the students' sentiments:

*“...Generally the staff were really, really friendly...genuinely friendly...”*  
*(Brandon – interview 3.2)*

There was widespread consensus that clinical educators who appear good humoured, helpful, approachable, relaxed, flexible, supportive and open to questioning were valued as these characteristics helped to create a positive relationship with the student. Both parties felt that good relationships enhanced the giving and receiving of feedback. This extract explains one student's views:

*"...you can really learn from such an experienced guy and he's very open if you ask him something he'll answer it...He'll take the time and trouble, although we were very busy...I couldn't have a nicer guy..." (Tom – interview 3.1)*

The majority of clinical educators reported finding their students in the main to be interested, good humoured, conscientious, capable and trustworthy. The importance of building a rapport in order to develop trust, leading to the student being open about their concerns, was recognised. Overall, clinical educators worked to build a rapport with the student, based on giving encouragement, which then enabled the student to accept critical feedback and even seek it out. This was corroborated by this student's view:

*"...I just asked anything and I felt that he didn't make me feel dumb about not knowing it. He just explained it. And I think mine and my mentor's relationship was pretty good..." (Laura – interview 2.2)*

Relationships between the students themselves was viewed by many as important, creating excitement and pleasure when working together in clinics or at staff meetings. A few students kept in touch with University friends whilst on

placement using Facebook, but face-to-face meetings were viewed as key for informal peer support.

Relationships were overall very good and felt to be the foundation of other aspects of the placement. Ad hoc mentoring by non-clinical educator staff, however, was less satisfactory.

**ii. Theme: Placement challenges**

This theme has four sub-themes: portfolio; co-mentoring; time management; and professional issues. Collectively these concepts comprise different elements that challenge the management of patient care alongside student learning in this complex environment.

**iii. Sub-theme: Portfolio**

The majority of students and clinical educators found it difficult to know how best to achieve the learning outcomes due to the wording in the portfolio being 'woolly' and 'incomprehensible'. For a few, however, this was viewed as flexibility to interpret the learning outcome in a way that suited the student. One of the clinical educators explains the issue for them:

*“...it's fairly incomprehensible as to what they [HCPC] actually mean ...”  
(Elizabeth – interview 2.1)*

### **iii. Sub-theme: Co-mentoring**

Where clinical educators work part-time or are based in different locations identifying co-mentors can spread responsibility and have logistical benefits.

Working with other practitioners in different clinics can have benefits, but some students reported loss of contact and continuity between the clinical educators as an issue. Identifying learning needs and where gaps in knowledge existed was also reported as potentially more difficult for the main clinical educator and there was confusion too regarding responsibility for the induction.

For students undertaking the 3.1 placement co-mentoring worked well and there were no negative comments. One student reflected that at other placements she had been passed from one clinical educator to another rather than having a main point of contact, so two clinical educators was an improvement. During the 3.2 placement, however, one clinical educator was required to supervise three students. The co-mentoring was not formally arranged, and this did create issues for the clinical educator as they explain:

*“...it was kind of shared, but I think I did most of it...I didn't mind but actually it was really tough...At times I found myself having to deal with two students at the same...moving from patient to patient with the students, whilst treating my own patient...” (Julian – interview 3.2)*

### **iii. Sub-theme: Time management**

The clinical educators attempted to ameliorate the effects of not having protected time allocated by creating space within the day to deal with any

issues. The clinical educators were inventive with time management, providing opportunities both within and outside contracted hours, in order to fulfil the requirements of their role as clinical educator. They used time prior to clinic and when patients did not attend to deal with issues relating to the role of clinical educator, and utilised lunchtimes and after the working day. One clinical educator, however, suggested that changes in the NHS have begun to impact more on the time available in the clinic and finding ad hoc time during the day is becoming more difficult:

*“...I think the role is changing, because of the way the health service is changing. Personally, I have always enjoyed having the students... I think in the more recent months....the time element and all the rest of it is taking its toll a little bit...it doesn't work out quite as well...” (Will – interview 3.2)*

Some responsibility for ameliorating these challenges was felt to reside with the student in terms of not compounding issues, for example being punctual and behaving in a professional manner, showing interest and not having to be cajoled into getting involved. Mostly the students were viewed as helpful, enthusiastic, capable, organised and punctual. One clinical educator, however, felt that one of their students lacked motivation to learn and was too focused on getting through the learning outcomes.

All students agreed that having time to treat the patient and not being hurried was beneficial to consolidating information, learning to prioritise patient needs, and gave them satisfaction in completing a task. The students were often aware that the clinic was running late, but where possible the clinical educators

allowed them to continue or went to another clinic room to see the next patient, allowing the student time to complete the task. Twenty-minute appointments were viewed as challenging for students and for many it was not long enough to complete the patient consultation. Where only one couch was available this reduced the opportunity for hands-on experience as this student explains:

*“...I feel I don't get much experience as there is only one room so we have to keep closely to the times for each appointment. I find it hard to treat in 20 minutes and feel there is a lot of pressure on me which makes me more nervous...” (Felicity – interview 2.2)*

The diabetes centre, in particular, was extremely busy and there appeared to be a tension between meeting the needs of the student and providing quality patient care as this clinical educator explains:

*“...Because I know I've got another patient...I love to be able to share my knowledge. I love doing it...but pressure and environment...(Angela – interview 2.2)*

### **iii. Sub-theme: Professional issues**

Interestingly, clinical educators often referred to professional behaviours such as punctuality and dress when conveying good impressions of particular students. There was an expectation that students would come prepared to engage with learning. Only one incident was reported where a student behaved unprofessionally using a mobile phone during a minor surgical procedure. The clinical educator raised this with the student, but it created tension in their relationship with the student feeling that they had a strict attitude towards them.



The student maintained they were checking the time, but the clinical educator felt that it sent the wrong message to the patient, appearing as though the student was preoccupied with other, perhaps social matters. Ultimately, the relationship between the two individuals was affected.

In summary, these varied elements contribute to the challenges that face both students and clinical educators. The wording of the portfolio is an issue beyond the control of the clinical educator or student, but time management and professional issues can be mitigated by both parties and the ability to ameliorate affects may be critical to how the placement is perceived in terms of effectiveness and satisfaction.

***ii. Theme: Confidence***

This is a complex theme containing issues regarding students' confidence levels on arrival at placement, how confidence develops alongside practical skills and the types of activities/interactions that impact upon student confidence. Two sub-themes reside within this theme: self-efficacy and increasing confidence.

The first few days of placement were described as a period of adjustment by the majority of students and confidence levels tended to lower, due to fewer clinical practice opportunities at the University. The analyses showed that as students settled into the surroundings of the placement and established a relationship

with their clinical educator, confidence generally started to rise. Confidence and skills development appear to be closely allied and as skills progress, students reported higher levels of confidence. In order to assess the progress of their skills, students sought objective measures by which to assess their development. For example, where the clinical educator was perceived as being confident in the students' abilities this had a positive effect on how the student perceived themselves and as a consequence confidence levels were reported as higher. One student explains this phenomenon:

*“...the clinical educator was like ‘I was waiting for you to ask for my help, but I was so impressed that you didn’t... It was good, it made me feel good and more confident cos I thought ‘I can do this from beginning to end’...” (Verity – interview 2.2)*

However, where clinical educator feedback was not readily available, one student reported gauging their development by the fact that they struggled less to complete tasks in the allotted time. This in turn gave the student confidence that skill development was occurring.

Confidence levels were impacted negatively where students had to perform whilst being observed, being asked a number of questions sequentially that they were unable to answer, or haeming a patient, although these feelings were relatively transient. The relationship with the clinical educator appeared to be an important factor with regard to how the student dealt with potential confidence lowering experiences. The clinical educator can provide perspective and rationalise the situation putting it into context:

*“...I must be honest, my confidence was really knocked that day. Number one I'd nicked him... Number two, I covered him in cotton wool...it just made me feel like I was a blundering idiot...but I was reassured that accidents happen ...”*  
(Eleanor's journal 2.1)

### **iii. Sub-theme: Self-efficacy**

Whilst all the students referred to feeling able to carry out different tasks and roles in the future for some this was a significant theme. Unsurprisingly, students reported different levels of self-efficacy, but the placement experience appeared to have a powerful effect upon some students, particularly where strong relationships with the clinical educator were established. Some students reported developing clinically, professionally and personally, even when innate levels of self-efficacy were low. Kelly's expectations of the placement and assessment of her skills were low, but with the support of the clinical educator she exceeded her expectations as she explains:

*“... It's [the placement] a life changing experience...it made me feel like a different person...I had some really good comments in the last couple of weeks from patients and that's made me feel entirely different about me as a person and my ability to do something other than what I did before...”* (Kelly – interview 2.1)

### **iii. Sub-theme: Increasing confidence**

There was widespread agreement among students that undertaking the whole patient consultation increased confidence. There also appeared to be a link between confidence and experience, as this student explains:

*“...it was literally throwing yourself in and even if you are not overly confident, keep going with it... it's all experience and it accumulates and I just felt one day, actually, yes I can see a significant difference from how I started...” (Gordon – interview 2.1)*

Having opportunity to practice skills was important, engendering a feeling of satisfaction with confidence levels increasing where clinical educators gave positive feedback. It is the skill of the clinical educator to recognise when the student will benefit from trying to undertake a task and so build confidence and when it will have a negative effect with prolonged attempts that result in failure. Specific events can also have a significant influence on confidence levels where students suddenly take stock, realising their progress, which has a positive effect upon confidence levels. As this student excerpt describes:

*“...I successfully diagnosed a bacterial infection in a diabetic patient... confirmed by Julian and the patient was immediately referred back to his GP for antibiotic treatment (Flucloxacillin). Julian commended me for accurately diagnosing the infection...I am now starting to feel more confident in my clinical skills...” (Tom's journal 3.1)*

On completion of the placement students reported greater confidence concomitant to skills acquisition and achieving the portfolio learning outcomes, and were therefore deemed fit for award and practice. This was an area that the clinical educators commented upon too, as this educator explains:

*“Well you could just see her grow really. You know, each time she was making judgements that were more valid and making them quicker and with more confidence...” (Annette – interview 3.2)*

The increased confidence was linked with the student's evaluation of their own professional abilities, skills levels, clinical decision-making and theoretical knowledge, which came together when undertaking the whole patient consultation. This student illustrates the point:

*“When I look back at what I was like when I was starting out in the first year I can see such a change in my skills, in my confidence levels and in the way I think about things...” (Tom – interview 3.1)*

In general, the placement had positive effects on student confidence levels. This was attributed in part to the clinical educators support and to the opportunity of exposure to and experience of patient care.

**ii. Theme: Placement impact**

The placement experience has a significant impact upon the student and the data collected at this theme relates to those elements that impact negatively. This theme has two sub-themes, which are dimensions of the overarching construct: emotional; and physical impact.

**iii. Sub-theme: Emotional impact**

Emotional aspects affect students' perception of the placement setting. Feelings of anxiety were reported on initial arrival at the placement area, but this feeling dissipated within the first couple of days of familiarisation with the environment and clinical educator(s). One student felt this initial anxiety was

due to not practicing scalpel skills for a few months during the long summer break between the second and third year. The placement area can seem chaotic initially and arriving in a new clinic even at the same placement, can feel like the start of a new placement with changes to the layout of the room and a new clinical educator to become acquainted with. One young student explained that she felt isolated, particularly during lunchtimes, from her friends, unused to being alone. Feelings of frustration were caused by a number of very different issues, such as equipment failure, cancellation of clinics and only being able to observe in clinics.

Real-world environments are challenging, but observing experienced practitioners provides perspectives on how this can be managed appropriately. For two of the students in their first placement, however, they found the real-world environment to be a source of emotional stress. They reported that some experiences played on their minds once at home, where patients had been given bad news or their situations were distressing, finding it difficult to switch off.

### ***iii. Sub-theme: Physical impact***

Equally, some students reported that placement can be physically exhausting, working full-time, travelling and managing their studies. Working in physically uncomfortable positions as a result of hospital beds and during domiciliary visits was found by some students to be difficult. As this student explains in their journal:

*“...having to treat patients in their chairs and often difficult positions...not ergonomic and hard on the back and knees! Challenging environment...”  
(Tom’s journal 3.1)*

The emotional and physical impact upon the student appears to not always be recognised by the clinical educators, but is significant and influences the student’s reaction to the placement to varying degrees. The impact is not limited only to the placement setting, but permeates into the students’ domestic situation as well.

### **6.3.3 Synthesis of the micro-environment**

Data analysis of the two constructs, macro and micro-environment has led to the development of a theoretical model which describes factors that influence the student journey. The student’s primary objective is to work towards achieving learning outcomes whilst negotiating a complex interplay between their learning, the needs of the patient and clinical educator within the dynamic, supercomplex environment of placement. The clinical educator acts as a mediator and enabler who monitors and modifies the situation to mitigate placement tribulations and reduce negative effects of the challenges encountered whilst facilitating the students learning. The macro-environment is beyond the clinical educators’ ability to change, but the micro-environment has potential for modification.

The character of the micro-environment may differ from placement to placement, based upon the qualities of the individual student and how the clinical educator

responds to their learning needs and requirements. Students were generally viewed favourably, but where clinical educators have to manage behavioural issues with the student this can change the relationship both on the part of the clinical educator and the student. The student can impact upon the micro-environment character, influencing clinical educator agency, by being punctual, professional, and actively engaged with their learning.

The benefit of a 'good' relationship was reported as having a positive effect upon the learning experience for the student. The most successful clinical educator/student collaborations appear where the relationship enhances the placement experience (Adelman-Mullally et al, 2013). This facilitates the placement experience because the clinical educator gains insight into the student's needs and the student feels able to seek and receive critical feedback.

The main challenges highlighted as barriers to undertaking the clinical educator role were those of time and continuity. Time has two aspects, one the endemic lack of time that characterises the clinical environment generally and impacts upon the time available to undertake the clinical educator role; and paucity of time inhibiting the clinical educator's ability to allow the student to treat the patient. Where the clinical educators do not see the student frequently enough to build an informed opinion of their strengths and weaknesses in relation to practice, then the clinical educator viewed this lack of continuity, in terms of student development, negatively. A challenge for the student was the emotional and physical impact upon them. This was a theme that the students populated in the main, but is important because it impacts upon both the placement



experience and permeates into domestic life too. This is an area that might be open to amelioration by the clinical educator with greater awareness. For example, by watching for signs of physical tiring, being aware that some situations might be psychologically harrowing and giving the student a chance to debrief.

Students consistently report that as they recognise their practice has improved their confidence is increased. It is not possible, however, to say that where confidence is high that skills are necessarily commensurately good. It would appear that from other comments made that if students have a break from practice their confidence levels relating to skills and knowledge may reduce for a period of time until re-established once again through practice. Poor student-educator relations were unusual, but appear to reduce confidence levels in the student and inhibit the student's interactions with the clinical educator, which may impact upon the effectiveness of the placement.

#### **6.4 Evaluation phase (Cycle 3) - Thematic framework**

This section addresses the research questions in relation to the CPSPF and its influence upon clinical educator and student, framed within the context of the placement. The thematic framework consists of two superordinate themes; progression phase; and appraisal phase. A table of the themes that reside within those constructs and sub-themes are detailed in Figure 30.

<i>i. Superordinate Theme</i>	<i>ii. Theme</i>	<i>iii. Sub-theme</i>
<b>Progression phase</b>	CPSPF	Self-assessment forms
		Learning agreement
		Core podiatry skills
		progression schema
		TPACs
		Journal
	Teaching	Learning opportunities
		Teaching activities
		Feedback
		Competency recognition
	Learning	Skills acquisition
		Theory acquisition
		Progressing and developing
Learning processes		
<b>Appraisal phase</b>	Competency	Theory and practice synergy
		Achieving learning outcomes

**Figure 30** Themes underpinning progression and appraisal phase constructs

The sub-themes listed under CPSPF are deductive themes established a priori and are included in the framework analysis matrix whereas the sub-themes within ‘teaching’ and ‘learning’ were established inductively during the data analysis process. Figure 30 presents all the sub-themes, including those relating to the CPSPF, as discrete and linear, but they are in fact, interrelated

with and influenced by the structure of the placement context (macro and micro-environment).

***i. Superordinate theme: Progression phase***

This superordinate theme has three themes: CPSPF; teaching; and learning. These three themes present the CPSPF, a teaching and learning tool and how that facilitated teaching and learning in the placement setting.

***ii. Theme: Core podiatry skills progression framework***

The CPSPF will be explored first through examination of the sub-themes: self-assessment forms; learning agreement; core podiatry skills progression schema; TPACs; and journal reported in the next section.

***iii. Sub-theme: Self-Assessment forms***

The self-assessment form was designed to capture qualitative data regarding student's confidence levels in relation to the three skills areas targeted by the CPSPF both pre and post placement and included a skills confidence scale producing quantitative data. This sub-theme represents the data relating to the use of the self-assessment form.

Of the 15 student participants, 13 completed a pre-placement self-assessment form (1 not completed and 1 was lost between the clinical educator and student);

and, 13 completed a self-assessment form post-placement (1 was not completed and 1 student exited from the project and therefore did not complete one). Appendix 29 provides a breakdown of the data collection for each participant. Overall, there was a lack of engagement between the student and the clinical educator regarding the self-assessment forms (see Table 9), designed for completion by the student prior to, and for discussion at, the induction and end-of placement review. They were either not referred to or were just mentioned in passing by the clinical educator at induction.

Placement block	Self-assessment scale pre-placement	Self-assessment scale post-placement
2.1	3 (n=4)	3 (n=4)
2.2	3(n=4)	3 (n=4)
3.1	3 (n=3)	3 (n=3)
3.2	4 (n=4)	4 (n=4)

**Table 10** Frequency of self-assessment form completion

Analysis of the skills confidence scale (part of the self-assessment form) was undertaken to investigate the overall confidence levels for the students pre and post placement and to compare those with the ‘generalised self-efficacy scale’ completed by the students (see Table 10 on the next page). A Wilcoxon signed-rank test was used, due to the non-parametric nature of the data, to compare participants’ confidence levels pre and post-placement. The self-assessment scale showed that students were significantly more confident post-placement (Mdn = 3.0) than pre-placement (Mdn = 4.0),  $z = -3.06$ ,  $p < .05$ ,  $r$

= .62. The 'r' value signifies a large change in confidence in relation to practice skills, based upon Cohen's criteria of .5. Undertaking placement also demonstrated a significant increase in students' scores on the generalised self-efficacy scale (Mdn = 3.0),  $z = -2.02$ ,  $p < .05$ ,  $r = .43$ . The change in self-efficacy would be considered moderate to large, based upon Cohen's criteria of 0.3 – 0.5 (Field, 2009).

Placement block	Pre-placement GSE scale	Post-placement GSE scale
2.1	3 (n=4)	3 (n=4)
2.2	4(n=4)	3 (n=4)
3.1	3 (n=3)	3 (n=3)
3.2	4 (n=4)	4 (n=4)

**Table 11** Frequency of generalised self-efficacy scale completion

The skills confidence scale and GSES were presented to the student separately. Analysis showed that the skills confidence scale was sensitive to the students' changes in confidence levels in relation to their practice skill. The validated GSE scale supports these results, which also support the qualitative data analysis where students reported feeling less confident at the start of the placement, but that during the placement levels of confidence increased.

The self-assessment forms were used by a couple of students to reflect upon their progression from the start to the end of the placement. Analysis of the qualitative aspect of the forms revealed that at the 2.1 placement the main

issues were students having little or no experience in areas such as enucleation using the 15 blade. The issues were slightly different at the 2.2, 3.1 and 3.2 placements, where confidence in the use of the 15 blade was high, but not with the 11 blade. By the end of the 2.1, 2.2 and 3.1 placement, however, the students had experienced enucleation, wound care and dressing and had some opportunity to use off-loading techniques and silicones. The 3.2 placement student had some experience with wound care, but for the majority this still needed development, although other skills were felt to have progressed. Interestingly, the two students who had minimal direct supervision felt their skills and confidence had increased too.

### ***iii. Sub-theme: Learning agreements***

Data relating to the use of the learning agreement was allocated to this sub-theme, but engagement was poor (see Table 11), with just seven of the 15 students presenting it to their clinical educator. If completed, they tended not to be reviewed subsequently for a variety of reasons such as time pressures in the clinic, students not really valuing them and feeling that the learning outcomes from the portfolio must take priority. When used, however, they did provide insight into previous experiences, guided learning and helped to identify desired learning opportunities as this clinical educator explains:

*“...it was useful certainly at the beginning. We want to know what stage they are at, what stage they feel they are at and what they want to be getting out of the placement...” (Julian – interview 2.2)*

Placement block	Frequency
2.1	2 (n=4)
2.2	2 (n=4)
3.1	3 (n=3)
3.2	0 (n=4)

**Table 12 Frequency of learning agreement completion**

***iii. Sub-theme: Core podiatry skills progression schema (CPSPS)***

The core podiatry skills progression schema (CPSPS) was designed to detail the student's progression through their programme of study in terms of scalpel skill acquisition, wound care and off-loading in relation to the curriculum and theory underpinning those skills. Data relating to the schema's (CPSPS) use during placement was allocated to this sub-theme.

The schema appeared to have been used quite extensively by the clinical educators to support and progress the student and act as a reference document. Where inductions occurred, the schema was used by some clinical educators to identify current levels of experience and practical skills. As the placement continued the schema was also used to monitor student progression. In particular the schema provided an objective reference document, clarifying the students' expected skill level through their programme of study, outlining the specifics of the curriculum and highlighting practical skills, which were identified as absent from the learning outcomes in the portfolio. One clinical educator felt that the schema forced engagement with a range of issues and skills, rather

than just those for which the clinical educator had particular enthusiasm. The schema was used to identify learning needs and to set goals in relation to specific conditions and skills that the student had not yet experienced, but could be targeted from the patient caseload.

Due to the complexity of the schema most clinical educators reviewed the schema on a regular basis to keep focused on the task. Importantly, the schema clarified stages of development and concentrated the clinical educators upon the potential existence of a gap between theory and practice by identifying particular disorders that had not been experienced by the student. The schema was seen as important as a reference tool to check that by the end of placement all elements of practice had been achieved.

The schema clarified, for the clinical educator, the knowledge and skills expected of the student at each stage of the curriculum and helped to distinguish between appropriate expectations for a second and third year student. In particular it increased clinical educator confidence to identify where students had ability or were performing at a higher level than might be expected, or indeed, were underperforming. In this way it helped the clinical educators make judgements in relation to 'recognising competency', a sub-theme to the theme 'teaching'. This example illustrates the point:

*"...if the student is underperforming in something you can just go through it together [the schema] and think "okay, we're supposed to be doing this...so we need to be concentrating on whatever is not perhaps working so well"..."*  
(Annette – interview 2.2)



Increased confidence to undertake the role resulted in one clinical educator feeling she was a better educator and more confident to ask the student questions, because she viewed her role as not restricted to encouragement of the student alone, but also to challenge them regarding their knowledge and to attempt new skills, as this excerpt shows:

*“...when you start as a mentor you don't know what sort of standard they should be at. Some of the students will tell you things like "we haven't covered that"...if you've got it down there, you can say "on this placement at the moment, these are the things you should be covering". It does give you the confidence to feel that you are not asking too much from them...” (Elizabeth – interview 2.2)*

One of the perceived limitations of the schema was that all the medical conditions listed might not arise, nor was the list exhaustive. There was speculation that where certain conditions did not present it might be possible to identify them from another podiatrist's caseload, therefore providing a wider scope of experiences and focusing learning opportunities. The schema had utility to direct the clinical educator's mentoring, helping validate student competency, but did not need to take up valuable time with constant reference, particularly as clinical educators became familiar with it.

There was agreement generally amongst students that the schema was clear and well laid out and it influenced confidence levels positively. Having all the expectations listed was useful allowing students to evaluate progress regularly, use it to verify their own self-assessment and focusing attention on those skills still needing to be progressed by goal setting. Students used the schema to

review expected standards, looking ahead to the next placement and associated skills, which reassured them there was a logical progression. The schema provided a detailed overview allowing some students to use it as a reference tool in negotiations with clinical educators to gain practical experience. This student explains part of the schema utility for them:

*“...I think it gave me a lot of confidence actually knowing that you can do a lot of the stuff that you've got in your schema really and you can do it to a good quality and level...” (Brandon – interview 3.2)*

The 3.1 placement block students reported that the schema highlighted that some skills/conditions had not been experienced during the second year, and goals were set alongside the portfolio learning outcomes. The schema was felt by many of the students to be more useful than the portfolio for self-assessment of progress during the placement and for identifying skills to be acquired and conditions to be experienced, as this quote demonstrates:

*“...I think I found that [the schema] more useful than the portfolio in describing to them [clinical educators] what I had and hadn't done...” (Emma – interview 3.1)*

At the end of placement both parties reviewed the overall progress of the student using the schema as an objective tool. It was possible to identify achievements easily and where experiences and accomplishments had exceeded expectations. The schema provided an outline to the student of

expected development over the next placement, as this student excerpt illustrates:

*“...I've scanned across to the next one...it is nice to see where you should be going...you can move onto some more challenging or more technical skills. ...”  
(Gordon – interview 2.1)*

**iii. Sub-themes: Theory-practice acquisition checklists (TPACs) and Journals**

The TPACs and journal are reported together as participants found them to have similar qualities. In practice the student and the clinical educator often completed the TPACs together, rather than separately as designed. The completed forms provided a record of the types of conditions the students experienced and the division between observation and hands-on practice. Figure 31 provides an example for each student participant of the type of data recorded within the TPACs.

These forms were not widely used by the clinical educators, principally due to time constraints, but when utilised were found helpful for identifying student development and progression as this excerpt illustrates:

*“...it [TPAC] sort of focuses your head...What I tended to try and do was find them the most interesting thing in the day and then you do realise that you are moving things forward... Because they sort of become more complicated or perhaps you recognise something that you haven't been able to do up until that point...” (Annette – interview 3.1)*

Student & forms completed	Condition	Action	Theory	Student hands-on	Confidence level post-experience
<b>Amanda 15</b>	Heloma durum 3rd MTPJ	Enucleation	Not discussed	50%	4
<b>Brandon 23</b>	Sub-ungual heloma durum	Debridement & enucleation	Not discussed	100%	3
<b>Edwina 2</b>	Ulceration	Callus debridement	Not discussed	20%	4
<b>Eleanor 5</b>	Interdigital heloma molle	Debrided macerated skin with dressing	Considered pressure & footwear	80%	1
<b>Emma 8</b>	Verruca pedis	Debridement & application of salicylic acid	Not discussed	100%	4
<b>Fiona 15</b>	Plantar heloma durum	Chairside orthosis	Discussed materials & rationale for template	100%	3
<b>Kelly 8</b>	Plantar callus	Debridement with 11 blade	Not discussed	100%	2
<b>Laura 11</b>	Claw toes	Manufacture silicone toe prop	Discussed but no details	100%	4
<b>Ross 4</b>	Haem	Dressing & use of ferric chloride	Not discussed	100%	4
<b>Tom 11</b>	Amputee with heel fissure	Debridement with 15 blade	Orthopaedic footwear & orthosis	80%	4
<b>Verity 9</b>	Ulceration	Debrided overlying callus	Off-loading	100%	4

**Figure 31** Data recorded on TPACs

The students referred to the TPACs or journals infrequently during interview, but it was suggested by a few students that they duplicated one another to some extent. Where the TPACs were discussed, students focused attention upon the

theory underpinning practice with the structure of the form emphasising the learning experience. One student saw some similarities with a reflective cycle, because the form required the projection of what had been learnt into future situations and how it could be applied, as the student explains:

*“...It's more of a reflective thing [referring to TPACs] almost as if you go into the Gibb's cycle - what would you do better next time. I think that helps you, because the next time you look at it you think "how could I have done that better"..." (Brandon – interview 3.2)*

Where the TPAC was completed in conjunction with the clinical educator, it was used to review the patient encounter and comment on their performance as this student quote illustrates:

*“...we tended to try and do them together, so later on in the day we'd say "oh, that guy from earlier was good" and as we were filling them in we would get chatting. If we were filling a form in we would perhaps revisit it a little bit more and I would say what I thought was good or bad about it and so would they..." (Emma – interview 3.1)*

Of the 15 student-participants, nine kept a journal with about half of those producing a simple description of their learning experiences. For a few keeping a reflective journal of their learning was felt to be very beneficial to understanding the whole placement experience. Being part of the project was the impetus needed to commit to the task of journal writing for one student, who viewed completing the journal as integral and not negotiable as this excerpt illustrates:

*“...The whole experience of keeping a reflective journal I found was very useful... because you're always looking back at how you did something, how you felt about it, how you are going to improve... just having to write the journal was great for my learning...” (Fiona – interview 3.2)*

The use of the CPSPF overall appears to have been useful to both the students and clinical educators. The schema appears to have had utility for the majority of participants, whereas other elements were used to varying degrees, dependent upon the individuals preference.

## ***ii. Theme: Teaching***

The theme ‘teaching’ sits within the superordinate theme ‘progression phase’ and attempts to describe the complex interrelation that exists between teaching and learning in the practice setting. It is acknowledged that teaching and learning co-exist and are interrelated. Four sub-themes sit within the theme ‘teaching’: learning opportunities; teaching activities; feedback; and competency recognition.

## ***iii. Sub-theme: Learning opportunities***

Data relating to the promotion of activities used to identify moments when learning could be facilitated and/or supported are held within this sub-theme, along with data demonstrating how learning opportunities might be negatively impacted. Data were also recorded which related to the student perspective, where learning opportunities were reported to have been facilitated.

The clinical educators were all able to recognise a situation where a student consolidated learning by practicing a newly acquired skill or demonstrating newly acquired knowledge. The majority of clinical educators reported identifying experiences, which could be built upon when similar cases presented subsequently and can be achieved by reviewing the patient list. Patient interactions were used to help develop students' problem-solving skills by prompting them to explore solutions and then discuss alternatives if those solutions were not practical or appropriate. Some clinical educators also reported keeping the journals as helpful for identify learning needs through reflection. The think aloud method was used to provide insight into students' thought processes, allowing the clinical educator to perceive where learning had occurred or further understanding was still required. Another approach utilised by one clinical educator was to encourage the student to explain the rationale of their treatment to the patient to consolidate their learning. Demonstrating new practical skills was another popular technique used which was the precursor to the student taking on more responsibility with support over time. Here the clinical educator refers to asking the student to explain their rationale and expected outcomes:

*'...demonstration, I like to show them, and think out loud as well as regards to what I'm doing. And get the student when they come to a similar situation to do the same thing and tell me why they're doing it, what kind of end result they want and justify why they're doing it...'* (Julian – interview 2.1)

Learning opportunities can be impacted upon by other factors, such as the patient not wanting to be treated by a student or patients that are unsuitable for a student at that stage of their development. The student also has agency over

his or her own learning as this student illustrates when deciding to undertake note-keeping in the way she was taught at university. This extra effort provided more opportunity for the student to engage with the patient encounter by writing a full account and explanation for the decisions made. The student appeared to be aware of the benefits to her learning, as she explains:

*“...note keeping is much briefer than how we have been taught...I have decided though that I will stick to this formula [as taught by the University] as I find that it prompts me to write the important stuff in the right order...” (Eleanor’ journal - 2.1)*

The majority of students reported the schema helped to highlight particular learning needs and therefore stimulated the pursuit of particular learning opportunities to practise skills. There appeared to be plenty of learning opportunities within the clinical environment, in fact the main issue appeared to be choosing those situations which would yield the most benefit, particularly at the beginning of students’ training. The clinical educators’ journals contained multiple entries, describing how students were given opportunities to undertake a variety of tasks. It appears from the data that clinical educators are very aware of the importance of learning opportunities being tailored to the individual student.

### ***iii. Sub-theme: Teaching activities***

This section describes those activities where the clinical educator or student perceived an activity to be concerned with teaching. The placement context



offers a variety of 'teaching activities' such as demonstrating procedures to the student or observing the student in practice and providing feedback. Another technique recorded under this sub-theme was the think aloud method, used by the clinical educator to provide insights and rationale for decision-making, or explanation of procedures. Teaching activities usually start with a period of demonstration with the student observing, enhanced by the clinical educator using the 'think aloud method'.

Clinical educators all demonstrated skills when necessary with the student gradually taking over more of the treatment. Sequentially more complex challenges were identified with the clinical educator breaking down tasks into simple steps, thereby assisting the student's transition towards more complicated tasks. Observing the student whilst giving support and feedback was a widespread teaching technique and two clinical educators specifically concentrated upon breaking skills down into component parts in order to build skill acquisition. It is usually not possible for students to follow one patient's progress, but when it was possible it was thought to have teaching benefits, developing not only practical, but also theoretical understanding, because students were able to review their actions. Practical experience was given primacy with the clinical educator targeting specific pathologies encouraging students to read and research conditions to consolidate and extend knowledge.

Promoting a practice-theory synergy should be the chief endeavour, but a few clinical educators stated that due to the practical nature of podiatry theory could become less prominent. The data, however, revealed that core podiatry skills

theory was discussed and complex patient conditions provided opportunities to observe the student's capabilities in practice and explore theoretical knowledge.

As this clinical educator recalls:

*“...Charcot arthropathy with an ulcer over a bony prominence...we talked about why this had occurred and talked about pathology. So it narrowed that gap...”*  
(Julian – interview 3.2)

The schema highlighted the requirement for integration of theory and practice through the patient experience, emphasising certain skills whereby the clinical educator was then able to focus on the related theory as this clinical educator explains:

*“...debridement and then preventing a lesion occurring again and why you're doing it, why are trying to off load...using a silicone device ...”* (Julian – interview 3.1)

There appeared to be differences in teaching activities between the placement periods with regard to scalpel skills and wound care being the main aim of the teaching activities during the second year. Some students practiced without close supervision with the clinical educator checking treatments at the end, which has implications for monitoring student safety, providing feedback and monitoring skills progression. During the third year, students should undertake more of the treatment and care planning for the patient whilst developing problem-solving skills rather than simply providing answers. Supporting

students to take on more responsibility was encouraged, particularly in the third year, which allowed students to explore their own capabilities and build upon good experiences.

The students corroborated the clinical educators reports that a wide range of teaching activities were utilised and in addition cited being encouraged to ask the clinical educator and patients questions regarding presenting medical conditions. Third year students found the Diabetes Centre somewhat frustrating due to the lack of hands-on practice providing limited opportunity to develop practical skills. Rather surprisingly, however, the Diabetes Centre was reported by a few students as tedious due to the long periods of observation. Some students, however, reported it as very interesting, but also harrowing. This student recalls her experience:

*“...it was a whole day. I thought that was kind of boring. It should really just be a half day...” (Verity – interview 2.2)*

Some students, however, found being in that environment and observing specialist clinicians and how they interact and undertake their duties a useful teaching technique.

### **iii. Sub-theme: Feedback**

This sub-theme contains data relating to how feedback was given and received and linked strongly with other sub-themes: relationships; teaching activities;

confidence; recognising competency; skills acquisition; and core podiatry skills. Universally, feedback was viewed as an important tool for developing the student's skills and building confidence. Clinical educators reported providing feedback and being mindful of the student's response, whether it changed clinical practice or perhaps evoked an emotional response, such as appearing disheartened. Endeavouring to be positive, building rapport, and giving feedback close to the incident was generally agreed as good practice. Amalgamating feedback was thought to increase the potential for negative impact and feedback was therefore staggered. One clinical educator talked about being a role model, a type of constant feedback, where all actions potentially influence the student's view of what it is to be a health professional. In this example the clinical educator explains the importance of relationships and sensitivity to the individual:

*"...how much feedback can you give in one go before you have perhaps made them feel demoralised, because critical feedback if you give it in too large a chunk, can be a bit too much critical and not enough encouragement..."*  
(William – interview 2.2)

A good rapport was thought to be helpful in establishing a relationship where feedback was well received and acted upon, which enabled the clinical educator to identify where weaknesses and concerns existed. The clinical educator was then able to encourage and develop student confidence in that area. For students in the 3.2 placement block, feedback was felt to be less about developing the student and more about increasing confidence and reinforcing the student's actions (Clynes and Raftery, 2008) as this clinical educator explains:

*“...in a lot of cases it was just rubberstamping those decisions, because sometimes although they are doing things well, they don't always realise...”*  
(Annette – interviews 3.2)

Positive feedback from patients had the potential, not only to increase student confidence, but also provide an objective, external indicator outside the clinical educator-student relationship to the student. Although the patient is not qualified to make the judgement regarding competency it was viewed favourably.

Overall, feedback was viewed positively by students and as critical to becoming competent, increasing their self-confidence. The feedback from clinical educators tended to be verbal rather than written. Where feedback was coupled with discussion regarding the rationale for clinical decision-making and actions, this was viewed by students as an effective way of consolidating theory and practice. Data suggested that second year students did not necessarily have the confidence to judge their own performance and relied upon the clinical educator's external validation. One student commented, however, that some feedback related to the clinical educator's specific preferences and therefore these comments were not viewed as valid. In practice it appears the students pass this type of information between one another, so that they can operate in a way that reflects individual clinical educators' preferences. The student expands on this below:

*“...Every feedback they give is important...the only problem is that they have different opinions and different techniques. Me and the others now learnt to be 'oh this mentor today ok, we need to kind of adjust ourselves and change'. We are like chameleons...”* (Verity – interview 2.2)

For some, however, feedback was too infrequent, which has implications for student development and the clinical educator evidencing management of the student placement, which could become problematic if there was a dispute regarding the student's ability to progress. As the following extract shows, the student felt under-confident about their abilities and the feedback only related to the end result and not the process:

*"...obviously I got feedback saying "good finish - it's okay it's fine" at the end, but then I'm not sure if my technique was fine while I was doing it, whether it was right or not..." (Annie – interview 2.2)*

### **iii. Sub-theme: Recognising competency**

It is crucial that the clinical educator can recognise competency in order to know whether the student can progress having achieved the required level commensurate to their stage of study. Data relating to how clinical educators and students measured competency, either developing or attained, was collated at this sub-theme. This sub-theme interrelates with identifying 'learning opportunities' and 'skills acquisition'.

Clinical educators viewed competency recognition as the ability to gauge standards of competency. Time working alongside the student to make valid judgements about competency was highlighted as crucial. In particular, scalpel skills competency was reported as being easier to observe and recognise, but articulating what constitutes competency was considered more challenging.

Third years were considered broadly competent to work without close supervision with the clinical educator in a neighbouring clinic, checking the treatment and care plan. However, students from all stages reported working alone on occasion. This suggests that the clinical educator was willing to offer different learning experiences to students, not relying upon the student's stage of development alone, but making a decision as to the individual's competency. Clinical educators' stated that they appreciated during training students may not always recognise the limits of their practice and cannot 'know what they don't know.' This has implications for students working on their own with minimal supervision as the student may not ask for help at appropriate stages, because they do not understand the ramifications of their actions. This clinical educator gives a good example:

*"...perhaps a lack of knowledge of the importance of wound care... How things can deteriorate with somebody who's at risk...I don't think she realised that some of these things can go badly wrong if they are not checked up on and looked after..." (Annette – interview 2.1)*

The majority of clinical educators viewed the schema as a helpful tool for defining the expected skills level at each stage of learning and assisting them in determining competency by linking it with expected theory and skills acquisition. It was deemed easier to recognise competency in a student close to registration by making comparisons to a registered practitioner. The students attending the 3.2 placement were felt to compare favourably to the appropriate level stated on the schema and over the course of the placement students that worked alongside the same clinical educator were viewed as becoming independent

thinkers and competent practitioners. The following comment illustrates how the schema assisted in defining competency:

*“...in the second year I think the schema is much more useful, because you can forget where they are meant to be. Whereas at the end of the third year you know they should be pretty much a rounded practitioner...” (William – interview 3.2)*

Students measured competency against learning outcome sign-off, the level of responsibility permitted, and praise received. Setting new challenges and achieving them was also viewed as an indicator. For some students there was a gradual awareness of competency, of taking ownership of the patient encounter and undertaking the whole patient treatment. Clearly, clinical educator validation was important, but there were other indicators too such as the patient haem rate decreasing, (suggesting improving psychomotor skills) or decreased intervention by clinical educators, patient complexity or feedback, all acting as positive gauges for competency.

This section has brought together four sub-themes under the theme ‘teaching’. ‘Learning opportunities’ and ‘teaching activities’ have common features, and the separate themes seek to explore how teaching activities may be more effective where an awareness of learning is apparent. Feedback and competency recognition appear critical to the process of developing the students’ clinical abilities.



**ii. Theme: Learning**

The theme 'learning' sits within the overarching superordinate theme, 'progression phase'. This theme has four sub-themes: skills acquisition; theory acquisition; progressing and developing; and learning processes.

**iii. Sub-theme: Skills acquisition**

This sub-theme encompasses the data relating to practical skills acquisition and the types of skills developed. A strong relationship between 'teaching activities', 'competency recognition', 'feedback', 'learning opportunities' and 'learning processes' was apparent. When mentoring the student in practical skills, the clinical educator attempts to synthesise all these sub-themes to support the student in achieving competency.

Students require practical opportunities for skills acquisition to occur, which was achieved by the student gaining hands-on experience with patients. Initially, the clinical educator would demonstrate and then allow the student to practice under close supervision. Both clinical parties reported multiple opportunities for hands-on experience with a range of skills throughout the interviews and journals. The students listed clinical educator demonstration, observation by the clinical educator and feedback as the main ways in which skills were developed alongside role modelling.

Practice opportunities and theory application and testing were both reported in terms of advancing debridement skills. There were opportunities to practice a wide range of debridement techniques required for different callus quality and position, with the majority of students feeling much less confident with the 11 blade than with the 15. The issue of clinical educator blade preference was a problem for one student who had been signed off for scalpel skills at a previous placement, but her new clinical educator was unhappy with her 11 blade skills and trying to develop these skills became contentious. This highlighted a lack of consistency between placement areas as the student explains:

*“...she said that I was really good with the 15 blade and that I wasn’t so confident with the 11 blade. But I said to her that in my last placement all they used was the 15 blade, they hardly ever touched the 11 blade...because I was so good with the 15 they signed it off...” (Felicity – interview 2.2)*

Practical experience is essential in terms of wound detection, classification, dressing choice, application and understanding healing stages and barriers to healing. The majority of students were exposed to and experienced wound care. There were also opportunities to follow the progression of patients and their wound management for some students. Due to the high-risk nature of some patients it was felt inappropriate for a second year student to have active practical experience and to only observe.

There was strong evidence provided by the clinical educators and students that off-loading was frequently addressed, but there was less evidence that this

extended beyond off-loading to functional assessment. Off-loading techniques appeared to be encountered frequently with widespread reports regarding the manufacture of silicone devices, padding and musculoskeletal assessments being undertaken. There was evidence that the students had opportunities for practical skills experience and theoretical knowledge was also encouraged as this student explains:

*“...Emily was saying to me ‘why is this callus here, what would we do with it...?’ And the same with William in MSK asking me lots of questions and how to off-load.” (Amanda – interview 2.2)*

The majority of students stated that musculoskeletal therapy theory was challenging and confidence levels in relation to assessment, treatment and management of these types of cases was low. Two students in the 3.2 placement block, however, did report feeling more confident in musculoskeletal therapy by the end of the placement.

### ***iii. Sub-theme: Theory acquisition***

Theory acquisition is critical for the development of a problem-solving clinician rather than a technician able to perform practical skills, but without necessarily appreciating or able to apply the underpinning theory and knowledge. Data relating to the types of theory and knowledge that were reported by clinical educators and students and how that theory was acquired was recorded within this theme.

The findings showed the clinical educators to be cognisant of the requirement to underpin practice with relevant theory in relation to acquiring the requisite core podiatry skills. The clinical educators all reported addressing theory in relation to off-loading wounds, some theory relating to foot deformities, off-loading in general and callus formation and the students were deemed to be actively engaged in this process. Theory was discussed with students and the schema was used to maintain focus on the required theory.

The majority of clinical educators reported that the student often acted as a catalyst for re-evaluation of their own practice, such as reflecting upon the student perspective and their struggle to make sense of the clinical environment. The following extract illustrates how students' questions stimulate discussion and can lead to discussions of theory:

*"...She said to me "how do you know it's an ulcer and not just skin". Which is very valid isn't it? And I had to really think about that. Because once you know what they look like, you just know..." (Annette – interview 2.1)*

The students reported that the clinical educators' questioned them about callus and ulcer formation as this student explains:

*"...she would ask you "what stage do you think that that ulcer has got to". So you'd be thinking 'is it granulating'... trying to work out what stage they had got to in the wound healing process..." (Tom – interview 3.1)*

The clinical educators also provided explanations as a commentary whilst the students practiced their clinical skills. Engagement with practice and exposure to the patient provided different cues and assisted the student to think differently about the theory taught at University, helping to couple theory with practice.

The patient embodies the complexity of human anatomy, physiology and psychology and the student must attempt to deal with the presenting pathology.

This student explains why placement was the best place for them to learn:

*“...Practice placement is the best way I can learn, because I very much learn by doing and then I can tie in the theory at the same time, because I can sort of visualise it in a sense...” (Gordon – interview 2.1)*

### **iii. Sub-theme: Progressing and developing**

This sub-theme captures data relating to the process of student progression and development as viewed by the clinical educators and students. This sub-theme linked with ‘teaching activities’, ‘skills acquisition’ and ‘theory acquisition’.

The clinical educators’ all appeared to have their own philosophy regarding how they progress and develop students towards ‘theory and practice synergy’ and core podiatry skills acquisition; for example, providing hands-on experience with an opportunity to work with complex/high-risk patients. The schema helped decision-making regarding patients suitable for students to treat and was a good reference guide in terms of the level of skills competency that could be expected at each stage. One of the clinical educators described the schema as mapping the student journey, reflecting the students’ progression and

development in terms of core podiatry theory/skills and providing a systematic approach. For example, where padding skills needed practice the clinical educator tried to develop student's skills by gradually increasing the complexity of the task. To develop skills effectively, the clinical educator must employ a strategy for the development and progression of the student, requiring active engagement in the process by the student if it is to be successful. The following excerpt illustrates this point:

*“...The progression with [her] scalpel technique had been enormous and a credit to the student’s application and courage to keep practising. She will do well because she had a good mental attitude...” (Annette’s journal 2.2)*

Students reported that the clinical educator identified readiness to progress, even when on occasion the student felt that the challenge might be beyond their capabilities. The majority of students recognised their own progression and development as a gradual realisation that they were able to complete tasks capably. This student describes the situation:

*“...it's all experience and... it accumulates and I just felt one day, "actually, yes I can see a significant difference from how I started"...” (Gordon – interview 2.1)*

Most students viewed gaining experience on placement and making a few mistakes and then acting upon feedback as part of the developmental process. Confidence appeared to be linked with progression and there was consistent reporting by students that as they attained a new level of skill this created more confidence in them. Overall, students felt that they were equipped by the end of

the placement for the next stage in the programme and had progressed to the required standard.

Achieving learning outcomes was viewed as commensurate with skills progression and for some reflection upon the TPACs and journal documented and affirmed their progression. There was widespread evidence that students focused on the summative completion of learning outcomes to help direct and focus their practice. The students' perceived that the clinical educator was cognisant of their need to develop skills in all areas and did this in part by identifying new challenges and experiences where the student could practice skills:

*"...Looking through a patient list and saying "this patient has got calcaneal callus, you haven't done that yet, have a go at that". We were looking for patients with HDs [heloma dura] because that was something I really wanted to practice..." (Kelly – interview 2.1)*

### **iii. Sub-theme: Learning processes**

This sub-theme differs from 'learning opportunities' because it relates to participant comments suggestive of learning actually occurring rather than identifying opportunities where learning might occur. The sub-theme also includes situations where learning was consolidated and identifies potential barriers to learning. Learning processes linked strongly with 'teaching activities', 'feedback' and 'theory acquisition' with the clinical educator asking questions and correcting misapprehensions as necessary.

It was recognised that the clinical environment was complex presenting numerous demands on the clinical educator. By encouraging the ‘think aloud method’ the student’s decision-making rationale was revealed, questions regarding theory could be asked, thus providing insight into learning progress to date. Consolidation seems to be a key learning process facilitated through student exposure to multiple medical conditions and patient types. Opportunity to work through the whole patient experience, problem-solving and processing the complexities of the encounter was viewed as important to learning by both the clinical educator and student. Learning from mistakes was viewed as a valid way of developing skills and this clinical educator provides a good example of this process in relation to scalpel skills:

*“...on one patient she did three ‘haems’ and she said, “that was dreadful”. Well these things will happen from time to time. And she said “I think I have probably realised that you start by under operating and then you over operate”. I said “yeah, because actually you can’t find that fine line until you’ve done it too far can you”...” (Annette – interview 2.1)*

Practice placement supports experiential learning coupled with the opportunity for the student to interrogate the theory they have been taught and how this underpins their actions. Students had numerous opportunities to experience first-hand situations where hitherto they had theoretical knowledge only. The clinical educators used direct questioning techniques with the students to test knowledge, which was felt to facilitate learning. There were opportunities to discuss patients once the patient had left the clinic or during times when patients failed to attend for appointments as planned. Interestingly, third year students found having their own patient list pressurised, but it was helpful in



developing time management skills. This student describes how she reflected upon her progress to help maintain motivation on days when more adverse situations or events occur:

*“...I think it does you good when you do have a bad day to think back on how much you have learnt and how far you've come really... So I am still really fired up and positive and happy with what I'm doing. But I do feel I'm learning all the time. I love the learning side of it, it's great...” (Emma – interview 3.1)*

Barriers to learning were suggested, such as the focus on portfolio learning outcomes from the outset of the placement detracting from a holistic experience of the placement. Long periods of observation were viewed by some students as tiring and boring, which may compromise learning. Students working for periods of time in physically difficult or challenging situations may also impede learning, because the physical discomfort becomes the focus as this student explains:

*“...we went to a home and we had 10 patients in the morning and...our backs by the end of the morning, we were... in so much pain. I was almost crying it was hurting me that much...” (Felicity – interview 2.2)*

This section presented the data held under the theme 'learning' which comprised four sub-themes: skills acquisition; theory acquisition; progressing and developing; and learning processes. This theme sought to explain the complex journey of the student acquiring clinical skills and the gradual learning and progress to the point where they become competent. The next section

considers how this competency is judged and what it actually means for the students' progression.

***i. Superordinate theme: Appraisal phase***

The appraisal phase describes the final stages of the students' journey where they will either have successfully achieved the learning placement objectives or will be referred. All the previous sub-themes are intrinsic to the outcomes of this phase.

***ii. Theme: Competency***

The theme 'competency' presides over two sub-themes: theory and practice synergy; and achieving learning outcomes. This theme encapsulates data relating to the judgement of the students' abilities against the learning outcomes within the portfolio; an objective measure based upon the achievement of the learning outcomes.

***iii. Sub-theme: Theory-practice synergy***

The author uses the term 'synergy' rather than integration, because integration suggests that an event has occurred where two elements have interlocked and still have their own characteristics, but are working together. Whereas, synergy is used to suggest two elements coming together to create something new; two

elements combining to produce something greater than the sum of the individual parts.

All the participating students passed the portfolio learning outcomes. There was widespread agreement by the clinical educators and students that they had achieved competency in the core podiatry skills of debridement, enucleation, wound care and off-loading appropriate to the stage of training. There were also some comments from clinical educators with regard to the requirement for continued development for those students not about to graduate. All the students near completion of the programme stated they felt ready for registration and the incumbent responsibility. There was evidence throughout the data that students were questioned regarding theory and practice simultaneously and that students identified situations where theory and practice started to synergise, for example:

*“...Theory linked to practice by doing it with me. I feel like if I'm doing something and I can relate it to past experiences and to the theory that I've learnt maybe at the training clinic or uni, then I can understand why I'm doing it rather than just reading it...” (Jasmine – interview 3.2)*

The schema was felt to highlight certain conditions reminding the student of theoretical aspects of practice helping to link theory with practice. This clinical educator explains how he encouraged the student to problem-solve, thereby linking theory and practice:

*“...We had a patient with a healed ulcer. I went over ways of actually trying to prevent that returning using otoforms [silicone] and there were several examples...of her making them where they improved. You could see that the knowledge had increased and the theory – practice gap had closed...” (Julian - interview)*

The way that students thought about theory and practice became more connected over the four placements. Students progressively viewed the patient holistically rather than acting as a technician and carrying out tasks without application of theory. This progression from technician to clinician may relate to the student gaining more theoretical knowledge over time, more practical experience, and having more understanding of what the placement seeks to achieve. Students consistently reported that the clinical educators were actively involved in their development towards becoming practitioners and specifically in linking theory with practice. This student reflects upon her clinical educator’s role in her development:

*“...Elizabeth offered support throughout, and we always took the time to discuss caseloads, both pre-and post-treatments. This maximised my learning and helped to answer any questions. It definitely helped put my theoretical knowledge into practice...” (Fiona’s journal 3.2)*

### **iii. Sub-theme: Achieving learning outcomes**

This sub-theme relates to how learning outcomes were achieved by students and the types of assessments undertaken in order to demonstrate they had reached the required standard of competence.

Clinical educators' reported they used a range of assessments strategies to assess students' competency, such as student observation, questions and answers and report writing in the main. Another approach taken was for students to remind clinical educators of the day's events and explain, in their opinion, how they had met the required standard. For some the assessment of learning outcomes was pre-arranged, using the patient's notes to identify opportunities. Where difficulties were encountered because appropriate patients were not available, students were asked to consider a scenario generated by the clinical educator and then to answer questions in relation to that scenario. All students reported satisfaction with the way clinical educators undertook assessments. There was evidence that students were encouraged to settle into the placement area for a period of time before starting to address learning outcomes. This gave the clinical educator some time to observe the student's overall capabilities as this student explains:

*"...like Adrian said "I don't want to sign you off for the first two weeks. I feel you need to sit down and do it"... It was only the last two weeks that I started getting things signed off..." (Edwina – interview 3.1)*

The majority of students received at least some written formative feedback although it was generally infrequent, with one student receiving none, which was particularly concerning as this was their first placement. Lack of feedback created anxiety partly because it was an incorrect procedure and partly because there was no concrete record of events detailing their progress towards summative assessment. It was suggested by one student that the lack of formative feedback might have reflected the clinical educator's lack of time.

Most students were signed off for learning outcomes as they progressed, but some clinical educators preferred to do this towards or at the end of placement. For two students, where the learning outcomes were not signed until the last day of placement, this created anxiety as they were unsure whether they had passed. In contrast, one student was happy to wait for some of their learning outcomes to be signed off at the end of placement understanding the clinical educator's rationale:

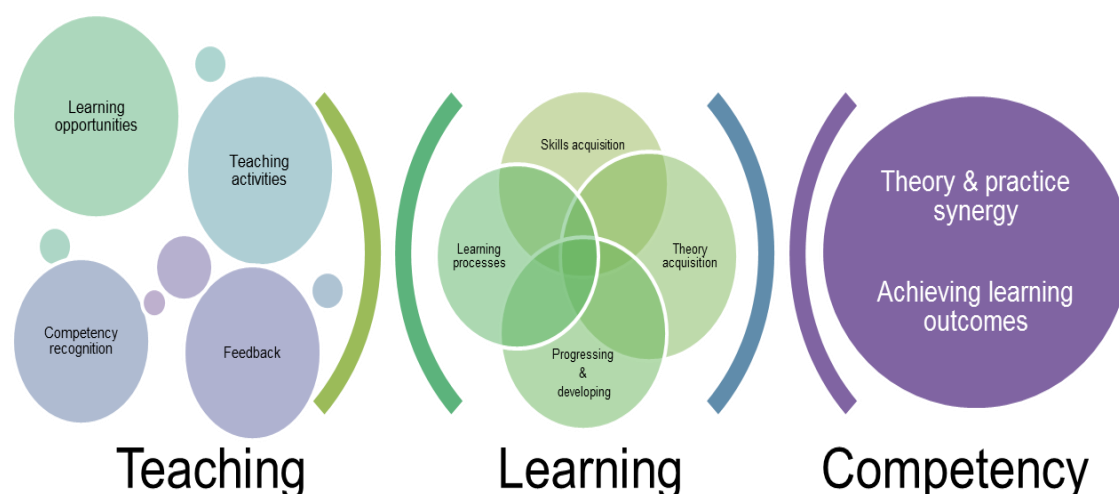
*"...I felt happy with him and I knew that more than likely he was going to sign things off and with the formative it's got to be a progression anyway...the final ones, he said "I'm going to do that at the end, because I'm going to watch you throughout and I'm going to ask our podiatrists what they thought about you". He was quite open about that as well. And I didn't mind that..." (Brandon – interview 3.2)*

Some students kept a mental note of which learning outcomes from the portfolio had to be achieved and sought out opportunities to practice certain skills. The formative period was used to gain as much experience before undertaking summative assessment and it was felt that there were opportunities for practice towards learning outcomes every day. Students were expected to manage their portfolio and to monitor the learning outcomes, negotiating with the clinical educator rather than expecting the clinical educator to instruct. There was evidence, however, that the student and the clinical educator reviewed strategies for completing learning outcomes regularly. Finding time to discuss the portfolio and get learning outcomes can be challenging as this student explains:

*“...I am finding it difficult to ask people to sign me off because everyone is so bogged down with paperwork that the only time available is at lunchtime or the end of the day and I don't like to ask then...” (Eleanor's journal – 2.1)*

### 6.4.1 Synthesis of thematic framework

Data analysis of the CPSPF and activities which support teaching and learning have been developed inductively into a theoretical model, which seeks to explain the complex interactions between the CPSPF and teaching and learning processes (see Figure 32). The CPSPF, and in particular the schema, was mapped directly to a number of the sub-themes. The strongest links were with learning opportunities; competency recognition; skills acquisition, progressing and developing; learning processes; and confidence. The illustration in Figure 32 attempts to represent the process by which the student becomes competent in a particular skill, which eventually progresses towards building a suite of skill competencies. These competencies eventually assemble into an array of skills that correspond with those required for an individual to be eligible for registration as a podiatrist.



**Figure 32** Dynamicity of teaching and learning in clinical practice

Practice-based learning is an extremely complex and individualistic evolutionary process. The 'teaching' theme represents a cyclical process where the student undergoes a learning opportunity within which a teaching activity has the potential to occur. Feedback is provided to the student during this process and the student and clinical educator look for signs of progression towards the desired outcome. During this teaching cycle there appears to be another mosaic process occurring, student learning. The theme 'learning' is a less easily defined process where skills and theory are developed and acquired. In a formal sense, the 'learning' appears to be driven by the 'teaching', but there is no embargo upon learning and the student may learn via many routes. These teaching and learning events continue, until the clinical educator and/or student establish that the process has concluded and theory and practice have synergised to a point where they are deemed competent in a particular learning outcome.

There was agreement across clinical educators that by the end of each placement all students had achieved the learning outcomes and proficiency required for their level of training. The third years were considered to be ready for registration by the clinical educators. Generalised self-efficacy scale and self-assessment forms support the view that students had greater confidence in their own abilities at the end of the placement. The learning outcomes appeared to be dealt with in a pragmatic way dependent upon the opportunities that arose and the time available to the clinical educators.



## **6.5 Reflection phase (Cycle 3) – Final ART meeting**

The LR met with the ART to present the findings of the second phase of the project in relation to the CPSPF and the resultant discussion led to a number of outcomes. Recommendations for future placements were made and feedback obtained regarding the group's thoughts in relation to their involvement in the project.

The findings in terms of those practices which were considered by the participants to be good and those that were less effective were presented to the ART. Recommendations to enhance the effectiveness of the learning environment were also made. The group consequently discussed practices that should be maintained and those requiring review. In the first instance the LR reported that the students found the placement to be welcoming, friendly, supportive and effective in terms of developing and progressing skills.

The issue of paucity of time was agreed by all the participants to be endemic, but with no easy solution. In particular, protected time was discussed by the ART, a factor identified during the first phase of the project which was known to be important for increasing clinical educator capacity to engage with the role. It was clearly valued by clinical educators and students alike, for planning learning strategies, monitoring progress and building rapport. However, from the interviews it was clear that this time was not always available. The problem was felt by the group to be due to timetabling mistakes or last minute changes or staff shortages. It was acknowledged by the group that when staffing

shortages occurred this could be difficult to manage at short notice. The LR advised the ART that this should be discussed with the placement co-ordinator at the University, as cancelling a placement may potentially avoid an unsatisfactory student experience, whilst putting staff under increased pressure. It was agreed that in future further guidance would be sought from the University.

Where the induction did not occur, but domiciliary visits were booked for the first session, this was felt to be unsatisfactory by students. It was agreed that avoiding domiciliary visits at the first meeting could be facilitated. There was, however, confusion regarding whose responsibility it was to undertake the induction and it was agreed this could be easily remedied by allocating the task to one individual, although an argument could be made that both clinical educators should undertake their own induction, mid and end-of-placement reviews to facilitate the learning process. The ART agreed that protected time was scarcer and due to service pressures it was not always easy to facilitate this time, when patients were not booked in for appointments, but it would continue to be the aim.

The physical, environmental and emotional impact of placement was discussed. This served as a reminder that students find the experience of placement tiring, especially where the environment is physically challenging, such as domiciliary visits. Learning new protocols, meeting new people, working with clinical educators and learning their idiosyncrasies, all contributed to the impact of the

experience. It was particularly noted that students valued highly the encouragement, support and praise provided by the clinical educators.

The clinical educators approach to the role was discussed, in particular that students liked to be asked questions, and valued being allowed to undertake the whole patient experience, which built confidence and helped them recognise their skills development. Students viewed being allowed to work with a patient without close supervision as a mark of the clinical educator's confidence in their abilities. However, if this occurred when the student did not feel confident about their skills, the concomitant lack of feedback was perceived negatively. One of the clinical educators reflected on how they had re-examined their working practices and decision-making following involvement with the project, in relation to the level of supervision they provided. They felt that in the past they had put students in a clinical room before they were perhaps fully prepared. The schema had utility to assist the clinical educator in making these types of decision.

The interviews and personal journals raised an issue around the use of the 10 blade. One student had used the 10 blade with the clinical educator and one student appeared to have used it for the first time unsupervised. The LR brought to the ART's attention, that use of the 10 blade is not currently taught at the University and therefore the student has no insight into how this blade should be used and what specific challenges it might present. It was decided that the LR would raise with the podiatry programme at the University the potential for the 10 blade to be taught in the skills laboratory and that the team

at the placement area would be made aware that students may try and use this blade, but that this was not appropriate without suitable instruction and monitoring.

The reports from students that the Diabetes Centre was felt to be tedious were recounted to the ART and were received with surprise. It was decided that a workbook to focus the students' learning and provide some structure to the experience would be beneficial. The LR and Helen would work together to produce and evaluate its success and utility (refer to Appendix 31).

Following the discussion by the ART, the following outcomes were agreed:

- Where last minute changes to staffing occurred this would be discussed with the LL at the University to consider appropriate options collaboratively.
- The placement area would continue to try and support the allocation of protected time.
- Responsibility for undertaking the induction to be allocated to one particular co-mentor.
- To continue to give positive feedback to students praising and encouraging activities where appropriate.
- Clinical educators should continue to support students to undertake as much of the patient consultation as appropriate.

- Clinical educators to be aware that the 10 blade in the clinic might be used by the student without them having the necessary skill to use it.
- The LR to raise with the Podiatry Programme staff the possibility of teaching the 10 blade as part of the students' preparation for placement.
- LR and Helen to produce a workbook for use in the Diabetes Centre.

The LR reported that access to the student data had led to a number of recommendations that might improve the placement and mitigate any potential problems:

- For ground rules to be established regarding student scope of practice, to prevent students undertaking treatments that have not been agreed with the clinical educator when working without close supervision.
- Clarify for the student who can sign-off learning outcomes and when those opportunities will be made available to reduce levels of anxiety.
- To discuss with the student how confident they feel about undertaking consultation without the clinical educator being present.
- To establish that the student has the requisite standard of infection control and competency to undertake wound care by observing the student undertaking a number of wound dressings before allowing them to work without close supervision. It was agreed by the ART that a second year student should not undertake wound care without being closely supervised.
- Consider working with two students to one clinical educator with one student undertaking the consultation and then writing the notes during

the other student's patient consultation. Thus the clinical educator can always observe, but the patient throughput is not interrupted.

The ART accepted these recommendations and discussions moved towards reviewing the utility of the project as a whole. One concern related to how the placement area would continue to obtain specific and constructive feedback once the project terminated. The idea of an evaluation form for student completion at the end of placement was decided upon to continue developing the learning environment post-project. This was subsequently developed by the LR and Helen (see Appendix 32).

*Lead research comments:*

My last question to the ART was how they had found the process of being involved with the project. They confessed that none of them had managed to keep a diary of their thoughts, reactions or reflections, but all agreed with Helen that it had been :

*"...Excellent and all positive..." (Helen)*

In particular, the specific feedback regarding the strengths and weakness of the placement reported by me was highly valued by the group. Prior to the meeting I was concerned that if I shared some of the concerns I had with regard to where students worked on occasion without close supervision, in particular undertaking wound care without close supervision, that this would have a negative impact on the relationship between me and the group. Up

until this time we had worked together, but this was an instance where I had privileged information having viewed all the data, which they may feel had been interpreted incorrectly or was unfair in some way. I was extremely pleased that I could be completely candid throughout the feedback session and that it was a testament to the groups' commitment to the project and also the relationship that had developed between myself and the group. We all agreed that we had developed a better working relationship, because lines of communication were open and honest.

Indeed, since the official end of the project, I have received confirmation that the recommendations were well received by all the clinical educators in the Trust and that they have been implemented. The workbook for the Diabetes Centre is in use and there are plans for the clinical educators to make some amendments in order to increase the focus on off-loading of ulcers too. Currently, feedback on the evaluation sheet is awaited as students have only just finished the 2.2 placement.

## **6.6 Conclusion**

Importantly, the project has had real impact within the placement setting, highlighting some areas for improvement, but also confirming a huge amount of good and effective practice. Innovations have been implemented which should make the learning environment more effective in the Diabetic Centre which has considerable potential for learning, but is not being interpreted and accessed as

such currently by all students. The placement area has also taken steps to ensure that the feedback leading to change does not stop with the project.



## CHAPTER SEVEN: DISCUSSION

In this final chapter, the research findings of phase I and II are discussed. The two phases of the AR study are considered in the light of the overarching research imperative comprising three AR cycles. The contribution this research makes to the existing body of knowledge and to practice-based learning in podiatry is considered. Limitations of the study and implications for future research and practice-based education in podiatry are also explored.

### 7.1 Phase I discussion

This thesis sets out to explore practice-based education in podiatry using AR. The following section describes the main findings in the context of existing literature, which included a pilot study and the development of the CECE scale and the 'Practice placement survey in podiatry' data. The aim of the first phase of the project was initially to understand the character of the placement area where the project was conducted. The research questions were as follows:

- *How could the individual clinical educator's capacity to engage with the role of clinical education be measured?*
- *How could the factors that might impact on that clinical educators' ability to engage with the role of clinical educator be identified?*

### **7.1.1 Capacity to Engage with Clinical Education (CECE) scale development**

The response to the first research question was the development of the CECE scale. This scale is distinctive from other analogous scales in that it attempts to measure the clinical educators' capacity to engage with the role of clinical education, which incorporates dimensions relating to organisational and environmental influences. The pilot scale includes nine sub-scales of 74 items, which was reduced to 70 items following further analysis after the final survey. The nine sub-scales are designed to form one scale, but could be used individually.

Following the pilot study the questionnaire was considered robust and that the nine subscales had good internal consistency. The analysis undertaken confirmed the relevance of the nine wide-ranging areas developed from theoretical considerations and pedagogic experience, which were subsequently translated into the nine sub-scales as described in Chapter Four (Abey et al, 2013). The final study confirmed the scale's validity and reliability, which has utility to assess the capacity of NHS podiatrists to engage with the role of clinical education

Further research into capacity was undertaken, in response to research question two, via the final survey to explore the current landscape and compare it to the placement area participating in the project and to contribute to the wider issues of capacity-building; an area that had previously been secondary to the main focus of student allocations. The findings of the study showed four

variables identified as predictive of clinical educators capacity to engage in clinical education. These are listed and discussed below:

- Provision of protected time to facilitate and support students;
- A former or current relationship with the University beyond the clinical educator role;
- Assessment and sign-off responsibilities for students; and
- Volunteering for the position of clinical educator.

### **7.1.2 Relevance of Phase I findings to previous research**

#### ***i. Protected time***

Clinical educators being provided with protected time to undertake an induction and reviews outside of clinical hours was found to be predictive of increased capacity to engage with the role of clinical education. These findings support those of Jokelainen et al (2011) who found that protected time is valued by clinical educators. Supervising, facilitating and teaching students in the clinical environment are major responsibilities for clinical educators. In a multi-method case study by Finnerty et al (2006) the clinical educator-student partnership was found to be most effective when time was allowed for reviewing learning outcomes and provision of feedback. The literature relating to placement issues seeks to outline the roles of the clinical educator and the importance of time to meet learners' needs, for goal setting, assessment, and supporting the student (Neary, 2000; Hinchliff, 2001; Magginson and Clutterbuck, 2005; Rose and Best, 2005). These tasks cannot be effectively absorbed within the working week, but require time set aside to think, plan, communicate and facilitating partnership

formation. Absence of protected time may also lead to podiatry clinical educators performing extra mentorship duties in their own time as evidenced in the phase II findings. Also, lack of protected time was felt by the clinical educators and students to have a negative effect on the placement experience as a whole in findings of phase II.

Time should be embedded within the timetable for the clinical educator and student to reflect on the day's or week's events to underpin experiences with theory and spend quality time together (Myall, 2008), for pastoral support and setting of new goals and learning opportunities (Gopee, 2008).

Partnerships/relationships require a two-way conversation and input between the student and clinical educator, which can be facilitated by protected time (Nettleton and Bray, 2008).

In conclusion, one might speculate that where protected time is not facilitated, clinical hours (contact time with patients) and usual duties remain unchanged, and clinical educators will have less time for mentorship or feel more pressurised in the role. Where clinical educators, however, only have contact with a student on a fairly ad hoc basis they may require less time adjustment, because the planning and goal setting aspect is not required.

## ***ii. University relationship***

Some clinical educators declared a previous or current relationship with the University outside of the clinical educator role and consequently had a more positive attitude towards the role of clinical education. This finding supports previous work which has established loyalty links between a place of previous learning or where activity resulting in an award is currently being undertaken (McAlexander and Koenig, 2001). The concept relates to brand loyalty, where the university is viewed as the brand. Students' experiences of 'using the brand' by building relationships within that specific context seems to engender loyalty (McAlexander, Koenig, and Schouten, 2005). This loyalty appears to subsequently influence loyalty-related behaviours beyond graduation.

There appears from this study's findings to be a link between loyalty to the University and undertaking the role of clinical education. Perhaps those individuals feel they are operating within an extension of the University community, part of the alumni and with a responsibility to invest in the next generation of professionals. This is an area that would benefit from further research to expand and clarify the nature of this relationship and the benefits to be derived from it.

## ***iii. Sign-off clinical educator***

Increased responsibility in the form of signing-off learning outcomes was found to increase capacity in clinical educators. The sign-off role is undertaken by some clinical educators and relates to assessment of competency, possibly

requiring liaison with other clinical educators regarding assessment of student capabilities. The research relating to sign-off responsibilities mainly relates to nursing and Middleton and Duffy's (2009) work reveals concerns within the clinical educator community in relation to the extra responsibility and accountability of signing off third year students. This role confers a considerable extra responsibility upon podiatry clinical educators also, but the findings from this study suggest the role may also provide satisfaction. This is derived from working closely with students, developing their skills towards reaching a goal whilst offering intellectual discussion on theory too, a finding which has been noted in other professions such as nursing (Casey and Clark, 2011; Huybrecht et al, 2011).

The findings of this study suggest that clinical educators may find passing the student summatively a rewarding activity, where they have worked with the student throughout the placement. Where clinical educators are not given this responsibility it may have a negative effect, with the clinical educator having spent time developing a student, but not invested with powers to sanction that progression and achievement.

Trusts which delineate the sign-off role from day-to-day clinical educator duties, may do so as a result of hierarchies, which are aligned with title and salary. As a result the clinical educator possibly feels the lack of financial reward and status, thus undermining their efforts mentoring the student.

#### ***iv. Volunteering***

Where staff volunteer as clinical educators, levels of CECE were found to be higher. It would seem intuitive that individuals choosing the role are more likely to be well disposed to the responsibilities. Indeed, a previous survey into motivations for physiotherapy clinical educators undertaking the role suggested that motivation relates to levels of increased job satisfaction (Bennett, 2003). Not all individuals are necessarily suited to undertaking the role, given its complexity (Andrews and Roberts, 2003), but only recruiting volunteers to the task may not be possible for some Trusts.

These findings suggest that in the face of staff reticence, due to lack of resourcing and monetary reward, managers may have to take a pragmatic view and nominate individuals. This decision, however, impacts negatively on the clinical educators' capacity to engage.

### **7.2 Unexpected findings**

The final survey produced non-significant results in relation to the clinical educators' mentoring qualifications and length of experience. This was surprising given the evidence in other professions of the importance of qualifications to student learning (e.g. Nasr et al, 1996). A possible explanation is that the homogeneity of variance for this group may not be reflective of other groups studied in previous research. Within the podiatry profession, clinical education is a relatively new role with a possible maximum of 9 years' experience (in the regional area surveyed) and with a paucity of research in the

area of clinical education. It is also possible that less experienced staff are better able to understand the perspective of students than their more experienced colleagues, thus off-setting a lack of experience with increased enthusiasm for the role.

### **7.3 Phase I conclusion**

Phase I specifically focused on the development of the CECE scale and identified four factors which influence capacity to engage with clinical education. Establishing the factors predictive of clinical educators' capacity to undertake the role is important for the further support and development of placements in HE. Sustainable capacity-building requires involvement at an organisational, group and individual level and has implications for how placements are managed both locally and nationally. The CECE scale provides support for a wider conceptual understanding of capacity-building, which extends beyond the limits of increasing student numbers alone. Investment is needed to provide resources and opportunities not only to increase individual capacity, but also to ensure quality and effectiveness of training opportunities. If capacity for the clinical educator role can be enhanced, this in turn assists in creating effective placements, potentially increasing allocations and impacting upon attrition rates. The clinical educator role is a key resource within the whole system approach of capacity-building and these findings are important factors for facilitating individuals to undertake their role more efficiently. Financial constraints, however, within Trusts has led to a reduction in training budgets for nurses and allied health professionals (Sykes et al, 2013) with one UK Trust allocating only 0.9% of its overall training budget to CPD (Dean and Sprinks, 2012). Service



delivery appears to take priority over funding staff training, indicating that investment in non-medical training may be a low priority for budget allocation for the foreseeable future.

## **7.4 Phase II discussion**

Phase II of the project was conducted locally with a team of clinical educators with the aim of implementing a range of teaching and learning tools, the Core podiatry skills progression framework (CPSPF), to answer the following three research questions:

- *Does the CPSPFs have utility to facilitate clinical educators to progress and make assessments relating to students' skills and knowledge base using a standardised, stepwise approach, at the level commensurate with their stage of learning?*
- *Does the CPSPF support students to gain experience, skills and knowledge at the level commensurate with their stage of learning at an appropriate pace?*
- *What impact does the clinical environment have on teaching and learning activities?*

The phase was successful in its aims and was able to identify how the environments, both macro and micro, interdigitate by underpinning and

interconnecting with placement activities. Overall, the CPSPF was found to have utility to support and facilitate clinical educators and students through the placement experience. The CPSPF was an innovative teaching and learning tool and therefore not directly comparable to other tools. Some aspects, however, are well established and researched in the literature such as the use of portfolios and learning contracts and the findings of this project will be reviewed in light of previous research in the section below.

#### **7.4.1 Relevance of Phase II findings to previous research**

Constructs emerged from the research relating to the environment: the macro-environment and micro-environment. The macro-environment defines the larger societal and organizational aspects of the NHS and the micro-environment describes aspects that can be influenced by the clinical educators to create a more effective learning environment.

The focus of phase II was to evaluate to what extent the CPSPF was able to facilitate and support teaching and learning activity. From the phase II findings transpired the concept of the macro-environment which signifies the wider organisational structure and micro-environment the immediate dynamicity of the environment. The students reported a friendly and positive atmosphere in the placement environment that was the focus of the AR and that good relationships were established. These findings support previous research, where placement enjoyment has been linked with perceived quality (Rodger et al, 2011) and good relationships with clinical educators have been found to be

important to practice education (Ali and Panther, 2008), for socialisation and learning (Levett-Jones et al, 2009).

Students in the placement area viewed the community, that is the clinical educator and wider team as friendly and welcoming. This overall view was not changed by the infrequent interactions with an individual who did not display these qualities. This study, however, revealed other themes which impact upon the learning environment: clinical educator approach; relationships; challenges to mentoring; confidence; and placement impact. These dimensions were fundamental to how the student reacted to the learning environment and also how some of these aspects mitigated and contributed both positively and negatively to the learning environment, interacting with one another to modify and adjust a complex situation.

The findings of this project complement the concept of a community of practice (Wenger, 2000). The placement setting was a very strong theme throughout the data and appeared pertinent to every aspect of placement life. Wenger's (2000) description of a how a community operates can be used to explain the phenomenon and its importance. He describes a space where individuals engage in similar occupations and in so doing create a set of values of expected competency and standards by which existing members and would be members are judged (Wenger, 2000).

The findings in this study identified that the students were treated as full participants and were involved in many activities from staff meetings, professional discussion relating to specific patients, to service-user educational talks. Communities of practice have their own specific practices and terminology (Wenger, 2000) and for students entering the placement setting, the prospective community of practice, offers not only socialisation, but an opportunity to gain exposure to the knowledge-base utilised by those members (Fulton, 2013 p. 38). Although a novice, the student can function as 'legitimate peripheral participants', previously identified as important to student development and success (Lave and Wenger, 1991, cited in Andrew et al, 2009) contributing to the community/placement area whilst also undertaking activities that meet learning requirements (Spouse, 2001).

Part of the clinical educator role is to introduce the student into this complex environment and establish the aims for the student placement. The findings of this study found that where the induction was absent the clinical educators' opportunity for planning and student progression was diminished. The initial phase of placement has been described as a period where the student and mentor start to develop a social and professional relationship (Ali and Panther, 2008; Morton-Cooper and Palmer, 2000) and establish the student's aims, previous experience and knowledge-base. Phase I established this as important to increasing clinical educator capacity to engage with the educational role. From the student's perspective, however, the relationship with the clinical educator did not seem to be adversely affected where the induction did not

occur, but where subsequently they had opportunity to work with them regularly thereafter.

#### **7.4.2 Clinical educator role**

One of the main roles of the clinical educator is identifying appropriate learning opportunities, which abound in the placement environment. The schema assisted in identifying suitable opportunities for consolidation and progression and gave some structure for both parties, for example providing a peer agreed protocol with regard to the patient-types that the student could treat in the first instance. The thematic framework revealed that the clinical educators were able to identify learning needs, opportunities and utilise specific teaching techniques to promote learning. They recognised competency and assisted development and progression of students' skills, moving from being very supportive of the 2.1 placement students to a more hands-off approach with the 3.2 placement students. The clinical educators reported that identifying competency for 3.2 placement students is easier than the second year and it was felt to some extent the schema helped in that process clarifying expected achievements to date and current learning needs. It may also be partly that near the end of training the student's proficiency can be viewed more holistically, rather than the clinical educator concentrating upon discrete areas of competence (Talbot, 2004).

Both clinical educators and students reported the development of skills and competence which might be expected given the vast potential for experiential

learning within the clinical setting which has been commented upon by others such as Taylor and Hamdy (2013). The clinical educator talked students through aspects of a new procedure or asked questions that helped formulate plans for the student gaining new skills and/or knowledge (Spouse, 2001). Certainly, the findings evidenced that motor skills were taught and that concomitant theory was reinforced with the clinical educators and students proclaiming that this had led to a synthesis of the theory and practice by the 3.2 placement. Both the clinical educators and students utilised the think aloud methods to create a narrative and the clinical educators used the technique to break down complex tasks which was viewed as a useful tool confirming the utility of this approach as identified by Rose and Best (2005, p. 105) and Andrews and Roberts (2003). This appears to be a simple, but effective approach and has little impact upon the environment, although the patient may be a consideration if the information is sensitive or has the potential to cause distress.

The clinical educators put emphasis upon supporting the student, gradually moving the third year students (3.2) towards more autonomy which has been linked with quality learning experiences (Rodger et al, 2011). Instances were reported where students made minor mistakes which were accepted as part of the learning process (Warne et al, 2010) and prior knowledge was identified to help 'scaffolding' upon existing knowledge (McKenna, 2003b). This was achieved by the clinical educator probing the student's existing knowledge-base and assessing what they still needed to learn (Spouse, 2001). The educator provided considerable support initially, but overtime withdrew (faded) from the

situation as the student gained competence over the placement; a technique which has been described previously in the literature (Cope et al, 2003).

Familiarity with the curriculum and knowing what prior knowledge might be expected of a student is important for the clinical educator, particularly as the sequencing of new material is critical to the theory of scaffolding, as advanced organisers only work if the relevant foundation knowledge is in situ (Archer, 2010). The schema was found to be useful in establishing this baseline. The learning outcomes represent a form of scaffolding, but the induction could be described as a simpler form of scaffolding where, at the initial meeting, goals and aspiration are discussed, along with the learning outcomes that the student has for themselves (Taylor and Hamdy, 2013). In the findings the clinical educators highlighted the importance of the induction and mid-placement review as essential for goal-setting. Overall, the findings showed the placement area to be complex with the clinical educator monitoring the students' progress, managing the patient's needs, whilst identifying student learning opportunities under immense time pressure, elements that have been noted previously as associated with the clinical educator role (Adelman-Mullally et al, 2013).

#### **7.4.3 Student perspective**

The findings showed that podiatry students valued good relationships as important to the atmosphere of the placement and their progression.

Interestingly, those reporting a less close working relationship still developed and increased in confidence. Those less involved clinical educators were still

reported as friendly and welcoming, just not able to work on a day-to-day basis providing all the concomitant support. This suggests that relationships are an important factor, but not the only factor with the students reporting that clinical work became easier with exposure and practice and consequently their confidence levels increased as they completed previously challenging tasks with ease. It is perhaps worth noting that the third years did not have a close working relationship, but this is not the same as a poor relationship, which may have different consequences for the student's progression.

In the main the learning environment was reported as meeting the students' needs which has been identified as important for creating a positive learning situation and enhancing future staff recruitment from those satisfied students (Rodger et al, 2011). In the Diabetes Centre, however, second year students were unable to identify what learning opportunities were available to them within the melee. Consequently, the ART developed a workbook designed to help second year students' focus on specific aspects of the consultation to improve engagement and learning. The third year students, however, had the ability to make sense of this busy environment and identify areas for learning.

The students reported mapping themselves to the schema, gaining reassurance that they were at the level required, monitoring progression and identifying learning needs and also gaining an overview of their journey through a programme of study. This ability to identify and then seek out learning experiences, and in some cases use the schema to negotiate learning opportunities assisted students in self-directed learning (Knowles, 2003, p. 3).



Light and Cox (2001) suggest that where the student has control over goal-setting they are more likely to be truly self-directed. By providing the schema as a map of the learning journey the student may feel empowered to engage with how they progress that journey. There is evidence that the students made the programme's objectives their own by targeting specific learning experiences, similar to the way learning contracts are thought to work (Gaipman and Anthony, 1989). Interestingly, many students found the schema more useful as a tool for monitoring progression and identifying learning needs than the portfolio, especially for particular medical conditions that had not yet been experienced.

In accordance with other research, the findings showed that feedback was found to be integral to progressing and developing both practical and cognitive skills (Archer, 2010), whilst increasing student confidence in their abilities (Clynes and Raftery, 2008). Feedback was reported as task orientated (Eraut, 2004) and was received positively by students, which may in part have been due to the students' perception that their relationship with the clinical educator was a good one which has been found to temper how feedback is perceived (Clynes and Raftery, 2008). Feedback from patients was also well regarded. The validity of this, however, has been reported as suspect given that it does not correlate well with other parties' perspectives (Archer, 2010). During the developmental stages of the student, feedback appeared to change from constructive (corrective/negative) to reinforcing (positive) (Clynes and Raftery, 2008). As the students became more autonomous, so the feedback was utilised for reassurance purposes, which appears to be linked with increasing

student confidence in their own decision-making skills. The GSE and self-assessment scale both suggested that levels of self-efficacy had increased and students reported feeling more confident at the end of the placement.

Clinical educators and students used the term 'competency', but it is possible that the meaning conveyed may differ between individuals. This could occur, because most learning outcomes are a conglomerate of skills and knowledge and the portfolio does not have marking criteria set down, so the attributes of a skill may not be well defined for the student. The findings showed that students seek a range of different measures to indicate increasing competency. External factors are used to indicate progression and 'arrival' at a point where the student feels that they can 'do' the task, such as the clinical educator allowing the student to conduct certain procedures. Therefore, the data drawn together under this theme relates to competency recognition by the student are a constructed proxy; indicators only and may not truly represent competency, although it should be noted that all the students passed their practice placement portfolios.

#### **7.4.4 The core podiatry skills progression framework**

From the data analysis it was clear that the CPSPF was successful overall, but some elements had more utility than others. Students specifically attended the placement area to gain experience and achieve the portfolio learning outcomes with the support of the clinical educators. To this end the thematic framework demonstrated a stepwise approach by which the students observe, gain

practical experience, and ultimately all achieved the learning outcomes. The CPSPF was successful in that it appears to have influenced the effectiveness of that experience and facilitated the clinical educators in the task. There was evidence of students undertaking observation of the clinical educator and their behaviours and attitudes on occasion. Although students did not criticise these strategies when working with their allocated clinical educator, they found this approach less satisfactory within the Diabetes Centre.

The learning agreements were generally not engaged with, but the self-assessment forms were completed and where the induction took place these were found to be helpful. The TPACs appeared to assist in the integration of theory with practice and for some promoted reflection and prospective application of new learning. From the data it appears that the TPAC may be useful to those students who find the discipline of writing a journal regularly challenging. The TPACs offered a practical way of recording progress and determining areas for development quickly in the moment. Students and clinical educators used the personal journals, but some were a simple description of what had occurred rather than being truly reflective.

Current literature suggests that to achieve successful reflection a supportive placement context must exist with clinical educators and peers reinforcing its utility where there is trust and time to reflect (Mann et al, 2009). Certainly, the findings suggest that the placement environment has the potential to support reflection and for some of the students reflection was very important to their learning. In fact, the discipline of being involved in the project was cited as a

factor to their engagement with the process. It could be argued that the students viewed the noticeable involvement of the University working closely with the placement area as evidence of a wider support network and interest in providing a quality experience. This may have created a catalyst for the student to commit to keeping a reflective journal.

The students reported the placement as tiring during the day, and for most there will be competing obligations and interests during the evening such as travelling, academic assignments and family life, which make keeping a reflective journal challenging. The TPAC, however, appears to have similar utility to that of the journal, focusing attention upon the learning activity. These were often completed by the clinical educator and student collaboratively providing an alternative perspective for both parties (Mann et al, 2009) supporting the view that reflection was viewed as important. This joint activity may provide validity regarding the use of reflection for the student whilst contextualising the experience. Mann et al (2009) argues that a dynamic relationship exists between self-assessment and reflection and that one is dependent upon the other and may be sensitive to context and level of expertise. It is suggested that reflection with the clinical educator may assist the student in reaching more valid conclusions about their actions and future actions. The findings overall reveal a culture supportive of reflective practice, which may also have facilitated students' reflection in practice and in turn help address the challenges of the clinical environment.

The schema was important for informing the clinical educators of the curriculum and as a structure for informing and progressing the student through the placement. The clinical educators were able to establish very quickly the curriculum and where the theory and practice appeared within the timeframe outlined. This supports the theories of advanced organisers, (Ausubel, 1960) scaffolding (McKenna, 2003b) and the zone of proximal development (Vygotsky, 1978, cited in Andrews and Roberts, 2003) where clinical educators are able to target learning opportunities with knowledge of what information the learner is likely to already hold. The clinical educators reported the schema was a useful aide memoire to previous and current learning requirements. From this the clinical educator could map the student's progress and identify specific learning needs. This gave the clinical educators more confidence in their ability to undertake the role and to do it more effectively.

## **7.5 Phase II: Conclusion**

Active engagement with the environment as an aid to development of social and interpersonal skills is essential. The role of the clinical educator emerges as the promoter of learning opportunities and supporter of the student building upon existing knowledge (Kala et al, 2010). An important area of practice is the ability to make clinical decisions, also known as clinical judgements, clinical reasoning, and clinical inference (Thompson, 1999). The findings present evidence of the student recalling information and using and developing cognitive powers (McKenzie et al, 2013 p. 61) and the learner's ability to create new knowledge based upon existing knowledge and experiences. For the clinician where evidence-based care is paramount, decision-making has to be

justifiable and transparent, so any treatment protocols must be defensible requiring clinicians to be evermore questioning and reflective of their actions.

Putting theory into practice is complicated for the inexperienced student who has to interpret new situations, recognise what skills/knowledge may be necessary, access this information from their memory and then be able to integrate the information in the new context (Eraut, 2004). An experienced clinical educator may recognise 'learning opportunities' subconsciously, but having time to plan for students' learning needs rather than reacting in a busy environment to unexpected circumstances might improve the overall effectiveness of the placement. The CPSPF and the schema in particular provided the focus for the clinical educator to step back and assess the student's learning needs quickly and efficiently.

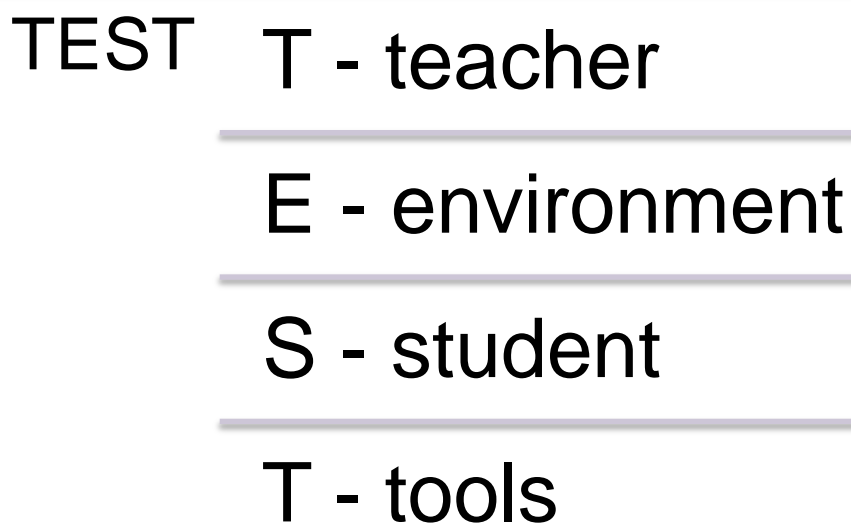
Given that the area of practice-based education is becoming more prevalent in undergraduate podiatry training (Morrison et al, 2011), it is important to consider how this research can inform, support and create more effective learning environments. As discussed, the environment, clinical educator, student and the tools used for teaching and learning are essential to establishing an effective placement. All aspects of the placement setting and players have a role and at different times certain aspects may become more dominant and require action or new strategy. The clinical educator has agency within the placement to monitor, modify and then manage each of these elements to work towards student progression. Therefore, the clinical educator needs to be

attentive to the micro-environment and make adjustments to manage the experience for the student.

The student is at the centre of the teaching and learning experience, and clear objectives must be identified, with the clinical educator confident regarding the student's progress to date including short and long term aims for the placement. Although, the student is not absolved of responsibility towards his or her own learning, they do not understand completely the cultural situation, nor have agency to make substantive changes. The student should, however, attend placement having availed themselves of the relevant paperwork and protocols with an attitude that is conducive to learning, displaying positive behaviours and attitudes. There should always remain, however, a commitment to negotiation where possible and acceptance that students will make mistakes as part of the learning process, so lines of communication remain open and aims are shared.

Finally, the clinical educator has to be aware of all the tools at their disposal and their utility. This may range from using techniques such as the think aloud method to contacting the link lecturer to ask advice regarding a learning outcome in the portfolio. To this end, the workshop introduced and reviewed pedagogical constructs and tools, which appear to have been helpful in orientating the clinical educator to successful teaching strategies. Using the CPSPF as a focus for utilising a range of resources and teaching tools could be used effectively with other clinical educators to generate positive attitudes towards clinical education. The CPSPF and, in particular, the schema have good utility for monitoring and progressing the student through the placement.

The acronym 'T.E.S.T' has been developed post-analysis to assist clinical educators to explore and monitor the important elements of designing and managing an effective placement (See Figure 33). 'TEST' provides a simple aide memoire accessing a much broader concept of the placement as a 3-dimensional experience operating within a structured organisation, but dynamic and unpredictable setting. For novice clinical educators the prospect of guiding a student through a seven week placement and making judgements regarding competency may appear daunting.



**Figure 33** Acronym for monitoring, modifying and managing placement learning

This simple acronym breaks down a complex task into segments, which demonstrates how monitoring, modification and management can be used to make adjustment to these areas of teaching, environment, student needs and



teaching and learning tools that can be utilised. By focusing on specific elements, such as environment, the problems can be deconstructed and may be isolated. Although it is unlikely that problems can be completely disentangled from the placement phenomenon totally, but establishing where the main issues lie may increase clarity.

## **7.6 Overarching research imperative**

Exploration of practice placement in podiatry using an action research framework was the main imperative of the project. The motivation for the AR project was to explore practice-based education in podiatry taking a collaborative, flexible, change orientated approach. The first two cycles (phase I) although not change orientated, but exploratory, led to theory generation in relation to identification of factors that enhance capacity to engage with the role of clinical education forming part of the conceptual framework of capacity-building for placement allocations. The third cycle (phase II) was change orientated, leading to the development of a teaching and learning tool contributing to the body of research pertaining to practice-based education in podiatry. This research project has been collaborative throughout all three cycles and has involved clinical educators as participants at both local and regional levels.

## 7.7 Evaluation of AR approach

The principles of AR underpinned and guided the research process and are therefore implicated in the success and limitations of the project. Williamson's (2012, p. 223) five-point evaluation approach provides a lens through which to view these strengths and limitations. The framework offers useful criteria for judging AR: generation of new knowledge; change production; an ethic of participation; rigorous methods of inquiry demonstrated; and transferability of findings. First, both phase I and II generated new knowledge. Phase I developed the CECE scale, which led to the identification of four factors found to be implicated in the capacity of clinical educators to engage in the role of clinical education. Phase II generated data regarding the teaching and learning activities within the placement context and demonstrated the utility of a teaching and learning tool. A coherent commentary of the complexities of the placement experience of podiatry students and clinical educators, the challenges and facilitators and importance of the placement environment has been elicited and described.

Second, the results from phase I have potential to produce change with respect to placement organisation at a regional level and recommendations regarding placement delivery to facilitate more effective placements. Phase II also provided a number of insights and recommendations, which have been implemented and contribute to enhancing the learning environment at the placement area where the study was conducted. Through the project, the working relationship and understanding between the parties involved has been enhanced.

Third, the LR has worked consistently to maintain an ethic of participation, which is evidenced through the consultation and communication with the ART throughout the project. Efforts were made to engage both service-users and students as part of consultancy groups to inform the project. This has led to one application for ethical approval and six substantial amendments and where applications affected the members of the ART directly they were invited to consent again. This provided an opportunity for all involved to reconsider their participation engendering a feeling of control and reiterating the planned activities, thereby clarifying the project aims and methods. The process of engaging with action research was as important to the LR as the outcomes of the study. The LR and the ART were part of a community of practice prior to the commencement of the project under the umbrella of the PDT (Wenger, 2000). The ART effectively extended the remit of the PDT and lines of responsibility were agreed and established. The LR was keen that decisions were made democratically and checked consistently with the ART that this view was shared by the group (Ledwith, 2007). The ART members undertook roles where access to Trust facilities and staff were not open to the LR, for example promoting the workshop and implementing the recommendations of phase II. The LR was tasked with researching data collection methods and analysis, developing protocols and paperwork and gaining ethical approval. Given the division of roles, the collaboration was considered successful with the experience viewed as positive, worthwhile, with open lines of communication established.

The ART operated at a strategic level, providing expert opinion on the project focus and design at each stage with the LR implementing the research in terms of design at an operational level. The ART members devoted their ideas, expertise and sincere interest in improving the experiences of student podiatrists engaged with practice-based learning. The LR was a motivational force throughout the project, committed to the principles of action research and its completion to add to the body of knowledge in relation to practice-based learning in podiatry.

Fourth, rigorous data collection and analysis methods were demonstrated throughout, particularly in relation to the survey design and the analysis of the qualitative research data using framework analysis. The LR has reported in detail the methods used and kept a reflective diary throughout the research process. Where appropriate these reflections have been reported within the thesis to enhance transparency. The LR has striven to be rigorous and transparent throughout the project, but undertaking research in a real-world environment where participants are engaged with other core activities will undoubtedly lead to some limitations, which are discussed in detail in section 7.8.

Fifth, the findings of phase I are directly transferrable to those placement areas that participated in the survey. Factors such as providing protected time, using volunteers as clinical educators and giving all clinical educators sign-off responsibilities could be incorporated and influence clinical educator capacity positively. It is reasonable to suppose that placement areas across the UK are

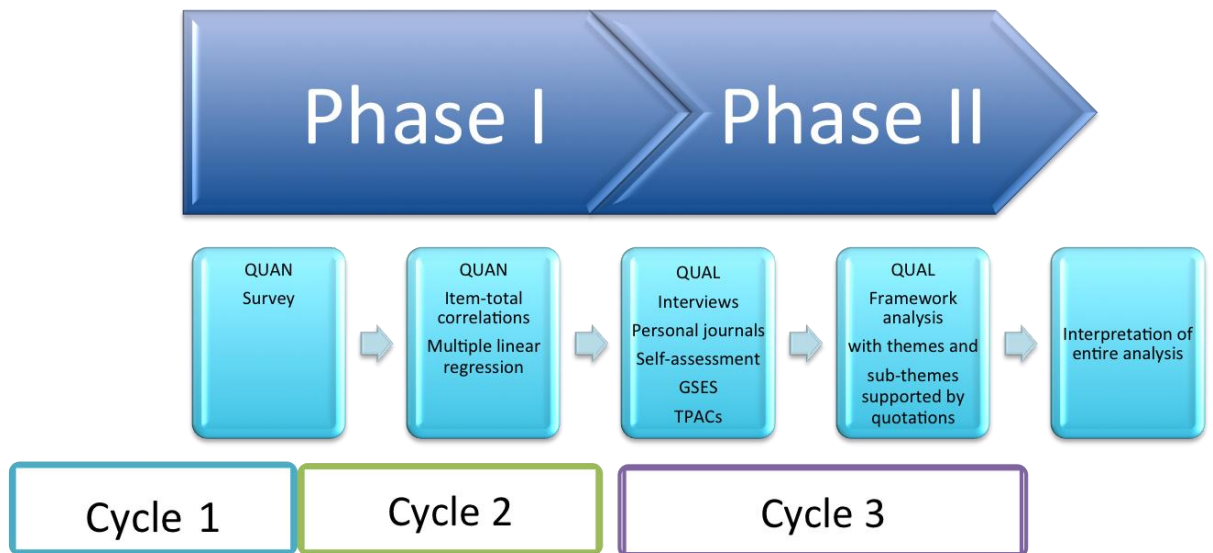
likely to have similar challenges and similar organisational structures within the NHS and therefore these considerations may also be applicable. Phase II is grounded in the context of the placement area studied, but the NHS podiatry services across the UK again are likely to recognise many of the challenges faced, for example, paucity of time and be familiar with many of the processes such as achieving learning outcomes. The teaching and learning tool would obviously require adaptation for other Universities to reflect their curriculum and requirements.

Using an AR approach engages main stakeholders with aspects of the research process from determining research aims to data analysis and has the potential for 'integrated knowledge transfer' (Bellman et al, 2011). Knowledge transfer, or translation, is a vehicle for disseminating and embedding research into practice (Straus et al, 2011). This project has created knowledge relevant to practice-based education, which has been evaluated at a local level, aspects of which have been assimilated into practice. There is the potential for new ways of working to not only effect participants' practice, but that of their peers through sharing new found knowledge.

AR allowed for a flexible approach to the research methods used, which facilitated the use of mixed methods, itself an approach that allows for a variety of data collection methods and research methodologies, such as AR (Johnson et al, 2007). In this case the utility of a mixed methods approach is evaluated retrospectively. The methods chosen were dictated by the AR cycles with the most appropriate methods then applied to answer the research question (Christ,

2014). The data were gathered sequentially over phase I and II of the project, connected via the overarching research imperative. The research design was enquiry and change orientated using both quantitative and qualitative methods taking a participatory approach (Creswell, 2009). Figure 34 outlines the overall approach across the two phases.

The project posed an overarching, wide-ranging question, with the research questions in phase I and II generated at each AR cycle. The utilisation of both quantitative and qualitative methods complement (Christ, 2014) and strengthen the overall project. Phase I supported hypotheses testing and generalizability, whilst phase II allowed for rich, detailed cross-case analysis (Johnson and Onwuegbuzie, 2004). Phase II elaborated and enhanced phase I, expanding the overall research breadth and range (Johnson and Onwuegbuzie, 2004) relating to the enquiry into practiced-based education in podiatry. Phase II also offered some triangulation of the data regarding the importance of protected time and challenges to clinical educator capacity at a grassroots level.



**Figure 34** Overview mixed methods approach

This formative and exploratory study contributes to the practice-based educative community in podiatry which begins to describe, analyse and evaluate this previously under-researched area. The broad focus upon core podiatry skills, whilst providing a framework of learning tools to guide the clinical educator and student through the complexities of practice-based learning in a structured way, is likely to be beneficial to clinical educators and students in other locations in the UK.

## 7.8 Strengths and limitations

It is acknowledged that there are methodological and analytical limitations for both phase I and II of this project. Phase I was limited in that the sample comprised podiatrists from one region of the UK which inhibits statistical generalisability across contexts. The sample area, however, represented a

combination of both rural and urban placement environments within a range of organisational settings of varying sizes. Although the response rate was adequate, advertising the survey more widely via other professional forums could have increased the rate. Scales such as the CECE are based on the assumption that respondents embody the trait being tested for and that the trait can be accessed and measured via the use of items to obtain a response (Spector, 1992). Attitudes are complex, but represent an individual's expectation that they will respond in a given way when confronted with an appropriate stimulus (Oppenheim, 1992). The scale was designed to minimise issues and optimise responses where possible, but it is impossible to eradicate all issues. By conducting a further national survey of podiatry clinical educators the sample size could be increased. This would capture a wider spread of attitudes and offer the potential for factor analysis, a powerful statistical tool for measuring individuals' attitudes and aptitudes (Field, 2009).

The CPSPF made a positive contribution to the clinical educators' and students' experiences, which may be beneficial in other podiatry placement areas, with some amendment to reflect differing HEI requirements. Time was reported as a barrier to engagement with phase II of the project and completing paperwork was challenging. Participants were required to undertake some activities such as interviews and diary keeping in their own time. Some participants produced more data than others in terms of TPACs (Theory-practice acquisition checklists) and personal journal entries and this undoubtedly led to some participants' thoughts and ideas being represented more strongly in the data than others (Bartlett, 2012). Where participants had kept diaries they often reported that



they reread them prior to interview and this may give more validity to the recall of their information, but also create a disparity across the data.

Although the participants were self-selecting they provided rich data, which met the aims of the study. All participants were aware that the LR had been involved in the innovation and design of the CPSPF, and the project contributing to the pursuit of an award. This may have led individuals to participate because they did not want to block the project or the LR's progression and to be more positive about the utility of the tool. The LR tried to negate this during interviews by reminding participants that the aim was to find out what worked well and what could be improved, so therefore honesty was paramount. Some clinical educators were interviewed four times and two clinical educators were interviewed only once or not at all. Again, this has the potential to over and under represent some views, but the LR was aware of this and tried to be vigilant and look for differences between the data to ensure that a less well represented view was not disregarded.

Researcher bias is an issue often raised with qualitative research (Ward et al, 2013). Framework analysis, however, is a systematic approach, which allows the researcher to remain close to the data and constantly check the original sources easily (Smith and Firth, 2011). The framework approach to data analysis made peer checking by an experienced researcher with respect of identifying themes and data assignment to those themes possible and straightforward (Ward et al, 2013), helping to mitigate researcher bias. A technique sometimes used by researchers to increase validity is member

checking; asking participants to read the researchers interpretations of their account (Rolfe, 2006). This process was not engaged with on two counts. Firstly, the third year students were no longer available to the researcher having left the University and secondly, it was felt that the burden on the clinical educators would be too great given their goodwill to date. Some of the clinical educators were interviewed multiple times using the same interview schedule, which enabled the LR to be vigilant looking for agreement and conflicting statements within the same subject during analysis. The LR was also mindful during interviews to gain understanding in the moment (McConnell-Henry et al, 2011) and therefore probe the interviewee to reach understanding.

Given the paucity of research in the area of practice-based learning in podiatry and the innovative design of the CPSPF, further research is required. Although, the case study is not statistically generalisable it is anticipated that the findings would appear recognizable and resonate with other podiatry services within the region. Conducting another case study with another placement area would assist in improving the external validity of the findings at this placement area (Cahill, 1996). An instrumental case study approach was taken to examine the phenomenon at one placement area, but by investigating relationships within a case, commonalities can be identified that occur across groups of related cases (Hammersley, 2010). This raises the possibility of making theoretical inferences, which are then generalisable to other similar contexts. Rich description also facilitates naturalistic generalisation (Van Wynsberghe, 2007).

## 7.9 Main conclusions

This action research project informs podiatry placement recruitment to the role of clinical educator and contributes both theoretically and practically to the corpus of research in the area of practice-based education in podiatry. The findings from phase I are of importance to HEIs negotiating placements and to those involved in strategic planning and policy-makers in the NHS. Phase II begins to illuminate and initiate discussion in the area of placements. The focus on the clinical educator within the conceptual framework of capacity-building established how individuals in that role might be positively affected by addressing the factors identified. Phase II has determined the importance of the clinical educator role within the placement setting and their capacity to influence the quality and effectiveness of the placement for the student.

Much of the literature used to inform practice-based learning in podiatry has been drawn from nursing and midwifery. The findings in phase II corroborate many of the findings from other health professions, but also depict a complex community with constant interaction between the environment and practice. The role of the clinical educator has been identified as critical for monitoring, modifying and managing those activities. The account of the placement setting was interpreted from data collected over one year, completing a placement cycle for second and third year podiatry students. It is anticipated that many of the placement areas, which are allocated podiatry students from this University, would find the explanations given recognisable and comprehensible. The recommendations based on phase II offer some practical suggestions, which may be particularly useful for the novice clinical educator. The role of clinical

educator is undoubtedly important for the development of tomorrow's podiatrists. The role, however, has yet to be fully recognised within podiatry for its importance and influence on the future of the profession.

### **7.10 Contribution to research and practice**

To date, there has been little research on podiatric practice placements. This project sought to contribute to research in this field, as well as to the development of the profession in terms of clarifying factors which help or hinder practitioners tasked with undertaking clinical education. The in-depth, mixed methods approach has enabled conclusions to be drawn about practice placement which may have implications beyond podiatry. In addition, the use of action research has facilitated direct influence on the placement area where the research was undertaken.

In the first instance, the CECE scale was developed to measure capacity of clinical educators to engage with the role. There is utility for the subscales that form the overall CECE scale to be used independently to assess specific areas of interest, such as providing data on factors which influence job satisfaction among podiatrists. Within the project, the CECE scale was integral to identifying four main variables which can be used to inform NHS managers at a local level interested in creating an environment which promotes capacity to engage with the clinical educator role.

In terms of podiatry practice-based education, this research informs recruitment to the role of clinical educator and has relevance for both HEIs negotiating placement allocations and for strategic planning and policy-makers in the NHS with regard to resourcing and time allocation. Currently there are changes to the organisation of placements with the introduction of the LETBs and monies are available for educational purposes within Trusts, which may become accessible by podiatry services for educational activities. Investment and planning is required to enhance and support quality, effective training opportunities. If capacity for the clinical educator role can be enhanced, this in turn may assist in producing effective placements, potentially increasing allocations and positively influencing attrition rates. For capacity-building to be sustainable, however, it requires involvement at an organisational, group and individual level as appropriate.

The findings of phase I may also be transferrable to wider HE contexts. Many professional programmes, such as teacher training, require students to undertake a practice placement as an integral component of their programme of study. It therefore seems plausible that the question of protected time, motivation to undertake the role of clinical educator and involvement in summative assessment may have relevance in these settings too, not only in that of health care, and should be considered when organising and planning placements across organisations.

Practice-based education is burgeoning in podiatry, but with little profession specific research evidence on which to inform practice. The second phase of

the project highlights how essential the clinical educator is to managing the placement and student learning. The CPSPF supported the clinical educator to work more efficiently, providing an overview of the curriculum, which assisted in scaffolding student learning by identifying appropriate learning opportunities effectively. The clinical educator clearly has a significant role in managing the placement and power to intercede and mitigate proceedings to achieve an effective placement for the student. This is not a linear activity and the environment is supercomplex (Lea and Callaghan, 2012) and likely to be perceived more so by the novice clinical educator. The CPSPF was successful in communicating and contextualising learning requirements, both for the clinical educator and student. It supported a variety of different teaching and learning activities such as feedback and reflection, and enabled scaffolding of student learning.

Ironically, training for the role of clinical educator is currently classroom based rather than practiced-based. This has the potential to sanitise the realities of student mentoring where the focus is upon the ideal and not the reality of working in a complex clinical environment. Opportunities for experienced clinical educators or link lectures from the University to work alongside new staff may be a way of addressing this issue, although time and resourcing may be a barrier to this enterprise. Access to experienced clinical educators is varied and therefore the acronym 'T.E.S.T.' may be helpful for the clinical educator in the field both practically and conceptually. By isolating different elements using 'T.E.S.T' it may be possible to identify one aspect that is more dominant or

significant that can be addressed rather than trying to address all the issues simultaneously.

Time was found to be one of the greatest challenges for the clinical educator and not easily resolved. Making use of unattended patient appointments is one way of maximising opportunities. The 2 : 1 model, where two students work with one clinical educator may also have some benefits. Whilst one student attends to the patient, the other student can undertake note-keeping. Although the clinical educator has responsibility for two students, the pressure for the student to complete all tasks within the allotted appointment time is relieved and task time is effectively doubled. This reduces the pressure on the student and clinical educator, but may have implications in terms of increasing the workload for the clinical educator in respect of providing two students with feedback and undertaking twice the number of assessments.

A number of project recommendations arise out of this work for practice areas. These include implementing protected time, supporting all clinical educators in the role of signing-off students and to request volunteers for the role. Training opportunities in the field where context and reality preside, perhaps using a tripartite approach, may improve on current practices. The clinical educator might work alongside another more experienced clinical educator, with the University link lecturer, providing mentorship regarding both practice, theory and curricula matters. These recommendations do, however, have cost and resourcing implications for the NHS and the University. The concept and implementation of 'TEST', however, could be shared with a wide audience

relatively easily via lecture or electronically to then be implemented by individual clinical educators. Further research in the area of practice-based education in podiatry is required to inform future practice and is essential for the training of future professionals and therefore the future prospects of the profession.

### **7.11 Implications for future research**

To investigate further the factors that influence capacity to engage in the role of clinical education, it would be beneficial to administer the survey nationally to all podiatrists who undertake clinical education. The scale could be developed to incorporate some of the other potential factors affecting capacity such as the number of students the clinical educator mentors per year, from other professions or other universities, perhaps on an ad hoc basis, which depletes their reserves for the role. It may be possible to undertake factor analysis with a larger number of respondents, adding to the statistical power of the findings. The scale could be further developed to include other healthcare professionals and subsequently applied more broadly to research the wider healthcare sector in the UK. Results from the large-scale administration of such surveys have the potential to inform strategic planning and policy-making. This might include providing insights into more effective ways of establishing placements, increasing overall capacity in clinical education and, ultimately, improving the learning experience for students.

Phase II provided a rich description of the practice-based learning activities. Increased confidence levels and skills development of students seem to be



closely linked, so that as skills progress, students report higher levels of confidence. It is not suggested that higher levels of confidence indicate a higher level of skill attainment, but further research may help to understand more clearly the complex relationship between the two themes. Students seek to measure their skill progression, and appear to not just rely on what the clinical educator says, but what the clinical educator actually does to demonstrate their confidence in the student's abilities. This has a positive effect on self-efficacy and as a consequence students report feeling more confident. This is a small scale exploratory work, but a larger scale study to observe the relationships between self-efficacy and skills development could be undertaken with constructs tested through larger samples and modelling.

## **7.12 Implication for practice-based learning in podiatry**

Given the paucity of research in the area of practice-based education in podiatry this study must be considered exploratory. Practice-based learning, however, is becoming more prevalent as integral to UK podiatry programmes and therefore is a significant step towards generating knowledge which is of national importance for podiatry. This research considers not just what the clinical educator does, but how they do it and this has been determined to be a complex and responsible role. Currently, the role of clinical educator is viewed as an add-on to the primary task of patient care, with no personal monetary reward and without associated status. The clinical educator acts in a leadership role, monitoring, modifying and ultimately managing the student's learning experience and assisting the student to undergo transformation from student to registered professional. This is not a one-way street, the student has

intellectual capital, which many clinical educators recognise and the students have energy and challenge the status quo of the clinical environment. Given the capacity of the clinical educator to have such influence over the student's confidence and learning, the value in the role, and the individuals who successfully accomplish the task, should be recognised and the role envisioned as an aspirational one within the profession.

## **Appendices section**

## Appendix 1 Diagrammatical representation of the three action research cycles

Phase I		Phase II
<b>Cycle 1 – Pilot study</b>	<b>Cycle 2 – Final survey</b>	<b>Cycle 3 – Implementation of teaching and learning tool</b>
<b>Diagnosis phase (May – Aug 2010)</b> <ul style="list-style-type: none"> <li>• Three ART meetings to explore practice placement issues</li> </ul>	<b>Diagnosis phase (May 2011)</b> <ul style="list-style-type: none"> <li>• Final survey to be administered to target area</li> </ul>	<b>Diagnosis phase (Sept 2011)</b> <ul style="list-style-type: none"> <li>• Explored themes from student focus group</li> </ul>
<b>Planning phase (Sept 2010 – Feb 2011)</b> <ul style="list-style-type: none"> <li>• ART planning meeting leading to scale development and questionnaire including two ART workshops</li> </ul>	<b>Planning phase (May 2011)</b> <ul style="list-style-type: none"> <li>• Target area contacted prior to administration of the online survey</li> </ul>	<b>Planning phase (Nov 2011)</b> <ul style="list-style-type: none"> <li>• Development of teaching and learning tool                             <ul style="list-style-type: none"> <li>○ ART strategic planning</li> <li>○ LR operational planning</li> </ul> </li> <li>• Consulted with service user and student groups</li> </ul>
<b>Research questions</b> <ul style="list-style-type: none"> <li>• <i>How can the individual clinical educator's capacity to engage with the role of clinical education be measured?</i></li> <li>• <i>How can the factors that might impact on that clinical educators' ability to engage with the role of clinical educator be identified?</i></li> </ul>	<b>Research questions</b> <ul style="list-style-type: none"> <li>• <i>How can the individual clinical educator's capacity to engage with the role of clinical education be measured?</i></li> <li>• <i>How can the factors that might impact on that clinical educators' ability to engage with the role of clinical educator be identified?</i></li> </ul>	<b>Research questions</b> <ul style="list-style-type: none"> <li>• <i>Does the CPSPFs have utility to facilitate clinical educators to progress and make assessments relating to students' skills and knowledge base using a standardised, stepwise approach, at the level commensurate with their stage of learning?</i></li> </ul>

		<ul style="list-style-type: none"> <li>• <i>Does the CPSPF support students to gain experience, skills and knowledge at the level commensurate with their stage of learning at an appropriate pace?</i></li> <li>• <i>What impact does the clinical environment have on teaching and learning activities?</i></li> </ul>
<b>Action phase (Mar 2011 – Apr 2011 )</b> <ul style="list-style-type: none"> <li>• Pilot survey implemented with pilot sample of clinical educators for podiatry</li> </ul>	<b>Action phase (June 2011)</b> <ul style="list-style-type: none"> <li>• Final survey implemented with target sample of clinical educators who mentor podiatry students for the University</li> </ul>	<b>Action phase (Jan 2012 – Dec 2012)</b> <ul style="list-style-type: none"> <li>• Teaching and learning tool implemented with clinical educators and students at one placement area</li> <li>• Data collection using mainly interviews and journals</li> </ul>
<b>Evaluation phase (May 2011)</b> <ul style="list-style-type: none"> <li>• CECE scale development using item-total correlations</li> </ul>	<b>Evaluation phase (July – Aug 2011)</b> <ul style="list-style-type: none"> <li>• Analysis of data using item-total correlations and multiple linear regression</li> </ul>	<b>Evaluation phase (Jan 2013 – Aug 2013)</b> <ul style="list-style-type: none"> <li>• Qualitative data analysed using framework analysis to develop thematic framework</li> </ul>
<b>Reflection phase (May 2011)</b> <ul style="list-style-type: none"> <li>• Amendments made to survey</li> </ul>	<b>Reflection phase (Sept 2011)</b> <ul style="list-style-type: none"> <li>• Implications for placement area discussed by ART</li> </ul>	<b>Reflection phase (Sept 2013)</b> <ul style="list-style-type: none"> <li>• Final ART meeting with recommendations following data analysis</li> <li>• Production of a workbook for use at the Diabetes Centre and placement evaluation form</li> </ul>

## Appendix 2 Databases and search terms

CINAHL Plus (includes Amed, Medline, British Nursing Index)

<b>Action research &amp; Student</b>	<b>Action research &amp; educat*</b>
Clinical N10 Inquiry & student	Clinical N10 Inquiry & educat*
Collaborative N10 Inquiry & student	Collaborative N10 Inquiry & educat*
Cooperative N10 Inquiry & student	Cooperative N10 Inquiry & educat*
Transformative N10 Research & student	Transformative N10 Research & educat*
Participatory N10 Appraisal & student	Participatory N10 Appraisal & educat*
Participatory N10 Evaluation & student	Participatory N10 Evaluation & educat*
Participatory N10 Research & student	Participatory N10 Research & educat*
<b>Action Research &amp; clinical educat*</b>	<b>Action Research &amp; learn*</b>
Clinical N10 Inquiry & clinical educat*	Clinical N10 Inquiry & learn*
Collaborative N10 Inquiry & clinical educat*	Collaborative N10 Inquiry & learn*
Cooperative N10 Inquiry & clinical educat*	Cooperative N10 Inquiry & learn*
Transformative N10 Research & clinical educat*	Transformative N10 Research & learn*
Participatory N10 Appraisal & clinical educat*	Participatory N10 Appraisal & learn*
Participatory N10 Evaluation & clinical educat*	Participatory N10 Evaluation & learn*
Participatory N10 Research & clinical educat*	Participatory N10 Research & learn*
<b>Action Research &amp; practice placement</b>	<b>Action Research &amp; practice educat*</b>
Clinical N10 Inquiry & practice placement	Clinical N10 Inquiry & practice educat*
Collaborative N10 Inquiry & practice placement	Collaborative N10 Inquiry & practice educat*
Cooperative N10 Inquiry & practice placement	Cooperative N10 Inquiry & practice educat*
Transformative N10 Research & practice placement	Transformative N10 Research & practice educat*
Participatory N10 Appraisal & practice placement	Participatory N10 Appraisal & practice educat*
Participatory N10 Evaluation & practice placement	Participatory N10 Evaluation & practice educat*
Participatory N10 Research & practice placement	Participatory N10 Research & practice educat*
<b>Action Research &amp; clinical placement</b>	<b>Action Research &amp; clinical supervis*</b>
Clinical N10 Inquiry & clinical placement	Clinical N10 Inquiry & clinical supervis*

Collaborative N10 Inquiry & clinical placement	Collaborative N10 Inquiry & clinical supervis*
Cooperative N10 Inquiry & clinical placement	Cooperative N10 Inquiry & clinical supervis*
Transformative N10 Research & clinical placement	Transformative N10 Research & clinical supervis*
Participatory N10 Appraisal & clinical placement	Participatory N10 Appraisal & clinical supervis*
Participatory N10 Evaluation & clinical placement	Participatory N10 Evaluation & clinical supervis*
Participatory N10 Research & clinical placement	Participatory N10 Research & clinical supervis*
<b>Action Research &amp; clinical train*</b>	<b>Action Research &amp; clinical teach*</b>
Clinical N10 Inquiry & clinical train*	Clinical N10 Inquiry & clinical teach*
Collaborative N10 Inquiry & clinical train*	Collaborative N10 Inquiry & clinical teach*
Cooperative N10 Inquiry & clinical train*	Transformative N10 Research & clinical teach*
Transformative N10 Research & clinical train*	Participatory N10 Appraisal & clinical teach*
Participatory N10 Appraisal & clinical train*	Participatory N10 Evaluation & clinical teach*
Participatory N10 Evaluation & clinical train*	Participatory N10 Research & clinical teach*
Participatory N10 Research & clinical train*	Transformative N10 Research & clinical teach*
<b>Action Research &amp; higher education Institut*</b>	
Clinical N10 Inquiry & higher education Institut*	
Collaborative N10 Inquiry & higher education Institut*	
Cooperative N10 Inquiry & higher education Institut*	
Transformative N10 Research & higher education Institut*	
Participatory N10 Appraisal & higher education Institut*	
Participatory N10 Evaluation & higher education Institut*	
Participatory N10 Research & higher education Institut*	

<b>Education Action Research Journal</b>
<b>(ANY word combination in both title and abstract)</b>
Health student & practice placement
Health student & clinical placement
Health student & clinical education
Health student & Clinical mentor
Health student & practice educator
Health student & clinical supervisor
Health student & clinical teacher
Student & clinical training
<b>British Education Index</b>
Both title and abstract combined (English)
Action research AND Educat\$
Action research AND practice placement
Action research AND mentor\$
Action research AND practice educat\$
Action research AND clinical supervis\$



Action research AND clinical train\$
Action research AND clinical teach\$
Action research AND higher education institut\$
Action research AND health
Action research AND health AND student
Action research AND educat\$ AND health
Action research AND learn\$ AND health
Action research AND clinical placement

## **Appendix 3 Evidence of ethical approval from each of the three relevant committees**

### ***National Research Ethics Service*** **Cornwall and Plymouth Research Ethics Committee**

Room 11  
John Apley Building  
Royal United Hospital  
Combe Park  
Bath  
BA13NG

18 March 2010

Mrs Sally Abey  
Peninsula Allied Health Centre College of St Mark & St John Derriford Road  
Plymouth  
PL6 9BH

Dear Mrs Abey

**Study Title: Action Research to Explore Practice Placement within  
Podiatry**

**REC reference number: Protocol number: 09/H0203/95**

Thank you for your letter of 18 March 2010, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

#### **Confirmation of ethical opinion**

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

#### **Ethical review of research sites**

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

#### **Conditions of the favourable opinion**

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS

research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>. *Where the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.*

*Sponsors are not required to notify the Committee of approvals from host organisations.*

**It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).**

### Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
REC application		21 December 2009
Protocol	1	18 December 2009
Investigator CV		18 December 2009
Evidence of insurance or indemnity		
Referees or other scientific critique report		18 December 2009
Advertisement		
Poster		18 December 2009
Advertisement	Podiatry Needs You!	18 December 2009
Participant Exit Form	1	18 December 2009
Response to Request for Further Information	e-mail	18 March 2010
Participant Information Sheet: Academic Link	1.1	01 February 2010
Participant Information Sheet: Former Student	1.1	01 February 2010
Participant Information Sheet: Mentor	1.1	01 February 2010
Participant Information Sheet: Service User Advisor	1.1	01 February 2010
Participant Information Sheet: Student	1.1	01 February 2010
Participant Consent Form: Academic Link	1.1	01 February 2010
Participant Consent Form: Former Student	1.1	01 February 2010
Participant Consent Form: Mentor	1.1	01 February 2010
Participant Consent Form: Service user	1.1	01 February 2010
Participant Consent Form: Student	1.1	01 February 2010

### Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

### After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document "*After ethical review- guidance for researchers*" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email [referencegroup@nres.npsa.nhs.uk](mailto:referencegroup@nres.npsa.nhs.uk).

**REC reference 09/H0203/95**

**Please quote this number on all correspondence**

Yours sincerely



pp **Canon Ian Ainsworth-Smith**  
**Chair**  
**Cornwall and Plymouth Research Ethics Committee**

Encs: "After ethical review- guidance for researchers"

cc:: Professor Graham Sewell PAHC Marjon Derriford Hospital Plymouth PL6 9BH

Devon Primary Care Trust Research Management & Governance Unit, Public Health Directorate

Commissioning Headquarters,  
County Hall, Topsham Road, Exeter,  
EX2 4QL.

Mrs Sally Abey  
Lecturer in Podiatry  
Peninsula Allied Health Centre College of St Mark & St John Derriford Road  
Plymouth  
PL6 9BH

22nd March 2010

Dear Mrs Abey,

**Study No: PCT0765 (REC ref: 09/H0203/95) -Action Research to Explore Practice Placement within Podiatry**

I have reviewed the Trust Research Governance file for your study containing the documents listed on page 2 and I am happy to give approval on behalf of the Trust. This approval extends to the study being carried out NHS Devon Podiatry Services.

**Adverse Events**

Can I remind you that you must report to the Research Governance Unit any serious adverse event occurring during the study quoting the study reference number. This requirement is in addition to informing the Chairman of the Local Ethics Committee.

**Outcome and publications**

You must also submit to the Research Governance Unit a final outcome report on completion of your study. If your study takes longer than a year annual reports on progress will be needed. If you publish please send copies to the Research Management & Governance Unit, Public Health Directorate, Commissioning HQ, County Hall, Topsham Road, EX2 4QL for inclusion in our Research Governance file for your study.

**Research Governance**

I would like to take this opportunity to remind you of your responsibilities as an NHS researcher. These are:

1. Work must be carried out in line with the new Research Governance Framework for Health and Social Services, which details the responsibilities for everyone involved in research
2. The Data Protection Act 1998 requires you to follow the eight principles of "good information handling"
3. You must be aware of, and comply with, Health and Safety standards in relation to your research.

More information about all these responsibilities can be found on the Research Management & Governance website at [www.swpctresearch.nhs.uk](http://www.swpctresearch.nhs.uk)



With best wishes for a successful study.

Yours sincerely

**Dr Iain Lang,**

**Consultant in Public Health**

**Research Governance lead, NHS Devon**

cc. Peninsula Primary Care RM&G Unit

Documents	Version	Date
REC Confirmation Favouable Opinion letter		18 March 2010
Reply to REC Provisional Opjion		01 February 2010
REC Provisional Opinion letter		25 January 2010
SSI Form	Devon	18 February 2010
R&D Form		04 January 2010
CVs	Abey; Lea	
Proof of Indemnity	University of Plymouth	
Sponsor/Review letter	University of Plymouth	18 December 2009
Protocol	V1	18 December 2009
Patient Information Sheet: Academic Link	V1.1	01 February 2010
Patient Information Sheet: Mentor Information Sheet	V1.1	01 February 2010
Patient Information Sheet: Student	V1.1	01 February 2010
Patient Information Sheet: Former Student	V1.1	01 February 2010
Patient Information Sheet: Service User Advisor	V1.1	01 February 2010
Participant Consent Form: Mentor	V1.1	01 February 2010
Participant Consent Form: Academic Link	V1.1	01 February 2010
Participant Consent Form: Service User	V1.1	01 February 2010
Participant Consent Form: Student	V1.1	01 February 2010
Participant Consent Form: Former Student	V1.1	01 February 2010
Participant Exit Form	V1	18 December 2009
Poster		18 December 2009
Advertisement: PodiatryNeeds You!		18 December 2009

---

**FOR RESEARCHER USE ONLY: Please acknowledge that you have received this letter and reviewed the terms indicated above by returning a signed copy to:**  
*Research Management & Governance Unit, NHS Devon, Public Health Directorate,  
Commissioning Headquarters, County Hall, Topsham Road, Exeter, EX2 4QL.*

Signed by [name and title]: .....

Signature: .....

Date: .....

MS/ab



22<sup>nd</sup> March 2010

**CONFIDENTIAL**

Sally Abey  
University of Plymouth  
FF33, Peninsula Allied Health Centre  
Marjon Campus  
Derriford Road  
Plymouth  
PL6 9BH

Dear Sally

**Faculty of Health**

University of Plymouth

Drake Circus

Plymouth PL4 8AA

**Professor Michael Sheppard**

CQSW BSc MA PhD, AcSS

Chair of Research Ethics Committee

**Application for Approval by Faculty Research Ethics Committee**

*Application Title: Action Research to Explore Practice Placement within Podiatry*

I am pleased to inform you that the Committee has granted approval to you to conduct this research.

Please note that this approval is for three years, after which you will be required to seek extension of existing approval.

Please note that should any MAJOR changes to your research design occur which effect the ethics of procedures involved you must inform the Committee. Please contact Alison Bendall on (01752) 586703 or by email [alison.bendall@plymouth.ac.uk](mailto:alison.bendall@plymouth.ac.uk)

Yours sincerely

Professor Michael Sheppard, PhD, AcSS,

Chair, Research Ethics Committee

Faculty of Health

## **Appendix 4 Initial factors generated in relation to capacity to engage in clinical education**

- Job Satisfaction
  - Professional satisfaction
  - Time in post may indicate satisfaction?
- Leadership
  - Collegiality
    - support
  - Professionalism
  - Motivation (may be part of positivity)
  - Enthusiasm (may be part of positivity)
- Culture
  - Trusted by managers
  - Friendliness
  - Managers approachable
  - No blame culture
    - support
  - Collegiality
    - Allegiance
- Confidence
  - Time in post may indicate experience?
  - In clinical skills
  - In mentoring skills
    - Adequate mentoring training
  - Systems surrounding placement
    - Portfolio issues
- Management
  - Resourcing and organising
    - Time to prep for student
    - Time with student
    - Time for mentorship updates
    - Time and funding of CPD
- Support
  - Collegiality – meeting with other mentors
  - Managerial – time for meetings with other mentors
  - University
    - Link lecturer
    - Communications links
    - Course content – mentorship updates
- Anxiety & Stress
  - Failing student – pressure to pass them?
  - Support
  - Job satisfaction



- Time for patient care
- Time for student mentoring
- Juggling idealism with realism? - are these concepts??
- Confidence in mentorship role
- Mentoring Satisfaction
  - Professional satisfaction may be linked to wanting to mentor students?
- Positive Mentoring
  - Adequate mentoring training
  - Role model
  - Teach
  - Guides
  - Assess
  - Communicates expectations well
  - Enthusiastic about profession
  - Gives regular feedback
  - Genuinely interested in student
    - Friendly toward student and approachable
  - Respond well to positive student attitude
  - Socialisation of students
  - Demonstrates trust and confidence in students' ability
  - Familiar with course content
  - Empowerment of podiatry students
    - Value them as a learner
    - Value them as an individual
    - Recognise they have some knowledge of subject area
    - Develops student confidence & self-esteem
    - Theory-practice gap linkage
- Negative Mentoring
  - Inadequate mentorship training
  - Does not enjoy profession
  - Misuses power dynamic
  - Self-advancement
  - Vanity
  - Ego
  - Unstructured teaching practices
  - Inconsistent teaching style
  - Lack knowledge and experience
  - Throw students in at the deep end
  - Delegate unwanted jobs
  - Dislike students
  - Disliked by other members of staff
  - Distant, less friendly, unapproachable to student
  - Intimidate the student

## Appendix 5 Construct variables and dimensions of overall construct

Construct	Construct variables	Variables for operationalisation
<b>Capacity to engage in clinical education</b>	Anxiety	<ul style="list-style-type: none"> <li>• Failing students and parity of assessment</li> <li>• Lack of support</li> <li>• Job satisfaction poor</li> <li>• Time for patient care reduced</li> <li>• Time for student clinical education</li> <li>• Juggling idealism with realism</li> <li>• Lack of confidence in clinical educator role</li> </ul>
	Confidence	<ul style="list-style-type: none"> <li>• Time in post may increase confidence</li> <li>• In clinical skills</li> <li>• In clinical teaching skills</li> <li>• Interpreting portfolio learning outcomes</li> <li>• Adequate clinical educator training</li> <li>• Systems surrounding placement</li> </ul>
	Culture	<ul style="list-style-type: none"> <li>• Trusted by managers</li> <li>• Friendliness</li> <li>• Managers approachable</li> <li>• No blame culture</li> <li>• Collegiality</li> <li>• Allegiance</li> </ul>
	Job Satisfaction	<ul style="list-style-type: none"> <li>• Professional satisfaction</li> <li>• Time in post may indicate satisfaction</li> </ul>
	Leadership	<p>Manager's leadership qualities:</p> <ul style="list-style-type: none"> <li>• Collegiality</li> <li>• Motivation</li> <li>• Enthusiasm</li> <li>• Support</li> <li>• Professionalism</li> <li>• Staff relationships</li> </ul>
	Management	<ul style="list-style-type: none"> <li>• Resourcing and organising</li> <li>• Time to prepare for student prior to placement</li> <li>• Protected time with student</li> <li>• Time for clinical educator updates</li> <li>• Time and funding of continued professional development</li> </ul>
	Support	<ul style="list-style-type: none"> <li>• Time to meet with other clinical educators</li> <li>• Perceived university support</li> <li>• Link lecturer support</li> <li>• Communication links</li> <li>• Curricula updates via clinical educator</li> </ul>

		<p>training days</p> <ul style="list-style-type: none"> <li>• Manager's support</li> </ul>
	Positive attitude to clinical education	<ul style="list-style-type: none"> <li>• Adequate clinical educator training</li> <li>• Views themselves as a role model</li> <li>• Recognises role includes teaching</li> <li>• Guiding</li> <li>• Assessing</li> <li>• Communicates expectations to student</li> <li>• Enthusiasm for profession</li> <li>• Gives regular feedback</li> <li>• Genuinely interested in student</li> <li>• Friendly toward student and approachable</li> <li>• Respond well to positive student attitude</li> <li>• Socialisation of students recognised</li> <li>• Demonstrates trust and confidence in students' ability</li> <li>• Familiar with course content</li> <li>• Empowers podiatry students</li> <li>• Values student as a learner</li> <li>• Values student as an individual</li> <li>• Recognises student has some knowledge of subject area</li> <li>• Develops student confidence &amp; self-esteem</li> <li>• Theory-practice gap linkage recognised</li> <li>• Professional satisfaction may be linked to wanting to clinical educate students</li> </ul>
	Negative attitude to clinical education	<ul style="list-style-type: none"> <li>• Inadequate clinical educator training</li> <li>• Does not enjoy profession</li> <li>• Misuses power dynamic</li> <li>• Role viewed only as self-advancement</li> <li>• Vanity</li> <li>• Ego</li> <li>• Unstructured teaching practices</li> <li>• Inconsistent teaching style</li> <li>• Lack knowledge and experience</li> <li>• Students thrown in at the deep end</li> <li>• Delegate unwanted jobs</li> <li>• Dislikes students</li> <li>• Disliked by other members of staff</li> <li>• Distant, less friendly, unapproachable to student</li> <li>• Intimidates students</li> </ul>

# Practice Placement Survey in Podiatry



Welcome to the online survey for **all** podiatry staff who have experienced working alongside University students in a clinical environment.

We are keen to get a wide range of opinions from those that have had student contact. This could have been for just a session or two or for a much longer period of time during the student placement. You **don't** have to be a 'sign-off' mentor, but do need to have some experience of supporting students within the clinical environment.

It is anticipated that the survey will take you about **10-15 minutes** to complete.

Your responses are highly valued, and we would be very grateful if you would take the time to read and complete this online survey.

**ALL RESPONSES WILL BE TREATED IN COMPLETE CONFIDENCE**

For more information on this survey, go to [Frequently Asked Questions](#)



## s. Section 1

This section of the survey asks you for information about you and your current role as a podiatrist, and your experiences of supervising/mentoring students. There are three different types of question within this section. One type of question requires you to respond by 'clicking' your cursor in the appropriate circle. Another type of question requires you to respond by choosing an answer from the drop down box. Sometimes you may be asked to write your answer into a text box.

Please answer the following questions:

Q. Gender

**What is your gender?**

- Male
- Female

Q. Age

**How old are you?**

- 20 - 29
- 30 - 39
- 40 - 49
- 50 - 59
- 60 - 65

Q. Timequalified

**How long have you been a qualified podiatrist?**

- Less than a year
- 1 year
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43

Q. TimeTrust

**How long have you worked for your current Trust?**

- Less than 1 year
- 1 year
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43

Q. TimePosition

**How long have you held your current position?**

- Less than 1 year
- 1 year
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43

Q. UniRelationship

**Do you have any other formal relationship with the University of XXXX eg as a student, external examiner?**

Yes - Please elaborate on your response

---

No



Q. Banding

**What is your current banding?**

- Band 5
- Band 6
- Band 7
- Band 8a

Q. ContractedHours

**Use the drop down box to give details of your contracted hours as appropriate.**

- 37.5 hours per week
- 1 hour per week
- 2 hours per week
- 3 hours per week
- 4 hours per week
- 5 hours per week
- 6 hours per week
- 7 hours per week
- 8 hours per week
- 9 hours per week
- 10 hours per week
- 11 hours per week
- 12 hours per week
- 13 hours per week
- 14 hours per week
- 15 hours per week
- 16 hours per week
- 17 hours per week
- 18 hours per week
- 19 hours per week
- 20 hours per week
- 21 hours per week
- 22 hours per week
- 23 hours per week
- 24 hours per week
- 25 hours per week
- 26 hours per week
- 27 hours per week
- 28 hours per week
- 29 hours per week
- 30 hours per week
- 31 hours per week
- 32 hours per week
- 33 hours per week
- 34 hours per week
- 35 hours per week
- 36 hours per week
- 37 hours per week

Q. Distance

**Please indicate the approximate distance of the placement area from the University of XXXX?**

- 0- 49 miles
- 50- 99 miles
- 100-149 miles
- 150-199 miles
- 200-249 miles

Q. Qualifications

**Please tell us about your educational qualifications.**

**Please 'click' in all of the boxes which are relevant to you.**

- BSc (Hons) Podiatry
- Diploma in Chiropractic with State Registration
- MSc
- PhD
- PGCE
- Other (please give details) \_\_\_\_\_

Please note that throughout the survey the term 'mentor' will be used to encompass a wide range of titles eg, student supervisor, sign-off mentor, practice educator, clinical supervisor and clinical educator.

Q. MentoringQualifications

**Have you undertaken any formal mentor training?**

- Yes - Please give the name of the course and the date undertaken

\_\_\_\_\_

- No

Q. MentorVolunteer

**Did you volunteer to be a mentor?**

- Yes - Please give details to support your response

\_\_\_\_\_

- No - Please give details to support your response

Q. Nomenclature

**Which of the following do you feel best describes your role with students?**

- I occasionally supervise students on an ad hoc basis
- I am a sign-off mentor for students
- I am a mentor for students
- I am a practice educator
- I am a clinical supervisor
- I am a clinical educator

Q. MentorRoleTime

**How long have you been in a mentoring role?**

- Less than 1 year
- 1 year
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20+

Q. SignoffMentor

**Do you sign off students' learning outcomes?**

- Yes
- No

Q. ApptTimes

**How much time is generally allowed for appointments for the following type of patient encounter?**

New patients minutes \_\_\_\_\_

Review patients minutes \_\_\_\_\_

Q. ApptTimesStudents

**How much time is generally allowed for appointments for the following type of patient encounter when you have a student with you?**

New patients minutes \_\_\_\_\_

Review patients minutes \_\_\_\_\_

Q. PrepTimes

**How much time is generally allowed for you to undertake duties in preparation for student mentoring before they arrive on placement?**

hours \_\_\_\_\_ minutes \_\_\_\_\_

Q. StudentMentoringTime

**How much time is generally allowed for you to undertake mentoring with a student outside of clinical hours per week?**

hours \_\_\_\_\_ minutes \_\_\_\_\_

Q. StudentSupNos

**Do you ever supervise more than one student at the same time?**

Yes - please describe how you undertake the supervision eg two chair clinic

---

No



## s. **Section 2**

The following questions ask you how you feel about various aspects of your role as both a podiatrist and a mentor. You do not need to be a 'sign-off' mentor to answer these questions, but you need to have had some experience with students where you have been responsible for them in the clinical environment.

Each question will ask you to respond by 'clicking' your cursor in the circle that best represents your view. There are five possible choices, which range from 'strongly agree' to 'strongly disagree'.

Please note that throughout the survey the term 'mentor' will be used to encompass a wide range of titles eg, student supervisor, sign-off mentor, practice educator, clinical supervisor and clinical educator.

### **Being a Podiatrist**

These questions will ask you about your role as a podiatrist and your role as a mentor. Do not worry if your interaction with a student has been minimal. We are still interested in hearing your views.

Q. Pod1

**When I meet people socially I am proud to tell them that I am a podiatrist**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod2

**I am passionate about my profession**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod5

**I make a difference to the lives of the patients I treat**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod6

**I sometimes consider looking for another job outside of my profession**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod8

**On reflection I would choose podiatry as a profession again**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod10

**I sometimes think about retraining for another profession**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod12

**I am fairly paid for the work that I do**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod13

**Much of my work feels repetitive to me**

- Strongly disagree
- Disagree
- Neither agree nor disagree

- Agree
- Strongly agree

Q. Pod14

**I enjoy my job**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod15

**I am keen to share my enthusiasm for my profession with students**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod18

**There are opportunities to expand my scope of practice**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod19

**I am satisfied with the case load that I see as a podiatrist**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod20

**I find juggling clinical duties and mentoring difficult**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Pod23

**If I had my time again I would not choose podiatry as a career**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree





## S. Team Work

These questions will ask you for your views about working as part of a team, how you feel you fit into that team and are viewed by your colleagues.

Each question will ask you to respond by 'clicking' your cursor in the circle that best represents your view. There are five possible choices, which range from 'strongly agree' to 'strongly disagree'.

Q. TW1

**When new staff join our team, colleagues are generally friendly and welcoming**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW2

**My contributions to the team are appreciated by my colleagues**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW3

**If I suggest a new way of working, I feel it would be met positively by my manager**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW4

**If a problem arose with a colleague, my manager would deal with the situation fairly**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW5

**My colleagues respect my opinions**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW6

**My manager has a positive attitude to problem solving**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW7

**My manager gives me recognition if I undertake a task that is above and beyond my normal duties**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW8

**The student is an extension of our team whilst they are on placement with us**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW10

**My colleagues see me as conscientious in my job**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW11

**My manager does not give me any recognition for the day-to-day work that I do**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW12

**Sometimes team members make negative comments about other members of the team**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW14

**I am given opportunities by my manager to try out new ideas**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW16

**My manager gives consideration to my personal needs**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW17

**My manager engenders positive attitudes during periods of transition**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW18

**I voluntarily help new members of the team settle into their roles**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW19

**I feel able to question my manager's decisions**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW21

**I am dissatisfied with the time allocation for completing clinical duties**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW22

**I am dissatisfied with the time allocation for completing documentation relating to patient care**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW24

**I am satisfied with the time allocation for administrative duties related to patient care**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW25

**If I undertake additional duties to my usual work, I feel it would be noticed by my manager**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. TW26

**I work within a team where negative personal comments are not tolerated**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree



## S. Student Mentorship

These questions will ask you for your views about mentoring, the challenges that face you and the issues that concern you.

Each question will ask you to respond by 'clicking' your cursor in the circle that best represents your view. There are five possible choices, which range from 'strongly agree' to 'strongly disagree'.

Q. SM2

**I believe it is important for a mentor to inspire students**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM3

**Students challenge me to think about my clinical practice**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM5

**Mentoring is a two-way relationship where the student and I can learn things from one another**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM10

**As a mentor I should give both positive and negative feedback**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM11

**As a mentor I should help the student to learn as much as possible from every experience they have**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM12

**Students take up time that I need to give to patient care**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM13

**Mentoring students provides me with continued professional development**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM14

**It is important to help the student plot their development in order to keep them motivated and encouraged**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM17

**It is important to me that students perceive me as a good mentor**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM18

**I don't experience much satisfaction from mentoring students**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM20

**I would prefer not to be a mentor**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM25

**I am passionate about my role as a mentor**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM26

**I try to create a warm and friendly atmosphere where the student feels able to ask questions**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM27

**I often find it quicker to do things myself than let the student do them**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM28

**I think it is important to discuss with the student their learning needs, so I can identify suitable learning opportunities for them**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM32

**As a mentor I have an opportunity to see potential in my students and encourage their development**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM33

**I like to help students explore situations that have gone less well to facilitate their learning**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. SM36

**As a clinician and mentor I am best placed to help the student develop their practical skills**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree





## s. Support

These questions will ask you for your views about the support you receive from the University, your colleagues and your organisation.

Each question will ask you to respond by 'clicking' your cursor in the circle that best represents your view. There are five possible choices, which range from 'strongly agree' to 'strongly disagree'.

Q. Sup1

**I have opportunities to meet with mentors to share our experiences of mentoring**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup2

**The student is given a induction into the team during the first few days of their placement**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup3

**I feel I can speak to my manager openly about personal issues that may impact on my work**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup5

**I am well prepared by the University to complete the documentation that accompanies the student placement**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup7

**I am well supported by my manager to do the role of mentoring**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup9

**If a complaint is raised by a patient that related to care that I have given my manager would be supportive of me**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup10

**I was well prepared by the University to undertake the role of mentor**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup13

**The University provides sufficient guidance about how learning outcomes in the portfolio should be achieved by students**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup15

**My manager is supportive of my personal and professional development**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup16

**There is no opportunity for me to seek guidance from other mentors**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup18

**I am well prepared by the University to undertake the required assessments of student competency**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Sup19

**NHS placements are the best place for students to develop their practical skills**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree



## S. Confidence

These questions will ask you for your views about how confident you feel to undertake the role of mentoring.

Each question will ask you to respond by 'clicking' your cursor in the circle that best represents your view. There are five possible choices, which range from 'strongly agree' to 'strongly disagree'.

Q. Con1

**I feel confident in my ability to act as a mentor for University students**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Con2

**I am confident that I apply the same standards when assessing students as other mentors in my placement area**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Con3

**I do not feel confident that my preparation as a mentor has equipped me to undertake the task**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Con7

**I am concerned that I may not apply the same level of assessment as my colleagues**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Con11

**I am confident in helping other mentors with the assessment of a failing student**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Con12

**I am confident that I can identify the difference between a competent and failing student**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Con13

**I am confident that I use the appropriate assessment techniques to fully evaluate students' abilities**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Con14

**I am not confident that I maintain quality patient care alongside student mentoring**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Q. Con18

**I am confident that I find out from the student exactly what they want to achieve whilst they are on placement**

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree



Q. ShortReport

**I would like to receive a copy of the survey findings**

Yes - Please give a contact email address in order that we can send you a short report of the survey findings

---

Q. PrizeDraw

**I would like to be entered into the prize draw to win 1 of a possible 4 £25 book vouchers**

Yes - Please give a contact email address in order that we can notify you should you win \_\_\_\_\_

**Thank you very much for participating in this survey and giving your views. To submit your response, please 'click' the 'submit survey' button below.**

Appendix 7 Postcard advertising online survey

## Practice Placement Survey in Podiatry



What are the challenges to supervising podiatry students?

University  
logo

**NHS**

Make your voice heard, turn over to find out how...

# Practice Placement Survey in Podiatry

## What is the survey about?

- There have been many changes to the way that podiatry students are taught their clinical skills

- This is the first opportunity for podiatrists to give their views about the benefits and challenges that surround podiatry placements

- Ultimately, we want to hear about your experience of supervising students in your clinical environment

## Who should complete the survey?

- Anyone who has supervised a University of Plymouth Podiatry Student

- We want to hear from *everybody* that supervises students in their clinical area, even if that amounts to only 1 session a year

Enter our prize  
draw for a chance  
to receive a  
**£25.00**  
**Book**  
voucher

**NHS**



Find out more and give your views by completing the survey online at  
<http://www.ssb.plymouth.ac.uk/surveysw/sa/>



## Appendix 8 Item-total correlations and Cronbach's Alpha results

### Anxiety

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.782	.794	4

#### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QPod20r	10.79	6.235	.533	.427	.757
QCon3r	10.24	6.440	.674	.525	.701
QCon7r	10.33	6.047	.623	.446	.713
QCon14r	10.09	5.336	.571	.385	.751

### Confidence

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.837	.841	6

#### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QCon1	18.97	11.905	.608	.596	.815
QCon2	19.67	11.104	.500	.516	.838
QCon11	19.64	10.676	.638	.441	.806
QCon12	19.06	12.059	.523	.638	.828
QCon13	19.64	10.051	.727	.621	.786
QCon18	19.24	10.627	.719	.566	.790

## Culture

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.864	.879	8

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QTW1	26.61	21.934	.599	.530	.854
QTW2	27.03	19.218	.713	.731	.836
QTW5	27.03	19.593	.739	.693	.835
QTW8	27.42	19.377	.506	.411	.864
QTW10	26.97	21.718	.549	.446	.855
QTW12r	28.58	18.002	.603	.464	.854
QTW18	27.12	19.297	.788	.673	.830
QTW26	27.94	18.934	.606	.478	.849

## Job satisfaction

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.932	.933	12

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QPod1	38.82	91.778	.686	.780	.926
QPod2	38.76	91.002	.763	.820	.924
QPod5	38.15	95.945	.629	.608	.929
QPod6r	39.18	87.528	.785	.870	.922
QPod8	39.27	88.767	.733	.665	.925
QPod10r	39.12	85.235	.838	.899	.920
QPod12	39.88	94.672	.506	.458	.934
QPod13r	39.73	94.392	.577	.404	.930
QPod14	38.52	93.383	.833	.860	.923
QPod18	39.15	92.133	.675	.708	.927
QPod19	39.42	95.752	.599	.609	.930
QPod23r	39.00	84.438	.862	.903	.919

## Leadership

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.951	.953	10

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QTW3	32.65	68.572	.770	.795	.947
QTW4	32.59	67.212	.795	.809	.946
QTW6	32.65	66.072	.753	.718	.948
QTW7	32.92	64.160	.831	.744	.944
QTW11r	32.98	62.601	.859	.806	.943
QTW14	32.71	68.486	.861	.805	.944
QTW16	32.44	68.591	.739	.705	.948
QTW17	32.95	64.820	.813	.794	.945
QTW19	32.88	67.172	.794	.779	.946
QTW25	33.44	66.809	.752	.804	.948

## Management

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.921	.923	3

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QTW21r	4.88	5.110	.828	.687	.896
QTW22r	5.29	4.665	.865	.749	.869
QTW24	5.26	5.547	.839	.709	.892

## Support

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.916	.916	11

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QSup1	34.91	64.460	.630	.704	.911
QSup2	34.12	67.422	.600	.764	.912
QSup3	34.21	62.360	.726	.725	.906
QSup5	35.03	65.030	.671	.722	.909
QSup7	34.36	62.364	.808	.849	.902
QSup9	33.97	68.468	.515	.698	.916
QSup10	35.06	66.184	.655	.735	.910
QSup13	34.76	64.502	.692	.786	.908
QSup15	34.15	65.320	.660	.590	.909
QSup16r	34.42	61.127	.813	.838	.901
QSup18	35.00	66.062	.638	.777	.911

## Positive attitudes to the role of clinical educator

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.942	.949	17

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QPod15	67.87	79.498	.687	.	.939
QSM2	67.57	84.259	.640	.	.940
QSM3	67.93	81.010	.552	.	.942
QSM5	67.69	83.852	.628	.	.940
QSM10	67.45	84.198	.668	.	.939
QSM11	67.51	85.326	.609	.	.941
QSM13	67.66	83.738	.699	.	.939
QSM14	67.93	83.323	.734	.	.938
QSM17	68.26	81.475	.516	.	.943
QSM21	67.81	77.040	.915	.	.933
QSM25	68.20	75.942	.827	.	.935
QSM26	67.57	83.134	.753	.	.938
QSM28	67.75	77.906	.835	.	.935
QSM32	67.90	77.286	.849	.	.935
QSM33	67.69	81.665	.835	.	.936
QSM36	68.26	79.206	.657	.	.940
QSup19	68.27	79.892	.549	.	.943

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.933	.943	16

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QPod15	63.60	66.379	.678	.787	.929
QSM2	63.29	70.657	.637	.756	.930
QSM3	63.66	67.676	.549	.441	.933
QSM5	63.42	70.194	.634	.682	.930
QSM10	63.17	70.528	.674	.773	.930
QSM11	63.23	71.628	.607	.794	.931
QSM13	63.38	70.063	.710	.828	.929
QSM14	63.66	69.801	.732	.831	.928
QSM17	63.99	68.015	.518	.613	.934
QSM25	63.93	63.073	.824	.860	.924
QSM26	63.29	69.657	.748	.775	.928
QSM28	63.48	64.782	.839	.847	.924
QSM32	63.63	64.372	.840	.911	.924
QSM33	63.42	68.319	.829	.893	.926
QSM36	63.99	66.121	.648	.817	.930
QSup19	64.00	66.937	.527	.843	.935

## Negative attitudes to the role of clinical educator

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.832	.840	4

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
QSM12r	11.42	5.314	.734	.618	.754
QSM18r	10.48	6.695	.719	.687	.774
QSM20r	10.21	6.672	.613	.674	.808
QSM27r	11.88	5.922	.619	.590	.810



## **Appendix 9 Sub-scale descriptors**

The individual scales are described below:

### **a) Anxiety**

Attempting to perform the complex task of teaching students whilst performing clinical duties is captured within this sub-scale. This sub-scale suggests that to decrease anxiety levels requires comprehensive preparation in the clinical educator role.

### **b) Confidence**

This sub-scale relates to the assessment role of the clinical educator and the importance of determining competency and identifying failing students. For clinical educators to be effective in facilitating quality student placements they must be confident in their ability to perform the aforementioned tasks. Low levels of confidence impair clinical educator capacity to engage with the role of clinical education.

### **c) Culture**

Capacity for the clinical educator role appears to be effected by behaviours and attitudes of peers and managers. A lack of respect or appreciation for the opinions and contributions of the clinical educator impacts negatively on capacity. Capacity is also sensitive to low levels of organisational support for individuals in their main clinical role. The clinical educator role appears to be influenced by the impact of organisational culture.

#### d) Job satisfaction

Job/professional satisfaction was found to be necessary for engaging in the additional duties of the clinical educator role. The clinical educator may influence students' views of the profession and this subscale suggests that job satisfaction is an important factor in determining capacity to engage with the role of clinical educator.

#### e) Leadership

A manager's leadership style was found to influence the workplace culture. The clinical educators' perception of their managers' attitudes and behaviours toward change impacted upon their view of the role.

#### f) Management

This sub-scale identified that the management of resources and practical support provided at a managerial level influenced capacity with regard to engaging with the role. Where time to undertake the duties of a podiatrist is impeded due to paucity of time, the extra responsibilities and tasks relating to the clinical educator role are perceived less positively.

#### g) Support

Support from management on a day-to-day basis, input into career development and helping to problem-solve, was found to be important to increasing capacity for the role. Clinical educators also valued support from the University. Unsupportive line managers and

perceived lack of support by the University influenced clinical educators' attitudes negatively regarding the clinical educator role.

#### h) Positive attitudes to clinical education

Where clinical educators' held positive attitudes to the role and were committed to the provision of student education, levels of capacity to engage were increased. Clinical educators also acknowledging the personal supplementary benefits of undertaking the role relating to continued professional development and professional standing. Concomitant to this was the belief that the NHS offers the best facilities to develop practical skills.

#### i) Negative attitudes to clinical education

This sub-scale captures clinical educator concerns relating to the perceived or actual time students divert from clinical tasks. A lack of satisfaction with the clinical educator role and preference not to undertake the role are dimensions of this scale. A view of the role impacting negatively upon the patient experience is also captured within this subscale.

## Appendix 10 Non-significant test results

Non-significant test results				
Hypotheses	Statistical test	N	Results	Significance
<p>H<sub>0</sub> The length of time the clinical educator had been qualified as a podiatrist would not result in higher capacity to engage scores</p> <p>H<sub>1</sub> The length of time a clinical educator had been qualified as a podiatrist would result in higher capacity to engage scores</p>	Spearman's rho	65	R=-.119	Not significant at p≤.05 (two-tailed)
<p>H<sub>0</sub> The length of time a clinical educator had worked for a particular NHS Trust would not result in higher capacity to engage scores</p> <p>H<sub>1</sub> The length of time a clinical educator had worked for a particular NHS Trust would result in higher capacity to engage scores</p>	Spearman's rho	66	r=-.173	Not significant at p≤.05 (two-tailed)
<p>H<sub>0</sub> The length of time a clinical educator had worked in a particular role would not result in higher capacity to engage scores</p> <p>H<sub>1</sub> The length of time a clinical educator had worked in a particular role would result in higher capacity to engage scores</p>	Spearman's rho	65	r=-.073	Not significant at p≤.05 (two-tailed)

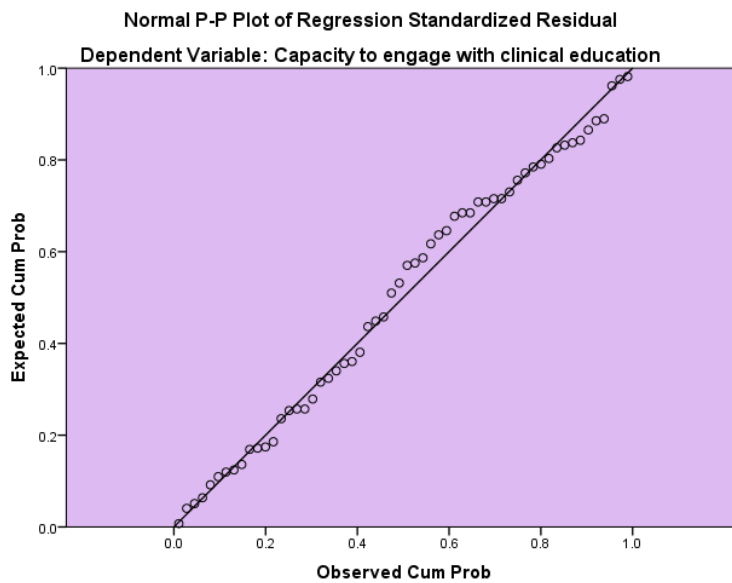
H <sub>0</sub>	The length of time a clinical educator had undertaken the clinical education role would not result in higher capacity to engage scores	Spearman's rho	64	R=-.051	Not significant at p≤.05  (two-tailed)
H <sub>1</sub>	The length of time a clinical educator had undertaken the clinical education role would result in higher capacity to engage scores				
H <sub>0</sub>	Higher levels of banding would not result in higher capacity to engage scores	Kruskal-Wallis test	66	H(3)=1.55	Not significant at p≤.05
H <sub>1</sub>	Higher levels of banding would result in higher capacity to engage scores				
H <sub>0</sub>	The level of academic qualification would not affect capacity to engage scores	Kruskal-Wallis test	65	H(4)=4.97	Not significant at p≤.05
H <sub>1</sub>	The level of academic qualification would affect capacity to engage scores				
H <sub>0</sub>	Attainment of clinical educator training would not impact on capacity to engage scores	Kruskal-Wallis test	66	H(4)=1.34	Not significant at p≤.05
H <sub>1</sub>	Attainment of clinical educator training would impact on capacity to engage scores	Mann-Whitney U	66	U=485.50	.651

Non-significant results testing hypotheses

## Appendix 11 Probability plot, scatter diagram & histogram of CECE scale residuals

### Probability plot

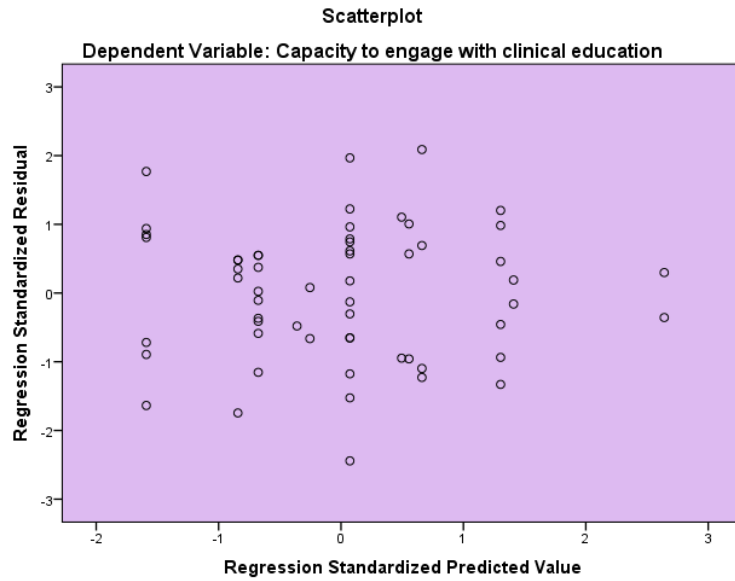
The probability plot illustrates a normal distribution with the observed residuals sitting almost along the regression model line (See figure #).



### Scatter plot

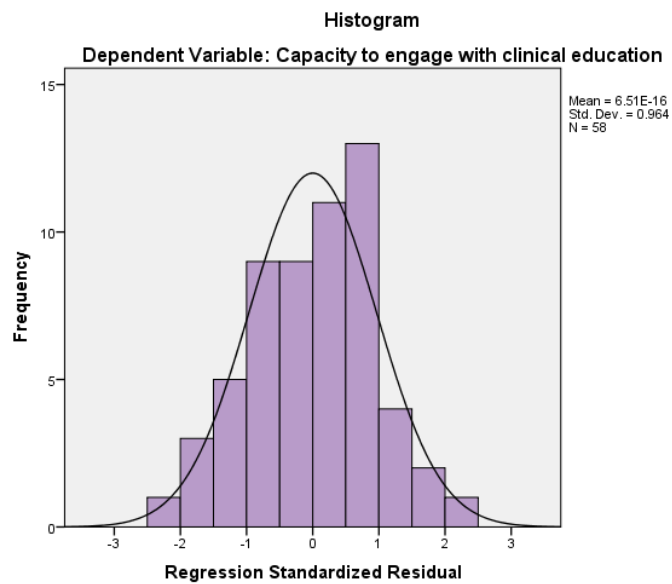
The scatter plot showed no discernible pattern with 95% of the dots dispersed at  $\pm 2$ .

There was one dot at 2.5, but this fell within 5% of the sample. Overall, the assumptions of linearity and homoscedasticity had been met (Field 2009).



### Histogram of residuals

Finally, the histogram for the residuals was also normally distributed as shown below.



## **Appendix 12 Proposal by LR to ART to advance research process**

Hello Everyone,

We were not all able to attend the last meeting, so I thought it might be useful to update everyone as to what we discussed at the last meeting, and where we are in the process of developing our next research cycle. I have also included some ideas that I have had in order to move the project forward.

### **Update from Action Research Meeting on 14<sup>th</sup> September 2011**

At the last meeting we were able to summarise the first action research cycle and look at the results from the survey. We had 66 responses to the survey (response rate of 42%) and simple linear regression analysis was undertaken to establish which of the variables identified from the initial analysis were able to predict the variability of the dependent variable, mentor capacity. A stepwise approach was employed initially to consider each variable in a systematic way. This method considers all the variables together and then chooses the one, which can best predict the outcome based on levels of significance.

There were eleven variables entered into the initial regression which ultimately produced a model comprising four variables: Mentor volunteer (those mentors that volunteered to become mentors); Protected time (those mentors that have time allocated outside of the clinical environs to meet with the student); Sign-off mentor (those mentors that sign-off students' learning outcomes) and University relationship (those mentors that have either been students at the University or are currently students with the University).

### **Discussion from last meeting**

The group went on to discuss how this information impacted upon Xxx and, perhaps most crucially, could we incorporate any of these four elements in order to improve positivity levels at Xxx. Upon discussion it became clear that all four of these important aspects were already met. Mentors have always been asked to volunteer, time is allocated for induction, mid-point and end of placement reviews, all 10 mentors sign-off learning outcomes and 7 out of the 10 sign-off mentors at Xxx were all trained at the University. This is good news and tends to add weight to our conviction that at Xxx there is a positive attitude towards mentoring.



## **Next phase in the Action Research Project**

If you remember, action research is a collaborative process and context specific. It aims to problem-solve by identifying issues that require action that will address, resolve or improve the issue that has been identified within a specific community. In the first phase of the project we spent some time discussing a number of issues and problems around offering practice placement at Xxxx. We felt we had a very positive attitude towards mentoring at Xxxx, but it was difficult to be assured of that fact as there was no research literature available to refer to in order to support this viewpoint. So, we decided to conduct our own research in order to survey positivity levels with other placement providers within the South West region. This we have successfully undertaken by developing our Practice Placement in Podiatry Survey as the data collection tool, which was subsequently analysed. Having undertaken this 'action' we have been able to evaluate and reflect upon the findings. Figure 2 shows how the various stages of the action research cycle fit together and that one cycle of action should inform the next action research cycle.

The fact that we considered our levels of capacity amongst mentors to be high and that the predictive variables for mentor positivity are already embedded within the structure at Xxxx has led to an interesting impasse.

At the July meeting it was suggested that we start to think about how this new information could inform the placements at Xxxx and how we could use it to improve the student journey when we met again in September. The results were fully available in September and when we asked ourselves this question again we found that rather than suggesting to us new ideas of how we could improve the practice placements, overall it affirmed our speculation that we did indeed hold positive attitudes towards mentoring. Therefore, in terms of highlighting problem areas or issues that could be addressed we did not have any major areas of concern.

We did take the opportunity to discuss the student journey from induction through to the end-of-placement review. The shared drive at Xxxx was identified as a good place to share some of the core documents so that all mentors had access to this information. Evelyn had done some work, gathering checklists that other health professions use, in order to orientate the student when they first arrive on placement. Evelyn is currently working on how we could utilise some of the better aspects of these forms in order that we can create a 'user-friendly' checklist that will standardise that important first interaction with the student.

However, we did not manage to identify an area that we felt was going to really enhance the mentor role and impact upon the student journey.

## **So where do we go from here?**

Following this meeting it occurred to me that it might be an idea to go back to the focus group discussions that were undertaken last October with students that had been at Xxxx for their placements. When reading the transcript I asked myself the following questions: 'What did they have to say about the placement and had they identified any areas that we could consider that might impact on the student journey positively?'

Overall, the students were very complimentary regarding the placement and they did confirm that the Xxxx mentors had a positive attitude to mentoring. (If you remember that was the 'focus' of the focus group.) However, there is an interesting thread running through the whole one and half hours recording and I think this might well be an area that we could explore and address.

## **Focus Group Findings – October 2010**

Three students were involved with the focus group, one had undertaken their first placement at Xxxx, one had undertaken their 2<sup>nd</sup> placement at Xxxx, and one had been at Xxxx for two placements. All of the students were in their 2<sup>nd</sup> year of study with the University. The question schedule is attached.

The following bullet points detail some of the 'themes' that came out of the focus group discussion:

The following comments relate to a 'theme' that was returned to frequently relating to the time spent observing the mentor rather than having hands-on experience. Please do bear in mind that the students were very grateful for the opportunity that they had been offered and often commented about time constraints, support, the positive benefits of placement. They were also aware of the fact that the supervising mentor takes the responsibility for anything that occurs during the sessions.

Summary of responses	Illustrative comments
Observation is good initially to 'get an idea of what is required.	'On my first placement there it was good (Xxxx), I quite liked the standing back and looking because you have got the time like you say to really take in what is going on'.
Where student's had previously had opportunity to undertake more hands-on they found observation could be frustrating. In some situations they had been given more opportunities and then other mentors put them into an observational situation again, which was viewed as a backwards step.	<p>'a little bit boring, cos a lot of the time I was not allowed to work with the high risk patients that I had been able to in other placements, so I found that frustrating'.</p> <p>'I think I had the same like at the end of the placement when you are much more confident and you just want to get on and do stuff.....And it was a bit like "Oh, I could have done that and I could have done that....It would have been worth doing it with guidance".</p>
Two chair clinics were very much appreciated. This system had been experienced in other places with 2 students to 1 mentor with 40 minute appointments for each student, and this did not impact in the through-put of patients.	
Sometimes it appears to the student that the mentor is over	'almost like scared to let you sort of .....touch the scalpel'.

cautious (480-496) (269-276).	
Sometimes the mentor explanation to the patient that they could ask the mentor to take over the care from the student at any moment seemed to the student to frighten the patient. This created tension for the student which they felt they needed to overcome with the patient to gain their trust.	'...now puts everything on edge. Cos you are petrified that you are going to do something and then they are going to say 'Oh I don't want you do it anymore', when realistically you probably wouldn't have been like that if they hadn't of said that. Because that happened to me once or twice. The patient said to me 'you know if you cut me on this leg I will ulcerate' and I was like 'u.....oh'.....I just puts you on edge'
Using a scalpel on a high risk patient can have huge consequences for the patient if they are cut and ulcerate, but at the right stage of development this experience for the student is a challenge, and does allow them to experience working under pressure with a lot of guidance and support available to them. (145-178)	'...the patient...was really highly ischaemic on one leg and said he will ulcerate and I was so petrified. And in fact the mentor said to me 'you don't have to do it'. He kept saying to the patient like 'Don't make her scared or anything'. Cos he said 'you don't have to do it if you don't want to'. And I was like, 'no, I think I have to do it now because.....'. Well, no, I didn't have to do it, but I wanted to do it to prove to myself and to the patient that I was quite able to do it. And I was fine...on that leg, but I cut him on the other leg, but that didn't matter (lots of laughter). But I think you definitely learn from that experience, because if you .....you know.....you just learn to handle.....it is almost handling the pressure in some ways..... But now it is just like 'ok, whatever'. I have done enough patients now to know that if that happens I can deal with the consequences, but then I was a bit like 'ooh, ok, I might need some extra help'. But it comes with experience and seeing patients really.
Where the mentor maintains a narrative during ulcer treatment, and then allows the student to observe and palpate the wound with the scalpel, this was seen as a good learning experience in a situation where they might not be able to fully partake in the care.	'..but some high risk clinics where it was just really informative, because they (the mentor) were narrating the whole way through and talking about things and asking me questions about things, and I felt much more comfortable in those situations than when I am <i>just</i> observing and they are literally just getting on with it and you can't

	even actually see what they are doing because you are in the way. I didn't find that particularly helpful at all.'
Student appreciate the opportunity to really embed some of the 'simpler' activities and chance to develop over time	'I think in terms of clinical skills I learnt so much about nail cutting.....that was a really valuable experience;. 'I overcame a lot of my fears, because it is all a bit scary at first'.  'Making a pad was the one, cos there are just so many different variations and so many different feet and you just think "I need a degree in origami as well".
Feeling supported by mentors even when things don't quite go as planned (415-441). They are able to look back over their placement and see how their experiences have built their confidence (442-450).	'I was quite lucky cos I didn't really have any negative experiences at all on placement. I had difficult patients and things went a little bit wrong sometimes, but I was well supported throughout all of my placement and they were always, 'you know, these things happen' and you just have to move on and get on with it really.'
Reflection seen as a very important way for improving practice and having a chance to implement that new practice if possible. Observation can be useful here too, because different ways of doing things are seen and are reflected upon and stored away for future use when the situation arises (704-737).	'I think reflection is good actually when you have had a patient that has been different...'  'I think that is how I learn though. Cos I just go over things in my head, like all the time. Like 'what would I have done there?', and 'why did that happen like that?' and then you just think 'ok, stop going round and just stop'. Moving on and like thinking about 'what did I do wrong?' ... I can take that on to a new situation.'
One student felt that the first 4 weeks was good for settling into the clinical area and understanding the paperwork etc, but that after the 4 week period they reached a plateau.	.....like you're moving on, like, you're improving and not just.....I just felt like I got used to the situation and I was like.....I felt like I'd improved so much in the first 4 weeks, because I knew how the paperwork worked and I knew where everything was and knew how to run.....how the clinic was kinda run and then I just kinda felt like I'd plateaued a bit, because I was like, I'm still doing these clinical skills

	<p>but now it's not the first time and its not as.....like I felt I was improving and I was just like, 'Ok, I'm just staying the same, I'm not getting any better or any worse', kind of thing, so.....</p>
<p>Timing of hands-on needs to be considered. If it is the last patient when they are given the opportunity to undertake the treatment they are tired. (They acknowledge the time constraints).</p>	
<p>During a 2<sup>nd</sup> placements(following a placement at Xxxx) the students describe debriding an ulcer for the first time, using tweezers, draining blisters and doing dressings.</p>	<p>.....It's skill as well isn't it ....working with a scalpel with an ulcer than debriding skin? You've got to use it in a completely different way and I don't think you can really learn that just from observation you need to sort of get in there and have a feel and see where the dead skin is and you know....how to get to it....</p> <p>.....and like get the tweezers out and like stuff. Cos you wouldn't do that normally with normal patients, and stuff like that. So.....</p> <p>.....and how to <u>not</u> get yourself covered in saline....</p> <p>....yeah, I know.....</p> <p>Yeah, I agree with that cos like my 2<sup>nd</sup> placement you'd get involved with the ulcers and you get involved with all.....just a simple thing like draining a blister. I have never done that before, but you are doing things like that. Getting in there are you are seeing the person come back again and you are seeing it's healing up um...it's great. And even if they talking you through it and they are sort of holding your hand you do.....you feel like you've actually done that....</p> <p>.....cos you're the one at their feet.....</p>

	<p>.....and you could do it again.....</p> <p>.....so, yeah I think it's true. Like now, going to a 3<sup>rd</sup> placement it's like 'ok, yeah give me an ulcer', because I have had experience in my 2<sup>nd</sup> placement...( undertook their 1<sup>st</sup> placement with Xxxx.)</p> <p>You've just got a greater sense of pride being allowed to sort of get in there and deal with the slightly more difficult things um, and obviously helping people to get better.</p> <p>It's kind of one step at a time. You get your basics sorted and then you are starting, wanting ...'ok, I need to move up a bit' and then you are like 'ok' and then you do one ulcer and you think 'oh, I've moved up a step' kinda thing to get to the top. Maybe that's just me?</p>
--	--



Table 4 Spidergram showing the advantages, disadvantages and issues around observation as perceived by the student



## **So what might this mean for the project?**

I think everyone would agree that supervising student whilst they develop their skills and encounter new areas of practice is an important, but very challenging area of the mentorship role. The question that strikes me is 'How do we confidently and consciously help students progress their practical skills whilst maintaining patient safety and quality of care?'

I would like to suggest that we consider the material that I have presented to you prior to the next meeting on Wednesday, 9<sup>th</sup> November with a view to discussing a strategy for moving the project forward with the focus around development of students' skills. Remember, that the 2<sup>nd</sup> year students come out on placement in mid-January (3<sup>rd</sup> years after Easter), so if we are going to undertake our research with the 2<sup>nd</sup> years, we need to reach an agreement at the next meeting in the following areas:

1. Discuss the issue of observation and skills development in terms of the advantages and disadvantages from the mentor's perspective.
  - How do we progress students' skills currently, when is the right time to introduce new challenges, how do we make those judgements? When observation is used, how can we make it as effective as a learning opportunity? Do we manage the 2<sup>nd</sup> and 3<sup>rd</sup> years in the same way?
2. Agree on a strategy for moving the project forward to include:
  - The research question and focus
  - Decide how we might make changes to our current practice or analyse current practice in order to inform future practice (to include the work already undertaken with the checklist in order to standardise the first student-mentor encounter).
  - Decide the data collection techniques we feel would best capture the data we are interested in eg observation, interviews, reflective diaries

There are undoubtedly many concerns around this aspect of our practice, especially when it involves high risk patients. We need to discuss these issues and how we overcome and manage that risk effectively.

If you could spend some time prior to the meeting thinking about the above points, I think by the end of the meeting we could have a very good outline of the project. The next job will be to outline the project in detail, so we can obtain the necessary ethics approval from both the Committees involved. I think it would be a good idea also to obtain the views of the service-users and perhaps the students that are currently with you at Xxxx, if they are willing. The reason for gaining their views is to ensure that all the possible stakeholders have an

opportunity to give their views from their unique perspectives. In that way, when we carry out the research we are more likely to find that it runs smoothly, does not create unanticipated problems and is beneficial to both those groups that we are ultimately trying to help. If you are keen to be involved in those discussions with the service-users/students you are very welcome.

I look forward to hearing your views on the 9<sup>th</sup> November. Please note that lunch will be provided.

The comments below were made by the students, are very interesting, and may help to provide a more rounded picture of the placement as perceived by the students.

#### Other comments of interest

The way that patient consent is obtained varies between mentors currently. Some mentors explain to the patient that their treatment will be undertaken by a student under supervision and are asked to sign a consent form, whereas other mentors do not inform that patient at all.

One student reported that on their first day their mentor said 'well you know what you are doing, you know how to wipe down' and no other conversation was undertaken. As time went on they got to know them and a relationship of trust was built. (211-220). Where telephone numbers were given to students on the first day they felt this showed thoughtfulness and was welcoming(231-257).

Mentor enthusiasm to help maintain student enthusiasm, encouragement and support were 'themes' that emerged (220-225, 231-239)

Formative feedback tends to be given constantly and this is well received (639-641). Some mentors at the end of the day review the learning outcomes and consider what has been achieved retrospectively rather than setting out to try and achieve particular learning outcomes at the beginning of the day (584-612)

Where mentors delay the sign-off for learning outcomes to the last week, students feel very stressed because they worry that they might not achieve and are unable to plot their progress. They worry they might be ill or the mentor might be ill and are concerned what this might mean for their studies (715-672). Also, once the learning outcomes are achieved, students feel more relaxed and able to enjoy their experiences.


The students value critical feedback, but praise is also valued too.

Induction manual highly regarded, because it is so helpful regarding what they need to know, and they felt it showed that they were valued and this gave a really good impression even before they arrived. Comments were made regarding organisation and relieving worries over simple things like parking.

## **Appendix 13 Core podiatry skills progression schema**

See over page

Core podiatry skills progression schema							
	1st year	2nd year 1st semester	2nd year 2nd semester	3rd year 1st semester	3rd year 2nd semester	Registration	
	Training Clinic	NHS placement	NHS placement	NHS placement	NHS placement		Post-Registration
	8 weeks in NHS clinic	No other practice opportunities		Training clinic exposure between placements			
Practice experience	11 & 15 blade with summative assessment using alginate to simulate callus. Some callus experience & enucleation possible in NHS Training Clinic						
Patient type	Simple callus & simple wound care	Simple callus & simple wound care	Callus on neuropathic patients. Starting to undertake some wound care	Neuropathic & ischaemic patients. Starting to debride and dress more challenging wounds		Complex wound care which may involve patients with necrosis, gangrene, post-amputation wounds and other activities e.g. total contact casting and maggot therapy	
Observation to hands-on ratio	Expect extended periods of observation with some hands-on experience	Expect extended periods of observation moving towards more frequent periods of hands-on experience	Initially expect observation as student adjusts to environment, demonstrate new techniques, whilst moving towards extended periods hands-on	Expect observation of new techniques, but moving towards extended periods hands-on	Observation <b>only</b> for new techniques with student demonstrating autonomous behaviour		
Learning Outcomes	1st year portfolio: CL1, CL3, CL4, CL5, CL6, CL10	2nd year portfolio: C8, CL16, CL16a, CL17, CL18, CL2, CL26, CL27, CL29, CL40		3rd Year portfolio: CL66, CL67; P18, CL71, <b>CL72</b> , P16, P21, CL65, CL46, P23, CL28			
Curriculum & Underpinning theory	POD103, POD104, POD105: dermatology; formation of callus and corns; causes of wounds and ulceration; vessel disease; off-loading; footwear; padding & strapping; anatomy and physiology	POD207: ulceration/classification POD208: Practice placement with end of module assessments relating to wound recognition, and risk assessment relating to ulceration		POD316: High risk patient			

<p>Skills &amp; knowledge baseline &amp; expectation.</p>	<p>Knows how to dispose of sharps &amp; actions for needle stick injury ; able to undertake basic pads; good aseptic technique; can categorise a patient's risk in relationship to NICE guidelines CG10; safe operation using 11 &amp; 15 blade but may under-operate or over-operating causing haemorrhages.</p>	<p>Able to recognise pre-ulceration &amp; infection; knows principles of off-loading and starting to apply those principles to padding and strapping accordingly; identifies some risk factors for patients in relation to their skills &amp; patient health status. Starting to give education to patient in relation to maintaining intact skin. Starting to apply functional anatomy and knowledge of biomechanics. May be cautious using 11 &amp; 15 blade with a tendency to under-operate or over-operate causing haemorrhages. May avoid more difficult procedures e.g. inter-digital lesions.</p>	<p>Starting to think about off-loading with insoles and footwear; developing some dressing knowledge; able to undertake a risk assessment in terms of the patients risk of ulceration; able to describe a wound in terms of its presentation and features; knows when and how to perform swabs. Gives educational advice to patients confidently and correctly. Can treat a pre-ulcerative site; can recognise sub-ungual ulceration. Should be dextrous, confident and efficient with 11 and 15 blade. Student may still under-operate using 15 blade. Able to distinguish between different types of callus that may require a different approach when debriding. May start to debride callus from around neuropathic wound &amp; necrotic tissue.</p>	<p><b>Some of these skills may have been achieved at the end of the last placement but should be evident by the end of this block of placement.</b> Able to apply theory of biomechanics to aetiology of lesions, drawing on their knowledge of anatomy and foot function. Able to make and use chair-side foot orthoses. Can take skin scrapings using scalpel for microbiology. Can apply most dressing confidently using an aseptic technique (under instruction if required). Knows when and how to irrigate wounds. Can debride and ID heloma molle. May start to treat sub-ungual ulcerations, but may still require assistance.</p>	<p>By the end of this placement the student should confidently be able to identify and treat a sub-ungual lesion using nippers and 15 blade as appropriate, enucleate an heloma durum in the sulcus, treat onychocryptosis using a 15 blade to resect the nail if appropriate, be confident in describing, debriding and dressing a wound on a patient with comorbidities. Able to prescribe orthoses and footwear confidently. Can recognise when wound is not healing and start to explore other potential factors e.g. malignancy, foreign body. Views patient holistically in terms of wound healing and understands the role of the multi-disciplinary team and their part within it.</p>	
---	---	---	--	--	--	---

## Appendix 14 Learning agreement

Name of placement area: .....

Date: .....

Name of mentor: .....

<b>Objectives</b> (What do I plan to learn?)	<b>Strategies/resources</b> (How do I plan to learn it?)	<b>Timeframe</b> (When do I plan to finish?)	<b>Evidence</b> (How will I show I have completed the task?)	<b>Verification/evaluation</b> (How will I demonstrate that I have learned it?)
<b>Objectives</b> (What do I plan to learn?)	<b>Strategies/resources</b> (How do I plan to learn it?)	<b>Timeframe</b> (When do I plan to finish?)	<b>Evidence</b> (How will I show I have completed the task?)	<b>Verification/evaluation</b> (How will I demonstrate that I have learned it?)

<b>Objectives</b> (What do I plan to learn?)	<b>Strategies/resources</b> (How do I plan to learn it?)	<b>Timeframe</b> (When do I plan to finish?)	<b>Evidence</b> (How will I show I have completed the task?)	<b>Verification/evaluation</b> (How will I demonstrate that I have learned it?)
<b>Objectives</b> (What do I plan to learn?)	<b>Strategies/resources</b> (How do I plan to learn it?)	<b>Timeframe</b> (When do I plan to finish?)	<b>Evidence</b> (How will I show I have completed the task?)	<b>Verification/evaluation</b> (How will I demonstrate that I have learned it?)



## Appendix 15 Clinical educator theory-practice acquisition checklist

Please complete after each learning opportunity

Date:	Time:	<b>Mentor code:</b>
Location:		Student code:
<b>Activity:</b>	✓	<b>Comments</b> – it may be that the you or the student only partially completed the task, so it is helpful if you give details of what occurred or if there were particular barriers that prevented the whole task being achieved.
Consent form issued to patient		
Identified opportunities to test student's knowledge underpinning task		
<ul style="list-style-type: none"> <li>Identified teaching opportunities around scalpel skills</li> </ul>		
<ul style="list-style-type: none"> <li>Identified teaching opportunities around MSK in relation to lesions or off-loading</li> </ul>		
<ul style="list-style-type: none"> <li>Identified teaching opportunities around wound care</li> </ul>		
Risk assessment undertaken by student in terms of their level of skill		
Patients risk status identified by student		
Clear objectives set regarding the scope of student's practice		
Skills broken down into micro-skills where appropriate		

Skills demonstrated and student observed		
<ul style="list-style-type: none"> <li>Student then undertook task</li> </ul>		
<ul style="list-style-type: none"> <li>Student advised that another opportunity will be sought for them to practice skill</li> </ul>		
Narration provided during observation to give insight into action and rationale		
Correctional feedback given to student where necessary		
Student seeks understanding to make sense of experience*		
Opportunity to explore student's understanding of experience*		
Observation to hands-on ratio		
If all observation, what were the circumstances?		

\*The use of the word experience here relates to the patient-mentor-student interaction and the learning opportunity that has occurred.

<b>Mentor confidence level</b> – please ring the number which best represents your feelings at the end of this particular experience in relation to your mentorship of the student. 😞	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	😊
	<b>Very little confidence</b>				<b>Quite a lot of confidence</b>	

**General comments**

## Appendix 16 Student theory-practice acquisition checklist



Please complete after each learning opportunity

Date:	Time:	<b>Student code:</b>	
Location:		Mentor code:	
<b>Activity:</b>		✓	<b>Comments</b> – it may be that the you or the mentor only partially completed the task, so it is helpful if you give details of what occurred or if there were particular barriers that prevented the whole task being achieved.
Consent form issued to patient			
Opportunities identified which allowed you to demonstrate your knowledge underpinning the task			
<ul style="list-style-type: none"> <li>Teaching opportunities identified around scalpel skills</li> </ul>			
<ul style="list-style-type: none"> <li>Teaching opportunities identified around MSK in relation to lesions or off-loading</li> </ul>			
<ul style="list-style-type: none"> <li>Teaching opportunities identified around wound care</li> </ul>			
Risk assessment undertaken by you in terms of your level of skill (in consultation with mentor)			
Patients risk status identified by you			
Clear objectives set by mentor regarding the scope of your practice			
Skills broken down by mentor into micro-skills where appropriate			

Skills demonstrated by mentor and you observed		
<ul style="list-style-type: none"> <li>You then undertook task</li> </ul>		
<ul style="list-style-type: none"> <li>You were advised that another opportunity will be sought for you to practice the skill</li> </ul>		
Narration provided during observation to give insight into action and rationale by mentor		
Correctional feedback given by mentor where necessary		
You sought understanding to make sense of experience*		
There was opportunity to explore your understanding of experience* with your mentor		
Observation to hands-on ratio		
If all observation, what were the circumstances?		

\*The use of the word experience here relates to the patient-mentor-student interaction and the learning opportunity that has occurred.

**Student confidence level** – please ring the number which best represents your feelings at the end of this particular experience in relation to the development of your practical skills.

	1	2	3	4	5	
	<b>Very little confidence</b>				<b>Quite a lot of confidence</b>	

**General comments**

## Appendix 17 Student self-assessment of podiatric experience

### Student self-assessment of podiatric experience

Student Name: .....

Placement Block: 2<sup>nd</sup> year 1<sup>st</sup> semester



2<sup>nd</sup> year 2<sup>nd</sup> semester

3<sup>rd</sup> year 1<sup>st</sup> semester



3<sup>rd</sup> year 2<sup>nd</sup> semester

Prior to your induction with your mentor at the beginning of your placement, please could you complete the attached. This will give your mentor some information regarding your experience so far and will form part of your discussions when you first meet and help to inform what experience and learning opportunities you may still need. Please take this sheet with you to your induction.



The questions over the page ask you to consider your level of confidence in relation to a number of podiatry skills. Please ring the number which you feel best represents your feelings.

	1	2	3	4	5	
	<b>Very little confidence</b>				<b>Quite a lot of confidence</b>	



How confident do you feel about your scalpel skills generally?

	1	2	3	4	5	
	Very little confidence				Quite a lot of confidence	



How confident do you feel about your debridement skills using an 11 blade?

	1	2	3	4	5	
	Very little confidence				Quite a lot of confidence	

How confident do you feel about your debridement skills using a 15 blade?

	1	2	3	4	5	
	Very little confidence				Quite a lot of confidence	



How confident do you feel about your enucleation skills using a 15 blade?

	1	2	3	4	5	
	Very little confidence				Quite a lot of confidence	



Please give details of your experience of debridement and enucleation to date?





How confident do you feel in your abilities to describe a wound?

	1	2	3	4	5	
	<b>Very little confidence</b>					



How confident do you feel in your abilities to recognise signs of infection?

	1	2	3	4	5	
	<b>Very little confidence</b>					

How confident do you feel in your abilities to choose an appropriate dressing?

	1	2	3	4	5	
	<b>Very little confidence</b>					

How confident do you feel in your abilities to apply that dressing?

	1	2	3	4	5	
	<b>Very little confidence</b>					







## **Appendix 18 Clinical educator workshop**

The workshop was held in a social space and outside working hours. The first half of the workshop was devoted to the project and relevant pedagogy lasting about one and a half hours. The second half involved a meal with more relaxed discussions, by way of a thank you for the clinical educators' time and participation. The workshop was integral to the preparation of the clinical educators prior to engagement with the project. The workshop aims were explained and that the project was part of a larger AR study seeking to extend knowledge in the area of practice placements in podiatry, to discuss the utility of the CPSPF and methods of identifying opportunities and maximising learning during placement. The research used to develop and underpin the CPSPF was also presented and discussed.

The background to the project was described and a PowerPoint presentation given introducing the research project. The CPSPF focused upon learning as the attainment of three main concepts: knowledge, skills and remembering (McKenzie, et al, 2013 p. 50-51) and although a number of learning theories attempt to explain the phenomena, none of them do so exclusively (Taylor and Hamdy, 2013) and therefore a range of different teaching and learning techniques should be employed. The group was encouraged to consider the complexities of learning and how students' engagement with learning is influenced by intellectual, personal and practical obligations (Light and Cox, 2001). The placement environment, although complex, offers students experiences by which they can make sense of the facts, concepts and theories they have been taught and to construct understanding within a meaningful context (Light and Cox, 2001). The placement setting, however, is

chaotic where organised learning is challenging and many learning experiences are opportunistic (McKenzie et al, 2013, p. 50).

The CPSPF was introduced to the group and each tool described in terms of their individual utility and the theory that underpinned their design. The self-assessment form, schema, TPACs and personal journals were all designed to help the student and clinical educator identify learning needs. The rationale was outlined, that if the student can be facilitated to identify learning needs it is a step towards self-directed learning. The benefits of self-directed learning are often espoused (Knowles, 2003, p. 3), but may be rhetorical given the framework of assessment within which the student resides (Light and Cox, 2001). At the early stages of the student's study it might be expected, and indeed be preferable, for the clinical educator to lead the approach (Levett-Jones, 2005), because the student may be less certain about how personal goals fit with programme specific requirements. By promoting the identification of learning needs, however, both the student and clinical educator have an opportunity to negotiate how that learning is facilitated within the clinical space.

The learning agreements, TPACs, personal journal and self-assessment forms all have an element of reflection which is considered essential for professional competence and assists learners to actively integrate theory with practice (Mann et al, 2009). The clinical educators were encouraged to consider prospective learning opportunities and where students are able to self-assess their own abilities this may be a useful starting point for discussion between the student and clinical educator. This must be viewed cautiously, however, as a dynamic relationship is thought to

exist between self-assessment and reflection, where one is dependent upon the other, but may be sensitive to context and level of expertise (Mann et al, 2009).

The personal journals were likely to represent a more familiar tool for the clinical educators where the process of reflection is thought to foster in the individual the ability to contemplate past experiences in order to derive learning (Trede and Smith, 2012) in the pursuit of increased effectiveness and satisfaction in the work place (Clouder, 2000). Current literature suggests that where the placement context is supportive, with students given time for reflection, outcomes are more likely to be successful. This success can be improved if the reflection is shared with associates, potentially due to the multiple perspectives that can be explored (Mann et al, 2009). This idea is contrary to traditional views of reflection as an individual, asocial activity (Clouder, 2000), but in order for students to be interested in being reflective practitioners, evidence shows that the practice has to be valued and supported within the placement culture (Trede and Smith, 2012).

The TPACs were designed in part to facilitate integration of theory with practice by providing an opportunity for the student to consider how they performed the skill, but specifically the underpinning knowledge that could be integrated within that experience. Putting theory into practice is complicated for the inexperienced student who has to interpret the new situation, recognise what skills/knowledge may be necessary, access this information from their memory and then utilise it within a complex and unfamiliar context (Eraut, 2004). Students learn theory at university, rehearsing skills in a simulated environment, but the placement setting is where pre-

loaded knowledge and skills are brought together in a holistic performance where learning outcomes are focused upon formal learning opportunities. The student and clinical educator in principle are able to negotiate the focus of learning and create a suitable learning environment, although this may be more challenging on placement where the focus is patient-centred care. The clinical educators were encouraged to use the TPACs to assist with maintaining attention upon theory integration.

The schema were presented to the clinical educators as an overview of the curriculum, providing a timeline specifying when theory teaching and skills acquisition should occur. The development of the schema was inspired in part by the work of Ausubel (1960) who theorised that students learn better if they are presented with an advanced organiser; that is information which is introduced to the learner prior to delivery of a new concept. The schema provides advanced warning of upcoming skills to be achieved, thus affording the student opportunity to organise the learning experience and prepare for it. The term 'scaffolding' is used as a metaphor for the framework (Fulton, 2013, p. 34) upon which new knowledge is built (McKenna, 2003b, p. 299-305). The clinical educator can easily establish from the schema what theory/skills should have been introduced previously to the student. This knowledge can then be used to help pitch the level at which new information is presented and therefore modify the clinical educator's approach to teaching. This information can also be achieved by the clinical educator probing the student's existing knowledge-base and assessing what they still need to learn, but the schema provides a starting point and some factual reassurance to the clinical educator. The clinical educator may subsequently talk the student through aspects of a new procedure or ask questions that help formulate plans for the student gaining new

skills and/or knowledge (Spouse, 2001). Knowing the curriculum and what prior knowledge can be expected of the student is therefore important to the clinical educator, particularly as the sequencing of new material is critical to the theory of scaffolding, as advanced organisers only work if the relevant foundation knowledge is in situ.

The concept of the 'zone of proximal development' was introduced to the clinical educators as a theory whereby new information is built upon existing knowledge with understanding facilitated by an expert (Vygotsky, 1978, cited in Andrews and Roberts, 2003). Spouse (2001, p. 515) describes this base-line knowledge, as '*knowledge-in-use*', and in order for the student to develop the student must access and use '*knowledge-in waiting*'. This can be facilitated by the clinical educator either in-action or post-action. Part of this process may involve contextualising and sharing experiences in an effort to develop the students' understanding (Andrews and Roberts, 2003). Within the complex milieu of placement the students' formal knowledge (episteme) must evolve to become applicable within the setting and how that formal knowledge is used in practice relates to what is termed phronesis (craft knowledge) (Spouse, 2001). Both the schema and the TPACs may be useful in helping the clinical educator to discuss with the student and to deconstruct the learning experiences that have already occurred whilst planning for future learning needs.

The clinical educator helps the student make sense of the context and the complexity of the setting within which they are attempting to gain and implement new

learning (Taylor and Hamdy, 2013). The learning outcomes were introduced to the clinical educators as a form of scaffolding, together with the idea that the induction at the initial meeting, constitute a type of simplified scaffolding too (Taylor and Hamdy, 2013). Ideally, it is at the induction that goals and aspiration are discussed, along with the learning outcomes that the student has for himself or herself. Scaffolding could be used to motivate the student, provide guidance in terms of goal setting and deconstructing tasks to make them more manageable (Taylor and Hamdy, 2013).

Creating an effective learning environment was also discussed and how being aware of pedagogical theories might facilitate them in that aim. For example, teaching new techniques in small incremental steps before the whole routine is achieved, giving positive reinforcement or modification, by way of feedback, at each stage (Archer, 2010). Reinforcement, is an important aspect of the behaviourist theory (McKenna, 2003a, p. 293-297) described as providing support which is gradually reduced to the point where the educator need only supply a cue for the required behaviour to be engaged in by the learner who will subsequently complete the whole routine. In terms of learning higher order skills, however, such as critical thinking, within a given social context, this theory alone does not suffice (Chomsky, 1975 , cited in Taylor and Hamdy, 2013, p. 1563). The social context within which the learning takes place (McKenzie et al, 2013, p. 60) is important to enable the student to contextualise observed behaviours (Bandura, 1971), which hopefully they will adopt, because their value is understood by the student and perceived as beneficial to the patient or praiseworthy by peers (McKenna, 2003a, p. 293-297). The clinical educators, however, were reminded that the learner's ability to discriminate between desirable

and undesirable behaviours may be flawed and result in negative outcomes (Andrews and Roberts, 2003).

Another technique that the clinical educators were introduced to is that of role modelling whilst verbalising (thinking aloud) their clinical reasoning, judgements and rationale, providing for the student insight into those processes, whilst demonstrating the reflection-in-action practice through critical dialogue (Clouder, 2000; Hodge and Oates, 2005). This dialogical approach to reflection with students, professionals and patients moves reflection into the public domain, thus raising the potential for debate concerning experiential learning situations and practice development through a collaborative approach (Clouder, 2000).

At the centre of the CPSPF are the core podiatry skills of scalpel skills, wound care and off-loading. The placement experience is the opportunity for students to practice these skills in a real-world environment with all the attendant challenges that presents. Discovery through learning proposes a view where the learner works through a system where initially they carry out a motor skill (enactive), followed by the formulation of a conceptual understanding (iconic) and finally, a fully integrated understanding of the area under examination emerges (Bruner, 1964). The clinical educator could exploit the iconic phase further by using metaphors to help students understand difficult concepts, such as describing ambulation as controlled falling. Engaging the student with questions designed to encourage interest and investigation of the practice under review may lead to deeper learning (McKenzie et al, 2013, p. 62). By understanding fundamental concepts the student can transfer



this knowledge to other related problems/systems (McKenna, 2003b). For example, understanding the neurological signs and symptoms consistent with an upper motor neurone lesion following a cerebral vascular event allows the student to anticipate neurological signs and symptoms for another condition that is classified in the same way, such as cerebral palsy.

By presenting these teaching and learning theories centred on the CPSPF it was hoped that they would be more accessible, comprehensible and relevant to the clinical educator role. The project required the clinical educators to maintain engagement and enthusiasm for the project for over a year, so it was important that they fully understood the project and how it could benefit them in their role and enhance the learning environment.

## Appendix 19 Patient consent form regarding student treatment during phase II

### Patient consent for student participation with podiatry treatment

Treatment to be provided:

#### Statement of Health Professional

I confirm that I have explained to the patient the procedure(s) the student will undertake under my direct supervision and that the patient understands they can change their mind without reproach or criticism.

The patient is free to stop the treatment at any time and the student is aware that this may happen. The student will accept the decision of the patient and/or supervising podiatrist without criticism.

Podiatrist \_\_\_\_\_ (print name)

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Statement of Patient**

I agree to a student being involved in the above procedures under the direct supervision of the podiatrist in charge. I understand the risks associated with the procedures which have been explained to me by the supervising podiatrist	<b>yes/no</b>
I have received and understood the information regarding a research project which is currently being undertaken that involves the mentor and student.	<b>yes/no</b>

**Patient's name** \_\_\_\_\_

**Patient's signature** \_\_\_\_\_ **Date** \_\_\_\_\_

## ***Action Research to Explore Practice Placement in Podiatry***

Dear Patient

Currently, the Podiatry Services at NHS xxxx and xxxx University are conducting research in practice placement. This has been designed to explore issues relating to the practice placement podiatry students from xxxx University undertake as part of their training.

xxxx University teaches the theory aspect of the podiatry programme and the students undertake 34 weeks in a clinical environment during their 2<sup>nd</sup> and 3<sup>rd</sup> years of study, in order to develop their practical skills. The people who help the podiatry students develop their practice skills are qualified NHS podiatrists who have an additional role as a mentor. Their job is to guide the student, act as a role model and specifically give advice that helps the student's professional growth. They undertake assessment of the student's skills too. This model of theory-practice delivery is well established in other health professions. However, issues that can both enhance and impede teaching and learning in the placement environment have been identified. To date this theory-practice model has not been evaluated within Podiatry and therefore very little is known about this important area of training for the podiatrist.

xxxx University and xxxx Healthcare NHS Trust, Podiatry Services are working closely together to improve the experience of students when they are on placement developing practical skills. It is important to us that the quality of the training for podiatry students is high, but that it does not impact negatively on the quality of patient care. We hope to make a real difference to the teaching and learning of podiatry students from the xxxx University

### **What would my role be?**

We do not require you to be actively involved. However, you may hear the mentor asking detailed questions about your condition and the student's plan of action at each stage of your treatment. Please be aware that the student

has been encouraged to ask questions of the mentor to clarify details if required. If this happens, please do ask either the student or mentor to explain anything you do not understand during the consultation.

## **Appendix 20 Clinical educator interview schedule**

### **Introductory Questions**

1. Having had an opportunity to undertake mentoring for the University students, what do you feel are the main issues when mentoring students?

### **Transition Questions**

2. How would you describe your mentorship style?

### **Key Questions**

3. During the placement, how did you support the student to develop their scalpel skills?
  - a. How did you encourage them to think about the theory and knowledge related to using debridement?
  - b. What about the theory and knowledge related to debridement of wounds and wound care?
4. What was your experience of using the 'scalpel skills schema' and 'psychomotor skills development guide' to focus attention on skills?
5. How useful is the 'scalpel skills schema' and 'psychomotor skills development guide' in focussing attention on knowledge base acquisition?
  - a. What were the strengths and weaknesses of the scalpel skills schema' and 'psychomotor skills development guide'?
  - b. Were you able to use the 'scalpel skills schema' to help you evaluate progress and set goals?
  - c. Did it increase your confidence in undertaking this task?

6. Were you able to recognise and articulate what constitutes competency and when a new step in skills progression could be introduced?
7. Do you feel that the 'scalpel skills schema' provided an overview of the whole process from start to finish?
  - a. Did this help you to map the student's progress in terms of their level of theory and knowledge and understand how that might impact on their level of practice?
8. In your opinion do you feel that the 'scalpel skills schema' and 'psychomotor skills development guide' as a whole assisted in reducing the theory-practice gap?
9. Do you feel you used any particular techniques that helped you to be more effective in terms of developing the student's practical skills?
10. To what extent do you believe the feedback you gave helped to develop the student's clinical skills?

### **Ending Questions**

11. Can you think of anything else that was significant or important regarding the placement experience that has not yet been covered in the interview?

## **Appendix 21 Student interview schedule**

### **Introductory Questions**

1. Could you tell me something about your experiences of practice placement at xxxx?

### **Transition Questions**

2. How would you describe your relationship with your main mentor at xxxx?

### **Key Questions**

3. During your placement, how did your mentor support you to develop your scalpel skills?
  - a. How did your mentor get you to think about the theory and knowledge related to using debridement?
  - b. What about the theory and knowledge related to debridement of wounds and wound care?
  - c. Were you encouraged to think about how biomechanics can be applied to off-load pressure over areas where patients have corns, callus or ulcers?
4. What was your experience of using the 'scalpel skills schema' and 'psychomotor skills development guide'?
  - a. What did you feel were its strengths and weaknesses?
  - b. Did it help you to understand your progress to date and where you still needed to develop?
  - c. Did that help you evaluate your progress and set goals?
5. In relation to scalpel skills and related learning outcomes, did you feel that your mentor could explain to you clearly what they expected of you in order to meet their requirements to pass a learning outcome?



6. Do you feel that this intervention 'scalpel skills schema' and 'psychomotor skills development guide' helped you to make sense of how theory informs the way we practice as podiatrists?
7. Do you feel that the 'scalpel skills schema' and 'psychomotor skills development guide' has helped you to integrate theory with practice?
8. To what extent do you feel that your experiences on placement affected your confidence?
9. Were there any specific times during your placement that you see as significant in developing competency?
10. Do you feel that your mentor used particular techniques that helped you to be more effective in terms of your practical skills?
11. How do you feel about the assessment techniques used in order to test your competency?
12. To what extent do you believe the feedback you were given by your mentor helped to develop your clinical skills?

### **Ending Questions**

13. Can you think of anything else that was significant or important to your placement experience that has not yet been covered in the interview?

## Appendix 22 Ethics for phase II

Appendix 22 presents the ethics for phase II, which serves as an example of the process undertaken in order to gain ethical approval. Over the course of the project ethics was granted initially for the project, which included consenting of the ART members. Following the start of the project there were seven substantial amendments granted as follows:

<b>Substantial amendment</b>	<b>Date approval received</b>
Service-user group	08.07.10
Student focus group	05.08.10
Clinical educator survey	10.01.11
Consultative student group	07.11.11
Phase II	06.12.11
Phase II 2 <sup>nd</sup> amendment Requesting addition of 'student self-assessment form'	16.01.12
Phase II 3 <sup>rd</sup> amendment Requesting extension of timescale	17.07.12

All the applications for ethics and attendant information sheets and consent forms are not included in the appendices as they represents a huge amount of text, but can be provided on request.

**3. Funding body (if any) and duration of project/programme with dates\*:**

**PhD part-time funded by School of Health Professions.**

**Commenced October 2009-October 2013**

**4. Research Outline: Phase II of action research project**

**Summary of changes**

I would be grateful if you would consider an amendment to this project, as the action research team would like to undertake the next phase of the project which will consider the development of clinical skills for 2<sup>nd</sup> and 3<sup>rd</sup> year students within the placement setting.

**Progress to date**

The action research project has been running for 18 months now and in that time we have undertaken a very successful first phase; developing a scale to measure mentor positivity and conducting a survey of the South West mentors. From this work, the action research team have been able to establish that the key variables that influence mentor positivity are well established within the placement at XXXX.

**Background to development of Phase II (2<sup>nd</sup> action research cycle)**

As part of the initial phase of the project the action research team engaged the students that had been on placement at XXXX using a focus group to explore their experiences and views. Some of these comments were very positive, but they also identified some issues relating to the length of observation. It was felt that having concluded the first phase of the project and determined that the mentors at XXXX had a good attitude towards mentoring students, that we should try and address the criticism that had been levelled.

Although the focus group agreed that the mentors had a very positive attitude to students, they felt that a weakness, in their experience, was the way in which their skills were progressed. They felt that they had to undergo extended periods of observation of the clinician at work, sometimes with little explanation from them as to the rationale and objective of the treatment undertaken. In some cases, the students had already undertaken some aspects of the clinical care being observed at a previous placement. Having to resume an observational role seemed to them to disregard their progress to date, they felt frustrated and as though they were not progressing their skills, but in a state of stasis.

**Rationale**

There does not appear to be a clear protocol at the moment within podiatry regarding how psychomotor skills should be progressed, from the initial acquisition

of the skill within a training clinic, to when they are within the practice placement setting. With the placements at XXXX University forming a large part of the student's time on the programme, it is important that skills are progressed and that students reach a level of competency that satisfies the learning outcomes. The learning outcomes are currently subject to a system whereby the student undertakes a number of formative feedback assessments and then finally elects to undergo summative assessment, which if passed, results in completion of that learning outcome. How some of these key psychomotor skills are monitored and judged, so that small, but crucial incremental steps are taken, allowing higher risk tasks to be undertaken by a student to achieve the required standard just prior to registration, is not clear. The area of skill progression that the student focus group identified was the skill of basic debridement of thickened skin (callus) on healthy patients. This skill is acquired within a skills laboratory upon simulated skin. By the end of their 1<sup>st</sup> year, students are able to carry out this activity upon NHS patients within a training clinic whilst under close supervision. By the end of the 3<sup>rd</sup> year, students must be able to demonstrate that they are able to undertake debridement of ulcers effectively and safely. The student, therefore, needs to have been given opportunities to undertake debridement on healthy patients (without comorbidities or ulcerations), patients with more challenging callus presentations and patients with ulceration, in order that they can develop their skills and ultimately undertake the procedure to the required standard, safely and effectively on any patient.

The focus group suggested that extended observation could be a symptom of lack of time in the clinical environment, mentor inexperience with students and their confidence to supervise particularly tasks. The action research team felt that it may also be a lack of appreciation from the student that their level of competency may not fit well with the risk status of the patient or that individual student's skills may not be sufficient for the mentor to allow them to work with particular patient groups, because they need more practice.

Following discussion with the action research team, consultative service user group and consultative student group, it was felt that skills development is an extremely important area, where the practice placement opportunities and mentors ability to recognise and exploit those opportunities, can positively impact on students' progress (DeBourgh, 2011). Each student's level of skills accomplishment, stage within the programme and individual learning requirements need to be carefully reviewed and monitored in order that they can be progressed satisfactorily.

There are a number of factors that will influence this; the learning outcomes that need to be achieved, student's accomplishment to date, mentors evaluation of student progress and the patient's informed consent.

During the 2<sup>nd</sup> year and 3<sup>rd</sup> year placements the learning outcomes to be achieved will, to an extent, govern what needs to be achieved, although there is a lot of

'ground' between the learning outcomes that relate to debridement skills. In fact, this 'ground' covers many aspects of the podiatrist's role such as debridement, off-loading of pressure over lesions; assessment of the patient medical status (including circulatory and neurological status), infection control, recognition of infection, wound care and dressings. In the 2<sup>nd</sup> year portfolio, the learning outcome just states 'debridement of skin'. The 3<sup>rd</sup> year portfolio states 'debridement of ulcers'. For a student to progress from debridement of normal, thickened skin to the challenges of debriding a neuro-ischaemic ulcer, requires detailed anatomy of the area, recognition of the state of healing and skill to debride macerated skin, which behaves quite differently from 'normal' skin, necrotic and sloughy tissue. The student requires periods of observation, explanation/feedback and experiential learning under close supervision in order to progress these skills. This is not an activity that can be simulated and these skills require teaching and practice within the clinical setting (Knight, 1998). Indeed, this is one of the key advantages of students undertaking practice placement within the context of realistic podiatry clinics, rather than podiatry school training clinics, which do not necessarily offer the wider-range of patient experiences. Clearly, the student's knowledge base that underpins the skill of debridement, and is essential to practice, needs to be assessed, and acquisition of new knowledge guided, whilst undertaking real-world practice, in an attempt to bring together this concept of the 'theory-practice gap' (Corlett, 2000).

### **Research questions**

- How do mentors facilitate the acquisition of scalpel skills and underpinning knowledge within the wider context of the podiatry role?
- How useful is the 'scalpel skills schema' and 'psychomotor skills development guide' in focussing attention on skills and knowledge base acquisition.
- How useful is the 'scalpel skills schema' and 'psychomotor skills development guide' in mapping progress achieved and progress still to be achieved
- How useful is the 'scalpel skills schema' and 'psychomotor skills development guide' in assisting the setting of goals?
- Did the 'scalpel skills schema' and 'psychomotor skills development guide' increase mentor confidence whilst undertaking the mentorship role?
- Were the mentors able to recognise and articulate what constitutes competency and when a new step in skills progression could be introduced?
- Does the student perceive that this project has facilitated the integration of theory with practice?

### **Proposed Intervention**

The proposal for this phase of the research project is to work with 2<sup>nd</sup> year and 3<sup>rd</sup> year students. The 2<sup>nd</sup> year students will be undertaking the second stage of their placement (so they will already have undertaken 8 weeks during their 1<sup>st</sup> year in a NHS training clinic run in partnership with XXXX University and 7 weeks within a

NHS Podiatry Department in the South West region). The 3<sup>rd</sup> year students will be in their last 8 week placement, just prior to their final exams. It is likely that these students will be at different levels of competency, will certainly have had very different clinical experiences, and may well exhibit varying levels of confidence about their present skill set and competency.

During the conceptual stage of this phase of the project, the action research team met and discussed issues around how students' skills are currently progressed, when is the right time to introduce new challenges and how those judgements are made. The use of observation was also discussed, because this had been the main criticism from the student focus group, in particular focussing on how observation can be used effectively when it is required. From our discussion it was clear that the individual mentors within the group had different approaches to the level of observation they required their student to undertake before they allowed them to have hands-on experience. Some mentors applied specific 'rules' regarding the type of patient they allowed their 2<sup>nd</sup> year students to practice on, where others did not. What was most evident was that the way in which they viewed the progression of the student through the acquisition of their scalpel skills, which is a foundation skill that must be attained in order to gain mastery over more complex and challenging sharps debridement that occurs in the management of wounds, was currently 'out of focus'. Mentors did not have the learning outcomes within the portfolio clearly mapped and no formal strategy for achieving the learning outcomes in relation to scalpel skills. They observe the student and make decisions based on the level of confidence that the student instils within them. They benchmark the student against internal, but not easily articulated standards, often measuring one student against another. We felt a framework that mapped out the key learning outcomes that relate to scalpel skills, the knowledge base that underpins the use of the scalpel, and the ability of the student to undertake a risk assessment, not only of the patient's risk status, but also of their own technical skills and what risk that might pose to some patients. The last point, we felt, might be helpful in raising the student's awareness as to situations where observation is the most suitable interaction within the clinical environment. Perhaps most importantly this intervention would provide a clearer structure and rationale for decision-making, but overall responsibility in the clinical area rest firmly with the mentor who must make the final decision with regard to patient safety versus student skill acquisition.

Appendix 1 outlines a 'scalpel skill schema' which details the student's progression through the programme in terms of scalpel skill acquisition in relation to the curriculum and theory that underpins those skills. It also clearly states the types of patient that the student should practice upon; that patients with ischaemia (poor blood supply) need to be included as they form a substantial part of the podiatrists

caseload, but this should be for the 3<sup>rd</sup> year students only. There are also guidelines for the ratio between observation and hands-on experience. Having produced this schema, it will be used to focus the mentor on the complex journey that the student and the mentor are embarking upon in order that the student achieves the competency level required. It clearly maps the learning outcomes, point at which the underpinning theory is delivered and the theory that supports the required knowledge base in order for the student to appreciate the wider context within which this skill functions.

Appendix 2 contains the 'psychomotor skills development guide', which has been designed for the mentor to use in order to identify the key points of review and different strategies that might be employed, so that the potential for progression is maximised. The mentor will need to be able to evaluate the student's current level of skill, previous critical experiences in terms of how they impacted upon the student (whether they progressed or regressed that students skills development and confidence), whether the student's self-evaluation and goal is insightful and realistic. A learning agreement is suggested as a way that the mentor and student can identify learning needs and use it as a focus for discussion and review.

### **Mentor and student engagement**

As can be seen from the 'psychomotor skills development guide' (Appendix 2), there are specific points where the mentor and student meet where time has been allocated for discussion in relation to the student's progress to date, how this relates to the learning outcomes they still have to achieve and development of strategies for achieving the skills still required. This and the 'scalpel skill schema' allow both the mentor and student to acknowledge the key foundation theory/knowledge that the student must have before they can move forward. It is one thing to demonstrate a motor skill, but the rationale for doing so is one of the distinctions between a technician and clinician. This intervention is designed to raise the awareness of the mentor and student to the complexity of what may superficially appear to be a basic skill. The podiatrist's key areas of practice are within what is termed 'routine podiatric practice, musculoskeletal practice and wound care'. However, the use of a scalpel to debride skin on a normal patient does in fact off-load the area by decreasing the pressure delivered to the soft tissues. This simple concept feeds into much more complex paradigms of foot function and tissue stress that must be understood in order to be effective as a musculoskeletal or wound care practitioner.

When teaching skills to students, educationalists consider the wider context and ensure that theory is delivered in a timely fashion, so that it builds upon previous

knowledge. When teaching clinical skills they are used to thinking about skills as a chain of smaller events which when linked together amount to a fluid execution of what appears to be one activity. Within podiatry, mentorship is a fairly new role, and therefore we do not have mentors with years of experience. This idea of the micro-skill within the macro-skill may not be fully appreciated. Acknowledgement of how these micro-skills form the macro-skill and in fact then interdigitate with the podiatry role as a whole may develop the mentors skill and confidence in helping the student attain these crucial steps that incrementally build the foundations of more complex tasks and knowledge.

The mentor and student formally meet on the following occasions as part of the current practice during placement:

- Induction
- Mid-placement review
- End-of-placement review

They will continue to meet at regular intervals throughout the placement within the clinical environment. All other interactions are fitted around the clinical schedule.

The mentor and student will continue to use the portfolio to record information regarding progress during the placement, relating to the mid-placement and end of placement review. There is also a learning contract within the portfolio. The mentor and student may wish to undertake SWOT analysis at the induction, mid-placement review and end-of-placement review.

### **Student participation**

The students who will be invited to join this phase of the research were invited to join the Consultative Student Group that helped to design this part of the project. They will be sent an email inviting them to a meeting at PAHC, XXXX, Derriford Road, XXXX, explaining that the research has been approved by the XXXX & XXXX Research Ethics Committee, Faculty of Health, XXXX Ethics Committee and R&D XXXX and that the Lead Researcher would like the opportunity to discuss the research with them in more detail and answer any questions. The 'Student information sheet' and 'Student consent form' can be seen in Appendix 3 & 4, which will be attached with the email. At the meeting, it will be explained again that the research pertains to their acquisition of scalpel skills and how those skills are progressed. They will be introduced to the 'scalpel skills schema' and 'psychomotor skills development guide' and the rationale of their production. They will be told that



it will be for them and their mentor to use this information in a way that suits them both in order that it can be used flexibly for their learning needs. Their involvement will, however, require them to keep a diary of particular events that they feel occurred during the placement that either impacted positively or negatively on their learning. In order to support the diaries there is a 'theory-practice acquisition checklist' for the student to complete, which will help to triangulate the information from the diary of the student and that of the mentor (See Appendix 5a). The Lead Researcher would also like to interview them at the end of the placement in relationship to the whole skills progression experience, which will take approximately 1 hour (**See Appendix 6 for interview schedule**). The Lead Researcher will also request access to the student's portfolio in order that details of how progress was recorded and new goals set can be captured. (These portfolios are available to all academic staff (the Lead Researcher is a podiatry lecturer) during the students programme of study, but the Lead Researcher feels that it should be made clear to the student that this information would be viewed in relation to the project.) The students will also be asked to complete a generalised self-efficacy scale at the beginning and end of the placement (See Appendix 11). It will be made very clear to them that if they decide not to be involved in the research there would be no adverse consequences in terms of their relationship with XXXX University or their academic progress. Any expenses incurred in relationship to travel will be reimbursed.

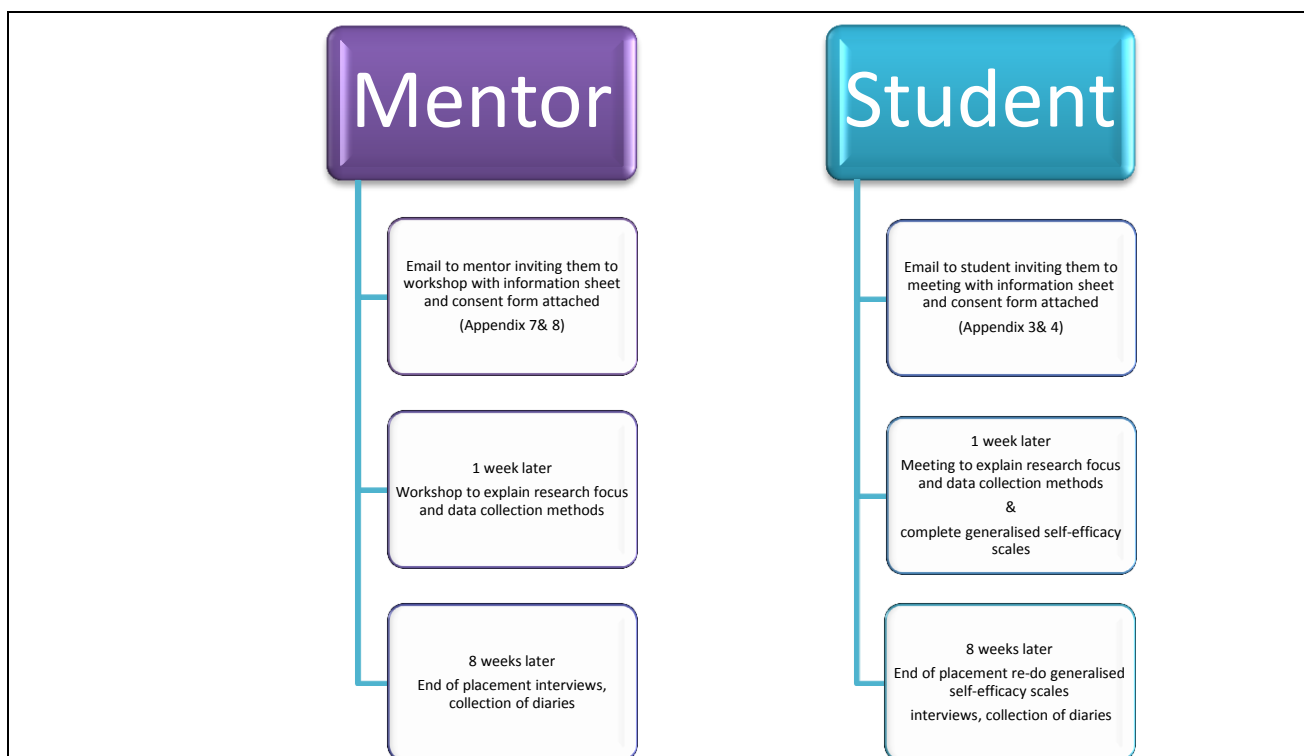
### **Mentor participation**

An email will be sent to all the sign-off mentors at XXXX inviting them to a workshop at XXXX, explaining that the research has been approved by the XXXX & XXXX Research Ethics Committee, Faculty of Health, XXXX Ethics Committee and R&D XXXX and that the Lead Researcher would like the opportunity to discuss the research with them in more detail and answer any questions. The 'Mentor information sheet' and 'Mentor consent form' can be seen in Appendix 8 and 9, and this will be attached with the email. The mentors would be invited to a workshop with the Lead Researcher to discuss the 'scalpel skill schema' and 'psychomotor skills development guide', so they fully appreciated the interconnectedness of this skill between theory and practice. This would provide an opportunity to engage with all aspects of the framework and discuss different ideas of how to work with their students in order to fully utilise the opportunities that they have in the clinical environment. The idea of breaking skills down into micro-skills and once these have been mastered, adding the next part of the 'routine' in order to develop their student's performance. They should seek to explain to the student why observation is necessary, but also find learning opportunities within that situation, so that opportunities are not wasted. They should review objectives regularly and seek to set new goals. Although these activities might not be new to the mentors, the focus of the workshop will be to use them in conjunction with the workshop, so that we can

discuss ideas around a specific set of learning needs.

The mentors would be introduced to the different data collection methods to be used and the research questions we are trying to answer. They would be asked to consider the alternative ways of working with their student, and perhaps try some of the ideas that have been suggested at the workshop. Ultimately, they will be encouraged to work with their student in a way that suits them and their student, in order that it can be used flexibly for their student's learning needs.

Their involvement will, however, require them to keep a diary of particular events that they feel occurred during the placement that either impacted positively or negatively on the learning of the student. Any new techniques that they used or moments when they perhaps viewed the process to supporting the student to gain new skills and knowledge differently, where they gained new insight or perspective. In order to support the diaries there is a 'theory-practice acquisition checklist' for the mentor to complete, which will help to triangulate the information from the diary of the student and that of the mentor (See appendix 5b). The Lead Researcher would also like to interview them at the end of the placement in relationship to the whole skills progression experience, which will take approximately 1 hour (**See Appendix 7 for interview schedule**). It will be made very clear to them that if they decide not to be involved in the research there would be no adverse consequences in terms of their relationship with XXXX University or the Lead Researcher. Any expenses incurred in relationship to travel will be reimbursed.



Figures 1 – Flowchart outlining the programme of events

### Service-user involvement

It is not envisaged that the service-user will be directly involved. Currently, all service users are informed in writing on arrival at the clinic that there will be a student with the clinician. They are then asked if they are happy to have the student observe and if so, whether they are happy for a student to undertake part or all of the treatment under the supervision of a qualified podiatrist (see Appendix 10, patient consent form). This form is given to the service user outside the clinic before they have met with the student, so that they do not feel in anyway pressured to say yes to any part of the request. This practice will continue during the research project with the additional paragraph, which explains the aims of this phase of the project. The service user will be told that they may hear the mentor asking detailed questions about the patient's condition, the student's plan of action at each stage of their treatment, and that the student has been encouraged to ask questions of the mentor to clarify details if required. The service user will also be encouraged to ask questions of either the student or mentor if they do not understand anything that is taking place during the consultation. It is not envisaged that the project will in any way alter or impede the consultation beyond the usual changes that occur when a student is on placement. When students are on clinical placement, it is usual for questions and explanations to be heard by the patient. In this instance, the focus is around clarification, evaluation and skills acquisition.

## **Data collection**

**Diaries-** to be kept by both the mentor and student of particular events that they feel occurred during the placement that they felt either impacted positively or negative on the learning of the student. For the mentor, they may record any new techniques that were used or moments when they perhaps viewed the process to supporting the student to gain new skills and knowledge differently, where they gained new insight or perspective. The students may also record moments of insight or connection, when they were able to understand or appreciate some aspect in more details or within a wider context. This feeds into the idea of closing this concept of the 'theory-practice gap'.

**Interviews-** These will be conducted with both the student and the mentor at the end of the placement lasting approximately 1 hour. The interview will be in relation to the experience of skill progression. This will relate to the use of the 'Scalpel skills schema' and 'Psychomotor skills development guide' and whether either of the parties felt that this had been useful. Did the mentor find that being more focussed and aware of the issues surrounding a particular skill made it easier for them to progress and monitor the student? Did the student feel that they were supported by the mentor within an environment where they were confident that they would be able to progress? And relating to the other research question, how were the acquisition of scalpel skills and underpinning knowledge within the wider context of the podiatry role facilitated?

**Portfolio review-** The student portfolio will be used in order to track the progression of the student's progress in relation to overall learning, but specifically scalpel skills and knowledge base around this activity. It may also provide useful insights into the way in which it was used to document progress and set new goals, with clear objectives outlined.

**Generalised self-efficacy questionnaire (GSES) –** GSES measures individual's belief in their ability to deal with stressful events that may occur, which might be related to an environment or situation (Luszczynska, Gutierrez-Dona and Schwarzer, 2005). It is a global measurement of an individual's confidence to deal with a range of situations that may prove demanding or difficult. Levels of low self-efficacy have been linked with anxiety, helplessness and pessimism in relation to accomplishments and personal development (Rimm and Jerusalem, 2007). By measuring students' self-efficacy at the beginning of the placement, applying the

interventions (scalpel skills scheme and guidance) and re-measuring self-efficacy again at the end of the placement, it may help to interpret the other data collected in relation to their responses to the placement environment and new learning experiences. The students will be asked to complete an efficacy scale at the beginning and end of the placement in order to capture data that may help to support and interpret the qualitative evidence from the diaries, interviews and portfolio, in relation to the student's levels of confidence rising.

**Theory-practice acquisition checklist-** In order to support the diaries there is a 'theory-practice acquisition checklist' for the mentor and student to complete, which will help to triangulate the information between the student and the mentor's diaries and one another's checklists, checking for concordance or discordance between the accounts.

### **Data analysis**

The interviews, diaries, checklist and portfolios will be analysed using thematic content analysis (TCA) to triangulate the coded interaction data (Smith, 1992). TCA offers a method of identifying, analysing and reporting patterns (Braun & Clarke, 2006), which allows for social and psychological interpretation of data, and can be used across a range of research questions.

### **References:**

- Braun, V. & Clarke, V. 2006. Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*. 3, 77-101
- Corlett, J. 2000 The perceptions of nurse teachers, student nurses and preceptors of the theory-practice gap in nurse education. *Nurse Education today*. 20, 6 pp 499-505
- DeBourgh, G. A. 2011 Psychomotor skills acquisition of novice learners: A case for contextual learning. *Nurse Educator* 36, 4 pp 144-149,
- Knight, C. M. 1998 Evaluating a skills centre: the acquisition of psychomotor skills in nursing – a review of the literature. *Nurse Education Today*. 18, pp 441-447
- Luszczynska, A., Gutierrez-Dona, B., & Schwarzer, R. 2005 General self-efficacy in various domains of human functioning: Evidence from five countries. *International Journal of Psychology*. 40(2), pp 80-89
- Rimm, H., & Jerusalem, M. 2007 Adaptation and validation of an Estonian version of the general self-efficacy scale. *Anxiety, stress and coping*. 12, pp 329-345
- Smith, C, P. (1992). Motivation and Personality: Handbook of Thematic Content

Analysis. Cambridge: Cambridge University Press

Winter, R. & Munn-Giddings, C. (2001). *A Handbook for Action Research in Health and Social Care*. UK: Routledge.

*(Please expand to requirements)*

- 5. Where you are providing information sheets for participants please enclose a copy here. The information should usually include, in lay language, the nature and purpose of the research and participants right to withdraw:**

<b>List of enclosed documents</b>		
<i>Document</i>	<i>Version</i>	<i>Date</i>
Appendix 1- scalpel skills schema	1.0	28.11.11
Appendix 2- psychomotor skills development guide	1.0	28.11.11
Appendix 3- student information sheet	1.0	28.11.11
Appendix 4- student consent form	1.0	28.11.11
Appendix 5a & 5b - Theory-practice acquisition checklist	1.0	28.11.11
Appendix 6- interview schedule- student	1.0	28.11.11
Appendix 7- interview schedule- mentor	1.0	28.11.11
Appendix 8- mentor information sheet	1.0	28.11.11
Appendix 9- mentor consent form	1.0	28.11.11
Appendix 10- patient consent form	1.0	28.11.11
Appendix 11- Generalised self-efficacy scale schedule	1.0	28.11.11
Appendix 12- Participant exit form	1.0	18.12.09

- 6. Ethical Protocol:**

Please indicate how you will ensure this research conforms with each clause of XXXX University's Principles for Research Involving Human Participants. Please attach a statement which addresses each of the ethical principles set out below. Please note: you may provide the degree of detail required. Each section will expand to accommodate this information.

- (a) **Informed consent:**

*Please indicate if a consent form is to be used.*

The participant information sheets give details about the research, explain why they have been approached, details of their prospective role and explains clearly that they are under no obligation to participate.

The Chief Investigator will ask participants to complete consent forms prior to the interventions being undertaken (see appendices 4 & 9). The opportunity to withdraw as the research progresses and develops is extremely important in order that participants have an opportunity to re-evaluate their role and involvement with the project. Participants will be asked to sign a consent form if they agree to participate in the study.

(b) **Openness and honesty:**

All participants will be fully informed of the nature of the research. No deception will be used during any part of this research.

(c) **Right to withdraw:**

Participants will be informed of their right to withdraw from the research by the Chief Investigator and via the participant information sheet. If participants decide to withdraw from the study following data collection, all data provided by the participants will be removed from the analysis and destroyed. They have a right to withdraw without any need to provide a reason as to why they have decided to make this decision. Participants will be reassured that withdrawing will in no way affect their academic progress or achievement (students), nor will it impact upon their relationship with XXXX University. There is an option for participants to take part for a period of time in the research and then to withdraw. They can do this by completing a 'Participant exit form' which allows the participant to choose to have all data removed from the study, OR to withdraw, but allow data gathered up until their withdrawal to remain in the study.

(d) **Protection from harm:**

It is not foreseen that the research will cause any harm to those participating. This project offers an excellent opportunity for mentors and students to develop their research skills and create knowledge in an area that has not been explored before within podiatry. The research also has implications for the podiatry profession in

terms of how training for new podiatrists may be conducted in the future.

The majority of the participants are clinicians and have their own code of professional morality which they are called upon to exercise on a daily basis taking responsibility for, and are accountable for, their actions. The wellbeing of patients is at the centre of the podiatrist's role. Therefore, it is incumbent upon the podiatrist to take seriously the responsibility of others wellbeing and do nothing that would compromise or cause damage to another nor cast that professionalism into doubt.

However, there are specific considerations pertaining to the different participants involved:

- Students involved in research about their learning may be perceived as a vulnerable group due to the relationship between the Chief Investigator and the mentors who may choose to be involved. The power dynamic favours the mentor who has control of assessment over the student. The students, however, have had an opportunity to give their opinion regarding the planning of this phase of the research and in particular the proposed intervention. It will be made explicit to them that they can withdraw at anytime during the process and that any information pertaining to them will be removed from the analysis and destroyed, although there is an option for them to withdraw, and allow their data to remain within the study (see the 'Participant exit form'). Students who have concerns regarding their involvement or non-involvement with the research could seek guidance and support from either their Personal Tutor or the Programme Lead who may raise issues on their behalf with the Chief Investigator if required. However, this is a very good opportunity for students to engage in research and witness at first hand the rigour of research and importance of adherence to ethical principles. These students are possible researchers of the future and this experience may build their confidence with regard to undertaking research once qualified, especially in collaborative ventures. It is important that students feel able to speak freely and give their opinion without fear of reprisal.
- For mentors who do not wish to be involved in the research it will be made clear that they do not have to participate and that this will in no way affect their activities as mentors for XXXX University, either during the time the research is running, or following its completion. It will be made explicit to them that they can withdraw at anytime during the process and that any information pertaining to them will be removed from the analysis and destroyed, although there is an option for



them to withdraw, but allow their data to remain with the study (see 'Participant exit form' – Appendix 12).

*Does this research involve:*

*Please tick*

<i>Vulnerable groups</i>	<i>x</i>
<i>Sensitive topics</i>	
<i>Permission of a gatekeeper for initial access</i>	
<i>Deception or research which is conducted without full and informed consent</i>	
<i>Research that will induce psychological stress, anxiety or humiliation or cause minimal pain</i>	
<i>Intrusive intervention (eg, the administration of drugs, vigorous physical exercise or hypnotherapy)</i>	

(e) **Debriefing:**

Participants will be fully debriefed, during which time they will be encouraged to ask any questions they may have. They will be provided with contact details should they wish to talk further with the researchers beyond the debriefing session.

(f) **Confidentiality:**

Ground rules will be established and agreed by those involved, so all participants understand that privileged information relating to the research must not be discussed outside of the workshops and briefings. However, due to the nature of action research and the time that it takes to carry out, it is likely that others in the organisation or podiatry fraternity will be aware that this research is being undertaken and this needs to be made implicit to the participants and although confidentiality is assured, anonymity may not be. The information sheets incorporate this information, so that participants are fully informed when making their decision to become involved.

Participants will be assigned codes for transcription purposes to obscure their identity. As an insider participator the Chief Investigator already 'belongs' within this environment and therefore has ethical responsibilities already established towards

colleagues, students and mentors. Winter & Munn-Giddings (2001) argue that ethical relationships embody a duty of care for others well-being, respecting their individual rights, and harm prevention, whilst facilitating autonomy and preserving confidentiality. Therefore, some of the principles of ethical research are already in place to an extent.

The motivation for this research is improvement of an existing situation, which benefits the participants and therefore the emphasis is different from a purely experimental design. It is therefore important that the participants all feel protected and assured that these ethical considerations will be applied. The assurance of preserved confidentiality is particularly crucial because without this participants may not feel that they can fully engage in the research. This may be done by the use of codes, details of the precise location of the research being obscured and the continued assurance that material will not be discussed outside of the workshops/briefings and that those involved must approve all written material that will be viewed by outside parties.

No names will be used on any transcripts or reports. If direct quotations are used in subsequent publications or presentations, these will be entirely anonymised such that no individual student could be identified. The Chief Investigator will hold all data and information in a locked filing cabinet that is kept in a room with limited access and locked when not occupied.

It will be the responsibility of the Chief Investigator to maintain storage for all paper data in a locked filing cabinet. Digital data will be stored on PU computers within password-protected files. Audio files will be kept on an encrypted hard drive. All digital records will be deleted after transcription.

**(g) Professional bodies whose ethical policies apply to this research:**

Health Professions Council, Society of Chiropractors and Podiatrists

---

**7. Researchers Safety**

---

**(a) Are there any special considerations in relation to researchers safety?**

---

**(b) If so what provision has been made (*for example the provision of a mobile phone, or a clear recording of movements*)**

**8. Declaration:**

To the best of our knowledge and belief, this research conforms to the ethical principles laid down by XXXX University and by the professional body specified in 6 (g).

Principal Investigator:	Signature	Date
Sally Abey	<i>Sally Abey</i>	3.12.11

Other staff investigators:	Signature(s)	Date
----------------------------	--------------	------

Director of Studies (only where Principal Investigator is a postgraduate student):	Signature	Date
--	-----------	------

## Appendix 23 Clinical educator information sheet for phase II

### Part 1

---

**Title of Research Project:** *Action Research to Explore Practice Placement in Podiatry*

Dear Clinical educator

You are being invited to take part in a project to explore issues relating to the practice placement that podiatry students from XXXX University undertake as part of their training.

**The Lead Researcher undertaking this research will use the data and evaluation to present as her PhD thesis.**

XXXX University teaches the theory aspect of podiatry and students then undertake periods of time in a clinical environment in order to develop their practical skills which totals 34 weeks. This model of theory-practice delivery is well established in other health professions. However, issues that can both enhance and impede teaching and learning in the placement environment have been identified. To date this has not been evaluated within Podiatry and therefore very little is known about this important area of training for the podiatrist. As you may be aware, some of your colleagues have been working closely with XXXX University to identify issues with the current placement and explore new ways of working that we hope will enhance the mentor- student experience. In order to identify some of the issues we organised a student focus group and it is their comments that have stimulated this phase of the project.

#### **Why are you being invited?**

I would like to invite you to take part in this research study because you play a major role in the placement experience for students. The teaching and learning of podiatry skills is essential for their development and ultimately for them to be able to register as a podiatrist. You are at the centre of the student learning experience and are fundamental in their development.

Before you can decide you need to understand a little more about why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information.

#### **What is this research about?**

The student focus group highlighted some discrepancies in how their psychomotor skills are currently progressed in particular scalpel skills in relation to wound debridement. Some students had been on previous placements and undertaken scalpel work on a variety of patients, including those with wounds, and then were asked to observe mentors for what they considered to be extended period of time. Clearly, there is a requirement for observation and it may be that in busy clinical environments, the stage of the students learning and technical skill are all factors to be taken into account.

During the 2<sup>nd</sup> year and 3<sup>rd</sup> year placements some of the learning outcomes to be achieved relate to debridement skills. In fact, debridement, off-loading of pressure over lesions, assessment of the patient's medical status (including circulatory and neurological status), infection control, recognition of infection, wound care and dressings all relate to the skill of debridement and feature throughout both portfolios. However, in relation to debridement, in the 2<sup>nd</sup> year portfolio, the learning outcome just states 'debridement of skin' and in the 3<sup>rd</sup> year portfolio states 'debridement of ulcers'. Clearly, there is a significant requirement for skills to be progressed and knowledge that needs to be instilled for the student to move from the first learning outcome to achieve the 'debridement of ulcers'.

For a student to progress from debridement of normal, thickened skin to the challenges of debriding a neuro-ischaemic ulcer, requires detailed anatomy of the area, recognition of the state of healing and skill to debride macerated skin, which behaves quite differently from 'normal' skin, necrotic tissue and sloughy tissue. They require periods of observation, explanation/feedback and experiential learning under close supervision. This is not an activity that can be simulated and these skills require teaching and practice within the clinical setting. Indeed, this is one of the key advantages of students undertaking practice placement within the context of realistic podiatry clinics, rather than podiatry school training clinics, which do not necessarily offer the wider-range of patient experiences. Clearly, the student's knowledge base that underpins the skill of debridement, and is essential to practice, needs to be assessed and acquisition of new knowledge guided whilst undertaking real-world practice, in an attempt to bring together theory and practice.

Some of your colleagues and myself have been working together to consider what the issues are around teaching this skill and progressing the student and feeling confident about doing so. We have put together the beginnings of a framework that we think might be beneficial to mentors who are faced with escalating students skills in busy clinics with increased numbers of high risk patients.

We propose to implement changes to our current teaching practices, which will improve the way that students acquire and develop their clinical skills. We are very keen to ensure that their clinical and psychomotor skills are progressed appropriately and effectively in an environment, which is both safe for you, and most importantly the patient.

### **What do I have to do?**

I am asking you to work with a student whilst in the clinical environment using the framework that we have developed to help you identify what progress the students have made at the point they come to you, evaluate their previous experiences and then to map their progress whilst goal setting in an informed and progressive way. This activity will be undertaken during their placements with XXXX Healthcare NHS Trust, Podiatry Services between January and July 2012.

We would also ask you to keep a diary during this time, note down significant points where you perhaps feel that you have used a technique with a student that has been particularly effective or for some reason you have changed tactics, because a strategy appeared ineffective. More information regarding this aspect will be made available if you wish to attend the workshop, where we plan to deliver the ideas we have regarding the teaching of scalpel skills. The Lead Researcher would also wish to undertake an interview with you at

the end of the placement to ask you about your views on the experience of this new way of working.

### **How much time will it take?**

The Lead Researcher would also ask you to give 1-2 hours prior to the placement to attend the workshop and post-placement for an interview to discuss your placement experiences. It is difficult to predict how long the diary might take you to complete, but you should possibly consider 15 mins for each timetabled session with your student.

### **What is the role of the Lead Researcher?**

The Lead Researcher will act as the facilitator for the project. Initially, you will be given more information about the project, and then asked to consider and complete a consent form if you wish to take part in the project. A workshop will then be arranged to meet to discuss the proposed research in more detail and give you an opportunity to ask questions.

### **What are the benefits?**

This is an opportunity to be involved in research that may influence the quality of the placement that is provided by XXXX University and XXXX Healthcare NHS Trust collaboration.

It may also change the way that placement is undertaken and therefore improve placement for other mentors and students at XXXX University and benefit the podiatry profession in the future, and ultimately our service users. It would also give you an insight into research planning and data collection techniques, which may be helpful to you in your own research projects in the future. This activity can be recorded in your Continued Professional Development portfolio and your CV.

### **Are there any costs/risks?**

It is not anticipated that there are any risks attached to this research. However, it will take up some of your time.

### **Do I have to take part?**

No, you should not feel under any pressure to take part in this research. If you are willing to participate you will be given this information sheet to keep and asked to sign a consent form. Your participation is entirely voluntary. This study has been approved by XXXX University, Faculty of Health, Education and Society, and the Cornwall and XXXX Research Ethics Committee.

If the information in Part 1 has interested you and you are considering participating, please read the additional information in Part 2 before making any decision.

## **Part 2**

---

### **Will my taking part in this study be kept confidential?**

Yes, all information which is collected about you during the course of the research will be kept strictly confidential and stored securely. Your identity may be obvious to other

members of the action research team, but outside of the team your identity will remain strictly confidential.

Digital recordings will be transcribed and then deleted. The transcriptions will then be stored in a locked filing cabinet and electronic versions will be held on a XXXX University computer which is secured by usernames and passwords. This information will be stored for a period of ten years after the research project has been completed, in line with University guidelines.

Any information disclosed to the researcher during the course of data collection will not be divulged to any individual or organisation outside the group, except in the following circumstances, if there is sufficient evidence of concern:

1. service user safety
2. safety of other individuals due to service user behaviour
3. the health, welfare or safety of children or vulnerable adults

All members of the action research team will be asked to keep details of the research confidential. However, it is anticipated that due to the collaborative approach of the project, and the length of time it runs, it is likely that members of XXXX Healthcare NHS Trust, Podiatry Services will become aware of the research.

Confidentiality will be strictly adhered to and all possible attempts will be made to preserve personal anonymity and obscure locality when presenting the work either in journal articles or in the PhD thesis.

### **What will happen if I don't want to carry on with the study?**

You are free to withdraw from the study at any stage without prejudice and with no explanation. If you decide to withdraw from the study you will be asked to complete an Exit Form where you will be given an option to choose to have all data removed from the study, OR to withdraw, but allow data gathered up until your withdrawal to remain in the study. There would be no adverse consequences in terms of your relationship with XXXX University or your ability to continue mentoring podiatry students.

### **What will happen to the results of the research study?**

If you wish you can request an executive summary of the research when completed, with an opportunity to read the full version if requested.

### **Who has reviewed the study?**

An independent group of people, called a Research Ethics Committee who protects your safety, rights, wellbeing and dignity, reviews all research in the NHS. This study has been reviewed and given favourable opinion by the XXXX and XXXX Research Ethics Committee and XXXX University, Faculty of Health.

### **What happens next?**

If you are willing to participate in the study please complete the attached consent form and return it to the Lead Researcher at the address below or electronically via email.

The Lead Researcher will then arrange to send you details regarding the workshop to meet up to discuss in more detail the nature of the project and how it will be conducted. This first meeting will take approximately 1-2 hours of your time and will be arranged in the xxxx area.

**For Further information and contact details:**

Please contact:

**Sally Abey**

**Address supplied**

(Telephone xxxxx 588839 or email [sabey@XXXX.ac.uk](mailto:sabey@XXXX.ac.uk)) at any time if there is anything that you do not understand, or if you would like more information.

With many thanks.



## Appendix 24 Clinical educator consent form for phase II

Participant Number: \_\_\_\_\_

Lead Researcher: Sally Abey

Please initial box

1. I confirm that I have read and understood the written information sheets dated 28.11.11 (version 1.0) for the above study.
2. I agree to take part in the proposed research and give my views regarding my opinions of the planned interventions.
3. I agree to digital recordings being made of the interview at the end of placement with the Lead Researcher. Recordings will be held by the researcher, stored securely and be destroyed upon completion of the project.
4. I understand that the appropriate Research Ethics Committees have approved this study.
5. I understand that I am at liberty to withdraw from the study without prejudice and that I do not have to provide a reason for my withdrawal. I have been assured that my withdrawal would not affect my relationship with colleagues at XXXX University, or the Lead Researcher
6. I freely consent to being a participant in this study and no one has put pressure on me. I understand that any information relating to me will be kept confidential and all possible attempts will be made to maintain anonymity and obscure the location at which the research is taking place.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date \_\_\_\_\_

Lead Researcher: Sally Abey

Signature: \_\_\_\_\_ Date \_\_\_\_\_

## Appendix 25 Student information sheet for phase II

### Part 1

---

**Title of Research Project:** *Action Research to Explore Practice Placement in Podiatry*

Dear Student

You are being invited to take part in a project to explore issues relating to the practice placement that podiatry students from XXXX University undertake as part of their training. **The Lead Researcher undertaking this research will use the data and evaluation to present as her PhD thesis.**

As you are aware, XXXX University teaches the theory aspect of podiatry and students then undertake periods of time in a clinical environment in order to develop their practical skills which totals 34 weeks. This model of theory-practice delivery is well established in other health professions. However, issues that can both enhance and impede teaching and learning in the placement environment have been identified. To date this has not been evaluated within Podiatry and therefore very little is known about this important area of training for the podiatrist.

#### **Why are you being invited?**

I would like to invite you to take part in this research study, because as a student you are at the centre of the placement experience. The teaching and learning of podiatry skills is essential for your development and for you to be able to register as a podiatrist. We plan to implement changes to our current teaching practices that will improve the way in which you acquire and develop your clinical skills. We are very keen to ensure that your clinical and psychomotor skills are progressed appropriately and effectively in an environment which is both safe for you and most importantly the patient.

Before you can decide you need to understand a little more about why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information.

#### **What is this research about?**

We plan to run a research project around skills development and acquisition. This project sits within a larger action research project which has been running for the last 18 months which has been exploring practice placement issues in podiatry.

Scalpel skills, which are also referred to sometimes as a 'psychomotor skill' sit at the core of the podiatrists work. The acquisition of this skill requires dexterity and mastery, but as importantly for the professional an understanding of why they are doing it.

During the 2<sup>nd</sup> year and 3<sup>rd</sup> year placements some of the learning outcomes to be achieved relate to debridement skills. In fact, debridement, off-loading of pressure over lesions, assessment of the patient's medical status (including circulatory and neurological status), infection control, recognition of infection, wound care and dressings all relate to the skill of debridement. In the 2<sup>nd</sup> year portfolio, the learning outcome just states 'debridement of skin'. The 3<sup>rd</sup> year portfolio states 'debridement of ulcers'.

For a student to progress from debridement of normal, thickened skin to the challenges of debriding a neuro-ischaemic ulcer, requires detailed anatomy of the area, recognition of the state of healing and skill to debride macerated skin, which behaves quite differently to 'normal' skin, necrotic and sloughy tissue. There needs to be periods of observation, explanation/feedback and experiential learning under close supervision to support that progress. This is not an activity that can be simulated and these skills require teaching and practice within the clinical setting. Indeed, this is one of the key advantages of students undertaking practice placement within the context of realistic podiatry clinics, rather than podiatry school training clinics, which do not necessarily offer the wider-range of patient experiences. Clearly, the student's knowledge base that underpins the skill of debridement, and is essential to practice, needs to be assessed and acquisition of new knowledge guided whilst undertaking real-world practice, in an attempt to bring together theory and practice.

### **How would it affect my placement?**

We would very much like you to be part of this research project during your time at Xxxx. This would involve you keeping a diary of events relating to your progress and knowledge acquisition in relation to scalpel skills. More information regarding this aspect will be made available if you wish to attend the meeting where we plan to deliver the ideas we have regarding the teaching of scalpel skills. An interview to get your views at the end of placement would be planned, lasting about an hour. Access to your portfolio in order to view your progression during the placement and how goals were set would also be requested by the Lead Researcher. However, if you do not wish to take part, that is absolutely fine, and your placement will not be affected in anyway.

### **What do I have to do?**

I am asking you to work with your mentor whilst in the clinical environment to get the most out of each opportunity that arises, so that both you and the mentor are able to maximise your potential for learning opportunities. There may be times when you are required to observe your mentor as the clinician, but this should not be a redundant opportunity, but instead would allow for your mentor to actively engage you with their treatment rationale. They may also encourage you to consider how the theory might inform and influence practice. This activity will be undertaken during your placement with XXXX Healthcare NHS Trust, Podiatry Services between September and December 2012.

### **How much time will it take?**

Your placement will not be changed in terms of the timetable, and you will meet your mentor for induction, mid-placement and end-of-placement review, as well as during clinical sessions. However, you will be required to keep a diary of what you consider to be significant learning events. The Lead Researcher would also ask you to give about an hour of your time for a post-placement interview to discuss your placement experiences.

### **What is the role of the Lead Researcher?**

The Lead Researcher will act as the facilitator for the project. Initially, you will be given more information about the project, and then asked to consider and complete a consent form if you wish to take part in the project. A meeting will then be arranged to meet to discuss the proposed research in more detail and give you an opportunity to ask questions.

### **Who would pay my expenses to attend these meetings?**

If there are any expenses incurred during the research period then your travel expenses would be reimbursed by the Lead Researcher. However, it is envisaged that the Lead Researcher will travel to you.

### **What are the benefits?**

This is an opportunity to be involved in research that may influence the quality of the placement that is provided by XXXX University and XXXX Healthcare NHS Trust collaboration. In particular you have a chance to engage in some innovative ways of working we hope will make a difference to the student-mentor relationship and result in an enhanced experience for your both.

It may also change the way that placement is undertaken and therefore improve placement for subsequent students at XXXX University and benefit the podiatry profession in the future, and ultimately our service users. It would also give you an insight into research planning and data collection techniques, which may be helpful to you in your own research projects in the future.

### **Are there any costs/risks?**

It is not anticipated that there are any risks attached to this research. However, it will take up some of your time.

### **Do I have to take part?**

No, you should not feel under any pressure to take part in this research. Your participation is entirely voluntary and there would be no adverse consequences in terms of your relationship with XXXX University or your academic progress if you do not wish to take part.

If you are willing to participate, you will be given this information sheet to keep and asked to sign a consent form. Your participation is entirely voluntary. This study has been approved by XXXX University, Faculty of Health, Education and Society, and the XXXX and Cornwall Research Ethics Committee.

If the information in **Part 1** has interested you and you are considering participating, please read the additional information in Part 2 before making any decision.

## **Part 2**

---

### **Will my taking part in this study be kept confidential?**

Yes, all information which is collected about you during the course of the research will be kept strictly confidential and stored securely. Your identity may be obvious to other members of the research project, but outside of this group your identity will remain strictly confidential.

Digital recordings will be transcribed and then deleted. The transcriptions will then be stored in a locked filing cabinet and electronic versions will be held on a XXXX University computer which is secured by usernames and passwords. This information will be stored for a period of ten years after the research project has been completed, in line with University guidelines.

Any information disclosed to the researcher during the course of data collection will not be divulged to any individual or organisation outside the group, except in the following circumstances, if there is sufficient evidence of concern:

1. service user safety
2. safety of other individuals due to service user behaviour
3. the health, welfare or safety of children or vulnerable adults

All members of the project will be asked to keep details of the research confidential. However, it is anticipated that due to the collaborative approach of the project, and the length of time it runs, it is likely that members of XXXX Healthcare NHS Trust, Podiatry Services will become aware of the research.

Confidentiality will be strictly adhered to and all possible attempts will be made to preserve personal anonymity and obscure locality when presenting the work either in journal articles or in the PhD thesis.

### **What will happen if I don't want to carry on with the study?**

You are free to withdraw from the consultative student group at any stage without prejudice and with no explanation.

If you decide to withdraw from the project you will be asked to complete an Exit Form where you will be given an option to choose to have all data removed from the study, OR to withdraw, but allow data gathered up until your withdrawal to remain in the study. There would be no adverse consequences in terms of your relationship with XXXX University or your academic progress.

### **What will happen to the results of the research study?**

If you wish you can request an executive summary of the research when completed, with an opportunity to read the full version if requested.

### **Who has reviewed the study?**

An independent group of people, called a Research Ethics Committee who protects your safety, rights, wellbeing and dignity, reviews all research in the NHS. This study has been reviewed and given favourable opinion by the XXXX and XXXX Research Ethics Committee and XXXX University, Faculty of Health.

**What happens next?**

If you are willing to participate in the study please complete the attached consent form and return it to the Lead Researcher at the address below or electronically via email.

The Lead Researcher will then arrange a meeting for you to discuss in more detail the project. This meeting will take about 1 hour and will take place at the PAHC Building, St Mark & St John's University College, XXXX.

**For Further information and contact details:**

Please contact:

**Sally Abey**

**Address supplied**

**(Telephone xxxx 588839 or email [sabey@XXXX.ac.uk](mailto:sabey@XXXX.ac.uk))** at any time if there is anything that you do not understand, or if you would like more information.

With many thanks.

## Appendix 26 Student consent form for phase II

Participant Number:

Lead Researcher: Sally Abey

Please initial box

7. I confirm that I have read and understood the written information sheets dated 28.06.12 (version 1.1) for the above study.
8. I agree to take part in the proposed research and give my views regarding my opinions of the planned interventions.
9. I agree to digital recordings being made of the interview at the end of placement with the Lead Researcher. Recordings will be held by the researcher, stored securely and be destroyed upon completion of the project.
10. I give permission for the Lead Researcher to have access to my portfolio in relation to the research.
11. I understand that the appropriate Research Ethics Committees have approved this study.
12. I understand that I am at liberty to withdraw from the study without prejudice and that I do not have to provide a reason for my withdrawal. I have been assured that my withdrawal would not affect my academic progression or my placement at XXXX Healthcare NHS Trust Podiatry Services or any other practice placement area, my relationship with the Lead Researcher or members of the XXXX Healthcare NHS Trust, Podiatry Services.
13. I freely consent to being a participant in this study and no one has put pressure on me. I understand that any information relating to me will be kept confidential and all possible attempts will be made to maintain anonymity and obscure the location at which the research is taking place.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Lead Researcher: Sally Abey

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix 27 Student aide mémoire

Research project task checklist		Tick each box when you complete the task	
Induction	1. Complete the 'student self-assessment of podiatric experience' form and take to the induction as a basis for discussion.	1	<input type="checkbox"/>
	2. <b>Learning Agreement</b> will be completed in negotiation with the mentor.	2	<input type="checkbox"/>
	3. Portfolio discussed in usual way.	3	<input type="checkbox"/>
Day-to-day and mid-point review	4. <b>Learning agreement</b> may be reviewed daily/weekly – as appropriate to the student & mentor.	4	<input type="checkbox"/>
	5. Complete the ' <b>Theory-practice acquisition checklist</b> ' as often as appropriate to collect data/evidence in relation to learning opportunities that you have had. Try to do this as you go along, whilst it is fresh in your mind.	5	<input type="checkbox"/>
	6. <b>Diaries/Journals</b> – Include factual events that occur in relation to your teaching/learning of debridement, wound care and off-loading skills. Describe how you and the mentor are working together to progress and develop your skills in these specific areas. How do you feel about the various techniques used to engage you and develop your skills? When you are observing your mentor, do they try to maximise the learning opportunities? Is the 'scalpel skills schema' and 'psychomotor skills development guide' useful? Has your mentor helped you to set goals to help progress your skills and learning? Do you feel that the theory that underpins the practical aspects of the podiatry role is starting to make sense? Can you give examples of this? How do you feel about this new way of working? How do you feel about being part of the research process? You may wish to write this as a reflective cycle or as a narrative – either is fine. <b>Where possible, try to give examples to support your comments.</b>	6	<input type="checkbox"/>



Research project task checklist		Tick each box when you complete the task
End of placement review	7. Complete a further 'student self-assessment of podiatric experience – end-of-placement.' (This is a slightly different version from the induction version as it relates to the placement you have undertaken. There is a copy in your packs, but there is one on the W-Drive if you have lost it!)	7 <input type="checkbox"/>
	8. Complete the 'Generalised self-efficacy scale' form, which is part of the research and does not need to be shared with your mentor, but I will collect it at the end of the project.	8 <input type="checkbox"/>
	9. Review learning outcomes from portfolio.	9 <input type="checkbox"/>

Any problems, or uncertainty, please do contact me and I will be happy to advise.

Many thanks

*Sally*

[sabey@xxxx.ac.uk](mailto:sabey@xxxx.ac.uk)

Tel: xxxx-588839

## Appendix 28 Record of student interviews and pseudonyms

Pseudonym	Placement block	Interviewed
Eleanor	2.1	√
Gordon	2.1	√
Annie	2.1	√
Kelly	2.1	√
Verity	2.2	√
Felicity	2.2	√ (exit interview)
Laura	2.2	√
Amanda	2.2	√
Tom	3.1	√
Edwina	3.1	√
Emma	3.1	√
Brandon	3.2	√
Fiona	3.2	√
Jasmine	3.2	√
Ross	3.2	√

## Appendix 29 Overview of participants recruited and data collected

2.1 - semester October-November 2012								
Pseudonym	Interview	Journal	TPA Checklist	Learning Agreement	Pre-GEs	Pre-self-assessment	Post-GEs	Post-self-assessment
Annie (student)	✓	X	X	✓	✓	X	X	X
Eleanor (student)	✓	✓	5	✓	✓	✓	✓	✓
Gordon (student)	✓	✓	X	X	✓	✓	✓	✓
Kelly (student)	✓	✓	8	X	✓	✓	✓	✓
Adrian (CE)	✓	✓	12					
Annette (CE)	✓	✓	3					
Elizabeth (CE)	✓	X	12					
Julian (CE)	✓	✓	7					
2.2 - semester January-March 2012								
Pseudonym	Interview	Journal	TPA Checklist	Learning Agreement	Pre-GEs	Pre-self-assessment	Post-GEs	Post-self-assessment
Amanda(student)	✓	X	15	✓	✓	✓	✓	✓
Felicity (student)	✓ (exit)	X	0	✓	✓	✓	X	X
Laura (student)	✓	X	11	X	✓	X	✓	✓
Verity (student)	✓	X	9	X	✓	✓	✓	✓
Adrian (CE)	✓	X	X					
Angela (CE)	✓	X	X					
Annette (CE)	✓	✓	6					
Elizabeth (CE)	✓	✓	X					
Julian (CE)	✓	✓	X					
William (CE)	✓	✓	6					

3.1 - semester September-October 2012								
Pseudonym	Interview	Journal	TPA Checklists	Learning Agreements	Pre-GES	Pre-self-assessment	Post-GES	Post-self-assessment
Emma (student)	✓	✓	8	✓	✓	✓	✓	✓
Edwina (student)	✓	X	2	✓	✓	✓	✓	✓
Tim (student)	✓	✓	11	✓	✓	✓	✓	✓
Adrian (CE)	✓	X	X					
Annette (CE)	✓	✓	4					
Elizabeth (CE)	✓	✓	X					
Julian (CE)	✓	✓	X					
3.2 - semester April-June 2012								
Pseudonym	Interview	Journal	TPA Checklists	Learning Agreements	Pre-GES	Pre-self-assessment	Post-GES	Post-self-assessment
Brandon (student)	✓	✓	23	X	✓	✓	✓	✓
Fiona (student)	✓	✓	15	X	✓	✓	✓	✓
Jasmine (student)	✓	✓	X	X	✓	✓	✓	✓
Ross (student)	✓	✓	4	X	✓	✓	✓	✓
Annette (CE)	✓	X	X					
Elizabeth (CE)	✓	✓	X					
Julian (CE)	✓	✓	X					
William (CE)	✓	X	X					

## Appendix 30 Final themes and sub-themes

---

### 01 Establishing competency

---

- 01 Achieving learning outcomes: includes themes of assessment in relation to learning outcomes and how that was undertaken summatively. Preparation for assessment: preparation for assessment deals with how the clinical educator and student work together to prepare for assessment, including types of assessment.
  - 02 Competency recognition: competency recognition related to how both the student and clinical educator recognised competency.
  - 03 Feedback: related to all aspects of providing and receiving feedback.
- 

### 02 Confidence

---

- 01 Confidence: All comments from the clinical educators and students regarding confidence and self-efficacy.
  - 02 Increasing confidence: where the participant specifically reports confidence levels increasing.
- 

### 03 Impact of the 'Core podiatry skills progression framework'

---

- 01 Strength and weakness of core podiatry skills progression schema: all comments made by the clinical educators regarding the core podiatry skills progression schema were coded here.
- 02 Strength and weakness of core podiatry skills progression schema: all comments made by the students relating to the core podiatry skills progression schema were coded here.
- 03 Learning agreement: Specific comments relating to how this learning tool was utilised.

---

04 Self-assessment form and theory acquisition checklist: Specific comments relating to this learning tool.

05 Time for project: relates to problems with finding the time for both the clinical educator and student to engage with the project.

06 Project impact upon participants: any effects the project had on the participants, which was purely as a result of being part of the project.

---

04 Factors that impact on the placement experience

---

01 Clinical educators' approach to mentoring: includes the clinical educators approach to the mentoring role, capturing their views about how they undertake the role and the students' perception of them as a clinical educators e.g., friendly, open, accessible.

02 Protected time: deals with the induction, mid and end-of-placement reviews.

03 Time management: comments relating to mentoring activities that need time outside of normal clinical duties and comments relating to the busy clinical environment. Includes time to undertake the role of clinical educator, podiatrist, appointment times etc.

04 Emotional, physical impact: any comments that appear to be relating to the individuals emotional state, issues relating to the placement environment and the individuals physical state.

05 Placement commentary: placement observation was a broad theme for comments that describes issues, occurrences, and character of the placement experience. How the students perceived the placement.

---

05 Main issues related to clinical educators

---

---

01 Benefits to clinical educators: what does the clinical educator see as the benefits to undertaking the clinical educator role.

02 Co-mentoring: pros and cons of co-mentoring (clinical educators and student).

03 Portfolio wording: issues with the wording of learning outcomes in the portfolio.

04 Placement challenges: what are the barriers and problems related to mentoring.

---

06 Relationship

---

01 Impact of relationships and impressions: relates to more complex interactions, expressions, descriptions and the 'impact of relationships and impressions' is recorded here

02 Good relationships; reports of good relations

03 Poor relationships: reports of poor relations

---

07 Acquisition of core podiatry skills

---

01 Blades: any comments in general terms relating to using the different types of blades.

02 Debridement: direct questions relating to knowledge/development of this skill posed in interview.

03 Enucleation: all comments relating to this activity were coded here.

04 Identifying lesions: all named lesions coded here e.g. heloma molle.

05 Off-loading: direct questions relating to knowledge/development of this skill posed in interview.

06 Over-operating and under-operating: students/clinical educators discuss under or over-operating.

---

07 Progressing and developing: this concept encapsulates data relating to the process by which student progression and development was viewed by the clinical educators. The students' views of their own progression were also recorded to this sub-theme.

08 Skills development: relates specifically to development of skills.

09 Wound care: there are direct questions relating to knowledge/development of this skill on the interview schedule.

10 Haems: any comments from student or clinical educators regarding haeming coded here.

---

08 Teaching techniques reported.

---

01 Teaching techniques reported: a large theme and relates to 'teaching activities' in its broadest sense. Comments by participants relating to demonstration, observation, questioning styles.

02 Learning processes – a complex sub-theme relating to any comments by participants suggesting that learning has been identified or quantified. Includes recognising situations that may consolidate learning.

03 Learning opportunities: recognising opportunities when students can learn.

---

09 Acquisition of theory

---

01 Theory acquisition of core podiatry skills: a broad theme for comments relating to theory of core podiatry skills (does not include practical aspects of debridement, wound care or off-loading which is coded under 07.00.)

---

10 Evidence of reduction of theory practice gap



---

01 Theory-practice gap reduction: any evidence provided that appears to relate to this concept.

---

11 Other

---

01 A node for collecting data that appears relevant, but at present cannot be interpreted.

---

## Appendix 31 Workbook for use at Diabetes Centre

### Observation Sessions at Diabetes Centre

You will be observing patient treatments in the multidisciplinary Diabetes Centre. These sessions provide the opportunity for theory and practice to come together in a supported learning environment. Although this is primarily an observational session there is plenty of opportunity for you to engage in others ways in order to achieve a meaningful learning experience. The patients who attend for treatment will be either new patients who have been referred by their General Practitioners (GPs) or existing patients who are receiving an episode of care.

The aims of the session are:

- to provide you with the opportunity to experience a multidisciplinary clinic and to observe the role of the podiatrist in the Diabetes Centre.
- to give you some insight into the range of Podiatry treatments available.
- to expose you to a range of dressing options and the clinical decision-making in relation to the choice to dressing used.
- to observe different techniques used in dressing applications.
- to provide you with an insight into the clinical setting to help you put into context the theoretical knowledge that you learn at university and how that theory is applied in the clinical setting.

Below is a list of the areas that you need to concentrate on during the session. You will be expected to complete the boxes and / or to write about your observations. The questions and answers will provide the material for discussions that will be held with your clinical educator in relation to **Stage 2 portfolio** CL32 / **Stage 3 portfolio** LO M3 / CL68

***All the details that you provide must strictly comply with Data Protection and Confidentiality Guidelines. No information regarding patients, students or staff identity should be recorded.***







**What dressings were used?**


**What was the rationale given by the podiatrist for their choice of dressing?**


**Comment on the ergonomics of practice in relation to the podiatrist and patient management.**


**What was the care plan for this patient?**

Did the patient have antibiotics prescribed or require admission?


**Was the patient given any education and how did they respond?**


## Appendix 32 Placement feedback form

You have been on placement with us at xxxx and we are very keen to get honest and open feedback from you. We would also ask you to tell us what you enjoyed or found useful and would like us to continue. Conversely, there may be things that did not go so well. In order that we can address the issues raised, we would ask you to give as much detail as possible. To that end please give details of the context in which it occurred where possible.

We are committed to developing and providing an excellent placement experience for students where teaching and learning in the clinical environment is viewed as a vital component of training podiatrists of the future.

### Placement evaluation

#### Induction –

**Did you find the initial induction with your clinical educator helpful and informative?**

**Did your clinical educator discuss their role with you?**



**Did your clinical educator explain their expectations of you?**

**How did you find your clinical educator's approach to supporting you?**

**What did you find challenging during placement?**

**How do you feel you were developed over the placement?**

**Did your clinical educator help you identify areas of weakness in your knowledge and / or practical skills?**

**What did you find worked well for you during the placement?**

**Are there any recommendations that you would like to make that would improve the placement for future students?**

**Overall rating of the placement**

1	2	3	4	5
Much improvement required	Fair placement	Good placement	Very good placement	Highly recommended placement

This information will be used to improve the placement provided at Xxxx and help with the development of our clinical educators. We do not ask for any of your personal details, so please answer honestly, but professionally.

## References

- Abey, S. Lea, S. Callaghan, L. Cotton, D. & Shaw, S. (2013). The development of a scale to assess practitioner capacity to engage in clinical education. *Journal of Further and Higher Education*, (September 2013), 1–18.
- Adelman, C. (1993). Kurt Lewin and the origins of action research. *Educational Action Research*, 1(1), 7–24.
- Adelman-Mullally, T. Mulder, C. McCarter-Spalding, D. Hagler, D. Gaberson, K. Hanner, M. B. Oermann, M. Speakman, E. Yoder-Wise, P. & Young, P. (2013). The clinical nurse educator as leader. *Nurse Education in Practice*, 13(1), 29–34.
- Adhikari, R. Tocher, J. Smith, P. Corcoran, J. & MacArthur, J. (2014). A multi-disciplinary approach to medication safety and the implication for nursing education and practice. *Nurse Education Today*, 34(2), 185–90.
- Ali, P. A. & Panther, W. (2008). Professional development and the role of mentorship. *Nursing Standard*, 22(42), 35–39.
- Altrichter, H. & Gstettner, P. (1993). Action research: a closed chapter in the history of German social science? *Educational Action Research*, 1(3), 329–360.
- Anderson, G. L. Herr, K. & Nihlen, A. (1994). *Studying your own school: an educator's guide to qualitative practitioners research*. London: Sage Publications Ltd.
- Andrew, N. McGuinness, C. Reid, G. & Corcoran, T. (2009). Greater than the sum of its parts: transition into the first year of undergraduate nursing. *Nurse Education in Practice*, 9(1), 13–21.
- Andrews, M. Brewer, M. Buchan, T. Denne, A. Hammond, J. Hardy, G. Jacobs, L. McKenzie, L. West, S. (2010). Implementation and sustainability of the nursing and midwifery standards for mentoring in the UK. *Nurse Education in Practice*, 10(5), 251–255.
- Andrews, M. & Chilton, F. (2000). Student and mentor perceptions of mentoring effectiveness. *Nurse Education Today*, 20(7), 555–562.

- Andrews, M. & Roberts, D. (2003). Supporting student nurses learning in and through clinical practice: the role of the clinical guide. *Nurse Education Today*, 23, 474–481.
- Archer, J. C. (2010). State of the science in health professional education: effective feedback. *Medical Education*, 44(1), 101–108.
- Argyris, C. (1995). Action science and organizational learning. *Journal of Managerial Psychology*, 10(6), 20–26.
- Ausubel, D. (1960). The use of advanced organizers in the learning and retention of meaningful verbal material. *Journal Educational Psychology*, 51(5), 267–722.
- Baglin, M. R. & Rugg, S. (2010). Student nurses' experiences of community-based practice placement learning: a qualitative exploration. *Nurse Education in Practice*, 10(3), 144–152.
- Baillie, E. Bjarnholt, C. Gruber, M. & Hughes, R. (2008). A capacity-building conceptual framework for public health nutrition practice. *Public Health Nutrition*, 12(8), 1031–1038.
- Baillie, L. (1999). Preparing adult branch students for their management role as staff nurses: an action research project. *Journal of Nursing Management*, 7(4), 225–234.
- Baker, G. R. (2010). The contribution of case study research to knowledge of how to improve quality of care. *BMJ Quality & Safety*, 20(1), 30–35.
- Bandura, A. (1971). *Social learning theory*. New York: General Learning Press.
- Banner, D. J. (2006). Qualitative interviewing: preparation for practice. *Canadian Journal of Cardiovascular Nursing*, 20(3), 27–30.
- Banning, M. (2008). The think aloud approach as an educational tool to develop and assess clinical reasoning in undergraduate students. *Nurse Education Today*, 28, 8–14.
- Barbour, R. (2000). The role of qualitative research in broadening the “evidence base” for clinical practice. *Journal of Evaluation in Clinical Practice*, 6(2), 155–163.

- Barnett, R. (2000). University knowledge in an age of supercomplexity. *Higher Education*, 40, 409–422.
- Barnett, T. Cross, M. Jacob, E. Shahwan-Akl, L. Welch, A. Caldwell, A. & Berry, R. (2008). Building capacity for the clinical placement of nursing students. *Collegian: Journal of the Royal College of Nursing Australia*, 15(2), 55–61.
- Barnett, T. Walker, L. E. Jacob, E. Missen, K. Cross, M. D. & Shahwan-Akl, L. (2012). Expanding the clinical placement capacity of rural hospitals in Australia: displacing Peta to place Paul? *Nurse Education Today*, 32(5), 485–489.
- Barnett-Page, E. & Thomas, J. (2009). Methods for the synthesis of qualitative research: a critical review. *BMC Medical Research Methodology*, 9(59), 1–11.
- Bartlett, R. (2012). Modifying the diary interview method to research the lives of people with dementia. *Qualitative Health Research*, 22(12), 1717–1726.
- Baruch, Y. (1999). Response rate in academic studies: a comparative analysis. *Human Relations*, 52, 421–438.
- Baruch, Y. & Brooks, H. (2008). Survey response rate levels and trends in organisational research. *Human Relations*, 6(8), 1139–1160.
- Baum, F. MacDougall, C. & Smith, D. (2006). Participatory action research. *Journal of Epidemiology and Community Health*, 60(10), 854–857.
- Bellman, L. (2012). Ethical considerations. In G. Williamson, L. Bellman, & J. Webster (Eds.), *Action research in nursing and healthcare* (pp. 146–166). London: Sage Publications Ltd.
- Bellman, L. & Webster, J. (2012). Collaborative working in clinical settings. In G. R. Williamson, L. Bellman, & J. Webster (Eds.), *Action research in nursing and healthcare* (pp. 119–145). London: Sage Publications Ltd.
- Bellman, L. Webster, J. & Jeanes, A. (2011). Knowledge transfer and the integration of research, policy and practice for patient benefit. *Journal of Research in Nursing*, 16(3), 254–270.

- Bennett, R. (2003). Clinical education: perceived abilities/qualities of clinical educators and team supervision of students. *Physiotherapy*, 89(7), 432–442.
- Bland, C. J. Starnaman, S. Wersal, L. Moorehead-Rosenberg, L. Zonia, S. & Henry, R. (2000). Curricular change in medical schools: how to succeed. *Academic Medicine*, 75(6), 575–594.
- Boor, K. Scheele, F. Van der Vleuten, C. Scherpbier, A. Teunissen, P. & Sijtsma, K. (2007). Psychometric properties of an instrument to measure the clinical learning environment. *Medical Education*, 41, 92–99.
- Botham, K. a. & Nicholson, J. (2014). Supporting the transition of disabled students from university to practice placement. *Disability & Society*, 29(3), 460–476.
- Boud, D. Lawson, R. & Thompson, D. G. (2013). Does student engagement in self-assessment calibrate their judgement over time? *Assessment & Evaluation in Higher Education*, 38(8), 941–956.
- Bowen, C. (2008). Podiatry: A vision for the future. *Podiatry Now*, 6(10), 33–34.
- Boynton, P. M. & Greenhalgh, T. (2004). Selecting, designing, and developing your questionnaire. *British Medical Journal*, 328, 1312–1315.
- Brace, N. Kemp, R. & Snelgar, R. (2009). *SPSS for Psychologists* (4th ed.). Basingstoke: Palgrave MacMillan.
- Braun Hamilton, M. (2003). Online survey response rates and time: Background and guidance for industry. *lpathi. Inc.* Retrieved from [https://secure.supersurvey.com/papers/supersurvey\\_white\\_paper\\_response\\_rates.htm](https://secure.supersurvey.com/papers/supersurvey_white_paper_response_rates.htm)
- Bray, L. & Nettleton, P. (2007). Assessor or mentor? Role confusion in professional education. *Education Today*, 27, 848–855.
- Brown, S. Wilkins, C. & Leamon, J. (2008). Student midwives' views of enquiry based learning: the BUMP study. *British Journal of Midwifery*, 16(5), 302–305.

- Bruner, J. S. (1964). The course of cognitive growth. *American Psychologist*, 19(1), 1–15.
- Brydges, R. Carnahan, H. Safir, O. & Dubrowski, A. (2009). How effective is self-guided learning of clinical technical skills? It's all about process. *Medical Education*, 43(6), 507–515.
- Brydon-Miller, M. Greenwood, D. & Maguire, P. (2003). What action research? *Action Research*, 1(1), 9–28.
- Bryman, A. (2001). *Social research methods*. Oxford: Oxford University Press.
- Buckley, S. (2014). A student's perspective of the importance of practice placements. *Podiatry Now*, 17(1), 30.
- Burns, E. Fenwick, J. Schmied, V. & Sheehan, A. (2010). Reflexivity in midwifery research: the insider/outsider debate. *Midwifery*, 28, 52–66.
- Burns, I. & Paterson, I. (2005). Clinical practice and placement support: supporting learning in practice. *Nurse Education in Practice*, 5, 3–9.
- Cahill, H. (1996). A qualitative analysis of student nurses' experiences of mentorship. *Journal of Advance Nursing*, 24(4), 791–799.
- Carr, W. & Kemmis, S. (1986). *Becoming critical: education, knowledge and action research*. London: Routledge Falmer.
- Carroll, C. Booth, A. & Cooper, K. (2011). A worked example of “best fit” framework synthesis: a systematic review of views concerning the taking of some potential chemopreventive agents. *BMC Medical Research Methodology*, 11(29), 1–9.
- Casey, D. C. & Clark, L. (2011). Roles and responsibilities of the student nurse mentor: an update. *British Journal of Nursing*, 20(15), 933–937.
- Casey, D. & Clark, L. (2012). A collaborative approach to support trainee sign-off mentors. *Nursing Standard*, 27(7), 44–47.
- Chambers, M. Carter, R. Doman, M. Jeffery, K. Kelsey, J. & Mcewing, G. (2007). Theory focused practice : enhancing the evidence base for children's nursing practice. *Journal of Children's and Young People's Nursing*, 01(08), 366–376.



- Chan, D. (2002). Development of the clinical learning environment inventory: using the theoretical framework of learning environment studies to assess nursing students' perceptions of the hospital as a learning environment. *Journal of Nurse Education, 41*(2), 69–75.
- Chien, W. & Chan, S. W. (2000). Implementing contract learning in a clinical context: report on a study. *Journal of Advanced Nursing, 31*(2), 298–305.
- Chien, W. Chan, S. W. & Morrissey, J. (2002). The use of learning contracts in mental health nursing clinical placement: an action research. *International Journal of Nursing Studies, 39*(7), 685–694.
- Christ, T. W. (2014). Scientific-based research and randomized controlled trials, the “gold” standard? Alternative paradigms and mixed methodologies. *Qualitative Inquiry, 20*(1), 72–80.
- Clark, M. (2009). Child mental health: an e-learning resource for student CYP nurses. *Community Practitioner, 82*(2), 26–29.
- Clouder, L. (2000). Reflective practice: realising its potential. *Physiotherapy, 86*(10), 517–522.
- Clynes, M. & Raftery, S. (2008). Feedback: an essential element of student learning in clinical practice. *Nurse Education in Practice, 8*(6), 405–411.
- Coates, V. & Chambers M. (1990). Developing a system of student nurse profiling through action research. *Nurse Education Today, 10*, 83–91.
- Coghlan, D. & Brannick, T. (2005). *Doing action research in your own organization*. (2nd ed.). London: Sage Publications Ltd.
- Coghlan, D. & Coughlan, P. (2010). Notes toward a philosophy of action learning research. *Action Learning: Research and Practice, 7*(2), 193–203.
- Cohen, L. Manion, L. & Morrison, K. (2007). *Research methods in education* (6<sup>th</sup> ed.). Abingdon: Routledge.
- Collier, J. (1945). United States Indian Administration as a laboratory of ethnic relations. *Social Research, 12*.

- Cope, P. Cuthbertson, P. & Stoddart, B. (2000). Situated learning in the practice placement. *Journal of Advanced Nursing*, 31(4), 850–856.
- Cope, P. Cuthbertson, P. & Stoddart, B. (2003). *Situated learning in practice placement*. (C. Downie & P. Basford, Eds.) (pp. 351–361). London: University of Greenwich.
- Corey, S. (1954). Action research in education. *Journal of Educational Research*, 47, 375–380.
- Corlett, J. (2000). The perception of nurse teachers, student nurses and preceptors of the theory-practice gap in nurse education. *Nurse Education Today*, 20, 499–505.
- Corlett, J. Palfreyman, J. W. Staines, H. J. & Marr, H. (2003). Factors influencing theoretical knowledge and practical skill acquisition in student nurses: an empirical experiment. *Nurse Education Today*, 23, 183–190.
- Costello, P. (2003). *Action Research*. London: Continuum.
- Cotton, D. & Gresty, K. (2006). Reflecting on the think aloud methods for evaluating e-learning. *British Journal of Educational Technology*, 37(1), 45–54.
- Coughlan, P. & Coughlan, D. (2002). Action research for operations management. *International Journal of Operations & Production Management*, 22(2), 220–240.
- Courtney-Pratt, H. FitzGerald, M. Ford, K. Marsden, K. & Marlow, A. (2012). Quality clinical placements for undergraduate nursing students: a cross-sectional survey of undergraduates and supervising nurses. *Journal of Advanced Nursing*, 68(6), 1380–1390.
- Cox, C. E. & Lindblad, A. J. (2012). A collaborative approach to improving and expanding an experiential education program. *American Journal of Pharmaceutical Education*, 76(3), 1–5.
- Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches* (3rd ed.). London: Sage Publications Ltd.
- Cross, V. (1996). Introducing learning contracts into physiotherapy clinical education. *Physiotherapy*, 82(1), 21–27.

- Crow, J. Smith, L. & Keenan, I. (2006). Journeying between the education and hospital zones in a collaborative action research project. *Educational Action Research*, 14(2), 287–306.
- Crowe, S. Cresswell, K. Robertson, A. Huby, G. Avery, A. & Sheikh, A. (2011). The case study approach. *BMC Medical Research Methodology*, 11(100), 1–10.
- Cullen, L. Fraser, D. & Symonds, I. (2003). Strategies for interprofessional education: the Interprofessional Team Objective Structured Clinical Examination for midwifery and medical students. *Nurse Education Today*, 23(6), 427–433.
- Curran, M. J. Campbell, J. & Rugg, G. (2006). An investigation into the clinical reasoning of both expert and novice podiatrists. *The Foot*, 16(1), 28–32.
- Curran, M. Rugg, G. & Campbell, J. (2006). Would podiatrists benefit from an expert system for clinical reasoning and diagnosis? *The Foot*, 16(2), 71–75.
- Dadge, J. & Casey, D. (2009). Supporting mentors in clinical practice. *Paediatric Nursing*, 21(10), 35–7.
- Damianakis, T. & Woodford, M. R. (2012). Qualitative research with small connected communities: generating new knowledge while upholding research ethics. *Qualitative Health Research*, 22(5), 708–718.
- Davies, C. Welham, V. Glover, A. & Jones, L. (1999). Teaching in practice. *Nursing Standard*, 13(35), 33–38.
- Davis, M. H. Ponnampereuma, G. G. & Ker, J. S. (2009). Student perceptions of a portfolio assessment process. *Medical Education*, 43(1), 89–98.
- Dean, E. & Sprinks, J. (2012). Ongoing development suffers as NHS invests training budgets elsewhere. *Nursing Standard*, 26(20), 14.
- Department of Health. (1999). Making a difference. London: HMSO.
- Department of Health. (2000a). A health service for all the talents. London: HMSO.

- Department of Health. (2000b). Meeting the challenge: a strategy for Allied Health Professions. London: HMSO.
- Department of Health. (2000c). The NHS plan: a plan for investment, a plan for reform. London: HMSO.
- Department of Health. (2001). Working together-learning together: a framework for lifelong learning for the NHS. London: HMSO.
- Dickens, L. & Watkins, K. (1999). Action research: rethinking Lewin. *Management Learning*, 30(2), 127–140.
- Dixon-Woods, M. (2011). Using framework-based synthesis for conducting reviews of qualitative studies. *BMC Medicine*, 9(1), 39.
- Donaldson, I. (1992). The use of learning contracts in the clinical area. *Nurse Education Today*, 12, 431–436.
- Duffy, K. & Scott, P. (1998). Viewing an old issue through a new lens: a critical theory insight into the education-practice gap. *Nurse Education Today*, 18, 183–189.
- Ebbutt, D. & Elliott, J. (1985). *Issues in teaching for understanding*. London: Longman for the School Curriculum Development Council.
- Eden, C. & Huxham, C. (1996). Action research for management research. *British Academy of Management*, 7, 75–86.
- Edmond, C. B. (2003). Mentoring in Practice. (C. Downie & P. Basford, Eds.) *A New Paradigm for Practice Education*. London: University of Greenwich.
- Egan, T. & Lancaster, C. (2005). Comparing appreciative inquiry to action research. *Organizational Development Journal*, 23(2), 29–49.
- Eick, S. A. Williamson, G. R. & Heath, V. (2012). A systematic review of placement-related attrition in nurse education. *International Journal of Nursing Studies*, 49(10), 1299–1309.
- Eikeland, O. (2007). From epistemology to gnoseology – understanding the knowledge claims of action research. *Management Research News*, 30(5), 344–358.

- Elliott, J. (1983). A curriculum for the study of human affairs: the contributions of Lawrence Stenhouse. *Journal of Curriculum Studies*, 15(2), 105–123.
- Ellis, J. H. M. & Keily, J. (2000). Action inquiry strategies: taking stock and moving forward. *Journal of Applied Management Studies*, 9(1), 83–94.
- Eraut, M. (2004). Informal learning in the workplace. *Studies in Continuing Education*, 26(2), 37–41.
- Farrimond, H. Dornan, T. L. Cockcroft, A. & Rhodes, L. E. (2006). Development and evaluation of an e-learning package for teaching skin examination. Action research. *Epidemiology and Health Services Research*, 155, 592–599.
- Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London: Sage Publications Ltd.
- Finlay, L. (2003). The reflexive journey: mapping multiple routes. In L. Finlay & B. Gough (Eds.), *Reflexivity: A practical guide for researchers in health and social sciences* (pp. 1–20). Aylesbury: Blackwell Science Limited.
- Finnerty, G. Graham, L. Magnusson, C. & Pope, R. (2006). Empowering the midwife mentors with adequate training and support. *British Journal of Midwifery*, 14(4), 187–189.
- Flyvbjerg, B. (2013). Case study. In *Strategies of qualitative inquiry* (pp. 169–203). California: Sage Publications Ltd.
- Foxe, W. & Hart, A. (2011). Clinical education and pre-registration training. *Podiatry Now*, 9(7), 4–5.
- Fraser, D. (2000a). Action research to improve the pre-registration midwifery curriculum Part 3: Can fitness for practice be guaranteed? The challenges of designing and implementing an effective assessment in practice scheme. *Midwifery*, 16(4), 287–294.
- Fraser, D. (2000b). Action research to improve the pre-registration midwifery curriculum Part I: An appropriate methodology. *Midwifery*, 16(3), 213–223.

- Fraser, D. (2002). An exploration of the learning environment for students on the ward. *Midwifery Digest*, 12(4), 553–556.
- Fraser, D. M. (1996). Pre-registration midwifery programmes: a case study evaluation of the non-midwifery placements. *Midwifery*, 12, 16–22.
- Fraser, D. M. (2000). Action research to improve the pre-registration midwifery curriculum Part 2: Case study evaluation in seven sites in England. *Midwifery*, 16(4), 277–286.
- Friedman, V. J. (2001). Action science: creating communities of inquiry in communities of practice. In P. Reason & H. Bradbury (Eds.), *Handbook of action research* (pp. 131–143). London: Sage Publications Ltd.
- Fulton, J. (2013). Mentorship in podiatric practice. In C. Hayes (Ed.), *Professional practice for podiatric medicine* (pp. 31–43). Keswick: M&K Publishing.
- Gaipman, B. & Anthony, A. (1989). Contracting in fieldwork education: the model of self-directed learning. *Canadian Journal of Occupational Therapy*, 56(1), 10–14.
- Gair, S. (2012). Feeling their stories: contemplating empathy, insider/outsider positioning and enriching qualitative research. *Qualitative Health Research*, 22(1), 134–143.
- Ghazi, F. (1994). Auditing student placements. *Nursing Standard*, 8(40), 36–39.
- Ghul, R. & Marsh, I. (2013). Teaching participation in occupations to first year occupational therapy students: an action research study. *The British Journal of Occupational Therapy*, 76(2), 101–107.
- Gill, P. Stewart, K. Treasure, E. & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, 204(6), 291–295.
- Gomm, R. Needham, G. & Bullman, A. (2000). *Evaluating research in health and social care*. London: Sage Publications Ltd.

- Gonzol, K. & Newby, C. (2013). Facilitating clinical reasoning in the skills laboratory: reasoning model versus nursing process-based skills checklist. *Research Briefs*, 34(4), 265–267.
- Gopee, N. (2008). Competence of mentors. *International Journal of Therapy and Rehabilitation*, 15(9), 401–407.
- Graham, R. P. James, P. A. & Cowan, T. M. (2000). Are clinical practice guidelines valid for primary care? *Journal of Clinical Epidemiology*, 53, 949–954.
- Greenwood, D. & Levin, M. (1998). *Introduction to action research*. London: Sage Publications.
- Gresty, K. Skirton, H. & Evenden, A. (2007). Addressing the issue of e-learning and online genetics for health professionals. *Nursing and Health Sciences*, 9, 14–22.
- Hall, P. (2005). Interprofessional teamwork: professional cultures as barriers. *Journal of Interprofessional Care*, 19, 188–196.
- Hammersley, M. (2010). Unreflective practice? Case study and the problem of theoretical inference. In *Higher education close up 5 Conference*. University, Lancaster, 20-22nd July. Lancaster.
- Harris, M. (2008). Scaffolding reflective journal writing: negotiating power, play and position. *Nurse Education Today*, 28, 314–326.
- Hart, E. & Bond, M. (1995). *Action Research for Health and Social Care*. Buckingham: Open University Press.
- Hayes, C. (2005). Clinical professional practice: a phenomenological study of teaching and learning within podiatric diabetology. *British Journal of Podiatry*, 8(2), 60.
- Health care and professions council. (2012). Your guide to our standards for continuing professional development. Retrieved from <http://www.hpc-uk.org/publications/index.asp?id=101#publicationSearchResults>
- Heron, J. (1996). *Co-operative inquiry: research into the human condition*. London: Sage Publications Ltd.

- Hesketh, E. Bagnall, G. Buckley, E. G. Friedman, M. Goodall, E. Harden, R. M. Laidlaw, J M. Leighton-Beck, L. McKinlay, P. Newton, R. & Oughton, R. (2001). A framework for developing excellence as a clinical educator. *Medical Education*, 35(6), 555–564.
- Heward, S. Hutchings, C. & Keleher, H. (2007). Organizational change: key to capacity building and effective health promotion. *Health Promotion International*, 22(2), 170–178.
- Hewison, A. & Wildman, S. (1996). The theory-practice gap in nursing: a new dimension. *Journal of Advanced Nursing*, 24, 754–761.
- Hill, T. L. (2012). The portfolio as a summative assessment for the nursing student. *Teaching and Learning in Nursing*, 7(4), 140–145.
- Hilton, P. & Pollard, C. (2005). Enhancing the effectiveness of the teaching and learning of core clinical skills. *Nurse Education in Practice*, 5, 289–295.
- Hinchliff, S. (1992). *The practitioner as teacher*. Edinburgh: Ballier and Tindall.
- Hodge, M. & Oates, M. (2005). Manual skills. In *Transforming practice through clinical education, professional supervision and mentoring* (pp. 101–120). Edinburgh: Elsevier Churhill Livingstone.
- Hodgson, D. May, S. & Marks-Maran, D. (2008). Promoting the development of a supportive learning environment through action research from the “middle out.” *Educational Action Research*, 16(4), 521–544.
- Holloway, I. & Biley, F. (2011). Being a qualitative researcher. *Qualitative Health Research*, 21(7), 968–975.
- Holter, I. M. & Schwartz-Barcott, D. (1993). Action research: what is it? How has it been used and how can it be used in nursing? *Journal of Advanced Nursing*, 18, 298–304.
- Hornby, A. (2011). Case study: Student. *Podiatry Now*, 14(12), 25.
- Hou, X. Zhu, D. & Zheng, M. (2010). Clinical nursing faculty competence inventory - development and psychometric testing. *Journal of Advanced Nursing*, 67(5), 1109–1117.



- Houghton, C. E. Casey, D. Shaw, D. & Murphy, K. (2013). Students' experiences of implementing clinical skills in the real world of practice. *Journal of Clinical Nursing*, 22(13-14), 1961–1969.
- Howard, D. (1991). Student profiles through action research. *Senior Nurse*, 11(3), 17–20.
- Hutchings, A. Williamson, G. R. & Humphreys, A. (2005). Supporting learners in clinical practice: capacity issues. *Journal of Clinical Nursing*, 14(8), 945–955.
- Hutchinson, C. (1999). Social support: factors to consider when designing studies that measure social support. *Journal of Advanced Nursing*, 29(6), 1520–1526.
- Huybrecht, S. Loeckx, W. Quaeyhaegens, Y. De Tobel, D. & Mistiaen, W. (2011). Mentoring in nursing education: perceived characteristics of mentors and the consequences of mentorship. *Nurse Education Today*, 31, 274–278.
- Jacelon, C. S. & Imperio, K. (2005). Participant diaries as a source of data in research with older adults. *Qualitative Health Research*, 15(7), 991–7.
- Jasper, M. (1991). A shortened common foundation programme for graduates: the students' experience of student-centred learning. *Nurse Education Today*, 14, 238–244.
- Jeffery, K. (2007). Theory focused practice: enhancing student learning in children's nursing practice. *Paediatric Nursing*, 19(6), 36.
- Jelovsek, J. E. Kow, N. & Diwadkar, G. B. (2013). Tools for the direct observation and assessment of psychomotor skills in medical trainees: a systematic review. *Medical Education*, 47(7), 650–673.
- Johansson, U. Kaila, P. Ahlner-Elmqvist, M. Leksell, J. Isoaho, H. & Saarikoski, M. (2010). Clinical learning environment, supervision and nurse teacher evaluation scale: psychometric evaluation of the Swedish version. *Journal of Advanced Nursing*, 66(9), 2085–2093.
- Johnson, R. B. & Onwuegbuzie, A. J. (2004). Mixed methods research: a research paradigm whose time has come. *Educational Researcher*, 33(7), 14–26.

- Johnson, R. B. Onwuegbuzie, A. J. & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112–133.
- Jokelainen, M. Jamookeeah, D. Tossavainen, K. & Turunen, H. (2011). Building organizational capacity for effective mentorship of pre-registration nursing students during placement learning: Finnish and British mentors' conceptions. *International Journal of Nursing Practice*, 17(5), 509–517.
- Jones, R. K. (2000). The unsolicited diary as a qualitative research tool for advanced research capacity in the field of health and illness. *Qualitative Health Research*, 10(4), 555–567.
- Kala, S. Isaramalai, S.-A. & Pohthong, A. (2010). Electronic learning and constructivism: a model for nursing education. *Nurse Education Today*, 30(1), 61–66.
- Kaptchuk J T. (2001). The double-blind, randomized, placebo-controlled trial: gold standard or golden calf? *Journal of Clinical Epidemiology*, 54, 541–549.
- Kelsey, J. & Mullen, K. (2007). Interprofessional learning: opportunities for students of nursing within youth services. *Journal of Children's and Young People's Nursing*, 1(5), 231–234.
- Kember, D. (2000). *Action Learning and Action Research*. London: Kogan Page.
- Kemmis, S. (2009). Action research as a practice based practice. *Educational Action Research*, 17(3), 463–474.
- Kernick, D. (2006). Wanted – new methodologies for health service research. Is complexity theory the answer? *Family Practice*, 23, 385–390.
- Kerr, M. & MacDonald, T. (1997). Project 2000 student nurses' creative approach to peer education. *Nurse Education Today*, 17, 247–254.
- Ketley, D. & Woods, K. (1993). Impact of clinical trials on clinical practice: example of thrombolysis for acute myocardial infarction. *The Lancet*, 342(8876), 891–894.

- Khan, K. & Ramachandran, S. (2012). Conceptual framework for performance assessment: competency, competence and performance in the context of assessments in healthcare—deciphering the terminology. *Medical Teacher*, 34(11), 920–928.
- Khanlou, N. & Peter, E. (2005). Participatory action research: considerations for ethical review. *Social Science & Medicine*, 60(10), 2333–2340.
- Kidd, J. & Finlayson, M. (2006). Navigating uncharted water: research ethics and emotional engagement in human inquiry. *Journal of Psychiatric and Mental Health Nursing*, 13(4), 423–428.
- Kingdon, C. (2005). Reflexivity: not just a qualitative methodological research tool. *British Journal of Midwifery*, 13(10), 622–627.
- Kirk, S. Carlisle, C. & Luker, K. (1997). The implications of Project 2000 and the formation of links with higher education for the professional and academic needs of nurse teachers in the United Kingdom. *Journal of Advanced Nursing*, 26(5), 1036–1044.
- Knowles, M. (2003). Introduction: the art and science of helping adults learn. In C. Downie & P. Bashord (Eds.), *Mentoring in practice: a reader* (pp. 3–18). London: University of Greenwich.
- Koch, T. & Kralik, D. (2006). *Participatory action research in health care*. Oxford: Blackwell Publishing.
- Koh, L. (2002). Practice-based teaching and nurse education. *Nursing Standard*, 16(19), 38–42.
- Kolb, D. (1984). *Experiential learning: experience as the source of learning and development*. New Jersey: Prentice-Hall.
- Krosnick, J. & Fabrigar, L. (1997). Designing rating scales for effective measurement in surveys. In L. Lyberg, P. Biemer, C. Martin, E. de Leeuw, C. Dippo, N. Schwarz, & D. Trewin (Eds.), *Survey measurement and process quality*. USA: John Wiley & Sons Inc.
- Krosnick, J. & Presser, S. (2010). Question and questionnaire design. In *the Handbook of survey research* (pp. 263–314). Bingley: Emerald Group Publishing Ltd.

- Kvale, S. & Brinkmann, S. (2009). *Interviews* (2nd ed.). California: Sage Publications Ltd.
- Lacey, A. & Luff, D. (2009). Qualitative data analysis. The NIHR RDS for the East Midland/Yorkshire and the Humber.
- Landers, M. G. (2000). The theory-practice gap in nursing: the role of the nurse teacher. *Journal of Advanced Nursing*, 32(6), 1550–1556.
- Lea, S. J. & Callaghan, L. (2012). Teaching in an age of “supercomplexity”: lecturer conceptions in context. In P. Trowler, M. Saunders, & V. Bamber (Eds.), *Tribes and territories in the 21st century* (pp. 208–219). Abingdon: Routledge.
- Ledwith, M. (2007). On being critical: uniting theory and practice through emancipatory action research. *Educational Action Research*, 15(4), 597–611.
- Lee, W. C. Cholowski, K. & Williams, A. K. (2002). Nursing students' and clinical educators' perceptions of characteristics of effective clinical educators in an Australian university school of nursing. *Journal of Advanced Nursing*, 39(5), 412–420.
- Levett-Jones, T. L. (2005). Self-directed learning: implications and limitations for undergraduate nursing education. *Nurse Education Today*, 25(5), 363–368.
- Levett-Jones, T. Lathlean, J. Higgins, I. & McMillan, M. (2009). Staff-student relationships and their impact on nursing students' belongingness and learning. *Journal of Advance Nursing*, 65(2), 316–324.
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2, 34–46.
- Lewin, K. (1947). Group decision and social change. In E. Newcombe & T. Hartley (Eds.), *Readings in Social Psychology* (pp. 330–344). New York: Henry Holt.
- Licqurish, S. & Seibold, C. (2008). Bachelor midwifery students' experiences of achieving competencies: the role of the midwife preceptor. *Midwifery*, 24, 480–489.

- Light, G. & Cox, R. (2001). *Learning and teaching in higher education: The reflective professional*. London: Sage Publications Ltd.
- Lobiondo-Wood, G. & Haber, J. (2006). *Nursing research: methods and crucial appraisal for evidence-based practice* (6th ed.). Philadelphia: Mosby Elsevier.
- Lofman, P. Pelkonen, M. & Pietila, A. (2004). Ethical issues in participatory action research. *Scandinavian Journal of Caring Science*, 18, 333–340.
- Löfman, P. Pelkonen, M. Pietilä, A-M. Lofman, P. & Pietila, A. (2004). Ethical issues in participatory action research. *Scandinavian Journal of Caring Science*, 18(3), 333–340.
- Ludema, J. Cooperrider, D. L. & Barrett, F. (2001). Appreciative inquiry: the power of the unconditional positive question. In P. Reason & H. Bradbury (Eds.), *Handbook of action research* (pp. 155–165). London: Sage Publications Ltd.
- Luszczynska, A. Gutiérrez-Doña, B. & Schwarzer, R. (2005). General self-efficacy in various domains of human functioning: evidence from five countries. *International Journal of Psychology*, 40(2), 80–89.
- Magginson, D. & Clutterbuck, D. (2005). *Techniques for coaching and mentoring*. London: Elsevier Ltd.
- Magnusson, C. O’Driscoll, M. & Smith, P. (2007). New roles to support practice learning - can they facilitate expansion of placement capacity? *Nurse Education Today*, 27(6), 643–650.
- Manley, K. (1997). A conceptual framework for advanced practice: an action research project operationalizing an advanced practitioner/consultant nurse role. *Journal of Clinical Nursing*, 6, 179–190.
- Mann, K. Gordon, J. & MacLeod, A. (2009). Reflection and reflective practice in health professions education: a systematic review. *Advances in Health Sciences Education: Theory and Practice*, 14(4), 595–621.
- Marland, G. & McSherry, W. (1997). The reflective diary: an aid to practice-based learning. *Nursing Standard*, 12(13-15), 49–52.

- Martin, G. W. (1996). An approach to the facilitation and assessment of critical thinking in nurse education. *Nurse Education Today*, 16(1), 3–9.
- Martin, M. (1996). How reflective is student supervision? A study of supervision in action. *British Journal of Occupational Therapy*, 59(5), 229–232.
- Matheson, R. (2003). Promoting the integration of theory and practice by the use of a learning contract. *International Journal of Therapy and Rehabilitation*, 10(6), 264–270.
- McAlexander, J. & Koenig, H. (2001). University experiences, the student-college relationship, and alumni support. *Journal of Marketing for Higher Education*, 10(3), 21–43.
- McAlexander, J. Koenig, H. & Schouten, J. (2005). Building a university brand community: the long-term impact of shared experiences. *Journal of Marketing for Higher Education*, 14(2), 61–79.
- McAllister, M. (1996). Learning contracts: an Australian experience. *Nurse Education Today*, 16(3), 199–205.
- McAndrew, S. (2003). Reflecting together: developing a new strategy for continuous user involvement in mental health nurse education. *Journal of Psychiatric and Mental Health Nursing*, 10, 616–621.
- McCaugherty, D. (1991a). The theory-practice gap in nurse education: its causes and possible solutions. Findings from an action research study. *Journal of Advanced Nursing*, 16, 1055–1061.
- McCaugherty, D. (1991b). The use of a teaching model to promote reflection and the experiential integration of theory and practice in first-year student nurses: an action research study. *Journal of Advanced Nursing*, 16(5), 534–543.
- McCombe, J. Develin, D. & Mallik, M. (2008). Creating interprofessional learning capacity in children's centres - description and evaluation of a pilot project. *Learning in Health and Social Care*, 7(4), 235–246.
- McConnell-Henry, T. Chapman, Y. & Francis, K. (2011). Member checking and Heideggerian phenomenology: a redundant component. *Nurse Researcher*, 18(2), 28–37.

- McEleney, E. (2010). Clinical Education : Podiatry students can enhance NHS service development. *Podiatry Now*, 13(8), 40–41.
- McIntyre, A. (2008). *Participatory Action Research. Qualitative Research Methods Series 52*. London: Sage Publications Ltd.
- McKay, J. & Marshall, P. (2001). The dual imperatives of action research. *Information Technology and People*, 14(1), 46–59.
- McKenna, G. (2003a). Learning theories made easy: behaviourism. In C. Downie & P. Basford (Eds.), *Mentoring in practice: a reader* (pp. 293–297). London: University of Greenwich.
- McKenna, G. (2003b). Learning theories made easy: cognitivism. In C. Downie & P. Basford (Eds.), *Mentoring in practice: a reader* (pp. 299–305). London: University of Greenwich.
- McKenzie, J. Swayne, C. Keenan, P. & Turco, A. (2013). The facilitation of learning. In J. Bailey-McHale & D. Hart (Eds.), *Mastering mentorship: a practical guide for mentors of nursing, health and social care students* (pp. 49–74). London: Sage Publications.
- McKernan, J. (1996). *Curriculum action research: a handbook of methods and resources for the reflective practitioner*. (2nd, Ed.). London: Kogan Page Ltd.
- McMullan, M. (2004). Portfolios in pre-registration podiatry – what lessons can we learn from their use in nursing education? *British Journal of Podiatry*, 7(1), 8–11.
- McMullan, M. (2005). Competence and its assessment: a review of the literature. *British Journal of Podiatry*, 8(2), 49–52.
- McNiff, J. & Whitehead, J. (2002). *Action research: principles and practice* (2nd ed.). Abingdon: RoutledgeFalmer.
- McNiff, J. & Whitehead, J. (2006). *All you need to know about action research*. London: Sage Publications Ltd.
- McTaggart, R. (1994). Participatory action research: issues in theory and practice. *Educational Action Research*, 2(3), 313–337.
- Meyer, J. (2000). Evaluating action research. *Age and Ageing*, 29(2), 8–10.

- Meyer, J. E. (1993). New paradigm research in practice: the trials and tribulations of action research. *Journal of Advanced Nursing*, 18(7), 1066–1072.
- Middleton, R. & Duffy, K. (2009). Mentoring a student immediately prior to registration: a qualitative study. *British Journal of Community Nursing*, 14(11), 481–486.
- Mill, J. E. & Morris, H. M. (2000). The ambivalence of ownership: nursing graduate students as collaborators in action research. *Educational Action Research*, 8(1), 137–149.
- Miller, S. (1984). *New essential Psychology: Experimental design* (2nd ed.). London: Routledge.
- Morgan, J. & Knox, J. E. (1987). Characteristics of “best” and “worst” clinical teachers as perceived by university nursing faculty and students. *Journal of Advanced Nursing*, 12(3), 331–337.
- Morrison, S. Bussey, S. & Avil, S. (2011). Practice-based placements in podiatry. *Podiatry Now*, 14(12), 24–25.
- Morton-Cooper, A. & Palmer, A. (2000a). Mentoring in practice. In *Mentoring, preceptorship and clinical supervision* (2nd ed., pp. 35–88). Oxford: UK: Blackwell Science Limited.
- Morton-Cooper, A. & Palmer, A. (2000b). Provision a professional support framework. In *Mentoring, preceptorship and clinical supervision* (2nd ed., pp. 187–218). Oxford: UK: Blackwell Science Limited.
- Murphy, F. A. (2000). Collaborating with practitioners in teaching and research: a model for developing the role of the nurse lecturer in practice areas. *Journal of Advanced Nursing*, 31(3), 704–714.
- Murphy, F. & Timmins, F. (2009). Experience based learning (EBL): Exploring professional teaching through critical reflection and reflexivity. *Nurse Education in Practice*, 9(1), 72–80.
- Murray, S. C. & Williamson, G. R. (2009). Managing capacity issues in clinical placements for pre-registration nurses. *Journal of Clinical Nursing*, 18(22), 3146–3154.



- Myall, M. (2008). Mentorship in contemporary practice: the experiences of nursing students and practice mentors. *Journal of Clinical Nursing*, 17(14), 1834–1842.
- Neary, M. (2000). Supporting students' learning and professional development through the process of continuous assessment and mentorship. *Nurse Education Today*, 20, 463–474.
- Nehring, V. (1990). Nursing Clinical Teacher Effectiveness Inventory: a replication study of the characteristics of “best” and “worst” clinical teachers as perceived by nursing faculty and students. *Journal of Advanced Nursing*, 15(8), 934–940.
- Nettleton, P. & Bray, L. (2008). Current mentorship schemes might be doing our students a disservice. *Nurse Education in Practice*, 8(3), 205–512.
- Neuls, T. (2003). Participating in action research on a health promotion project: a reflection. *Educational Action Research*, 11(3), 415–428.
- Nicoll, L. & Butler, M. (1996). The study of biology as a cause of anxiety in student nurses undertaking the common foundation programme. *Journal of Advanced Nursing*, 24, 615–624.
- Noffke, S. (2009). Revisiting the professional, person, and political dimensions of action research. In S. Noffke & B. Somekh (Eds.), *The Sage handbook of educational action research* (pp. 6–23). London: Sage Publications Ltd.
- Noffke, S. & Somekh, B. (2005). Action research. In B. Somekh & C. Lewin (Eds.), *Research methods in the social sciences* (pp. 89–96). London: Sage Publications Ltd.
- O'Halloran, S. Hean, S. Humphris, D. & MacLeod-Clark, J. (2006). Developing common learning: the New Generation Project undergraduate curriculum model. *Journal of Interprofessional Care*, 20(1), 12–28.
- O'Keefe, M. Burgess, T. McAllister, S. & Stupans, I. (2012). Twelve tips for supporting student learning in multidisciplinary clinical placements. *Medical Teacher*, 34(11), 883–887.
- Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement*. London: Continuum.

- Oquist, P. (1978). The Epistemology of Action Research. *Acta Sociologica*, 21(2), 143–163.
- Otter, S. Robinson, C. Davies, J. James, D. Allen, M. & Stew, G. (2007). An evaluation of inter-professional clinical education by podiatry and pharmacy. *British Journal of Podiatry*, 10, 75.
- Ousey, K. & Gallagher, P. (2007). The theory-practice relationship in nursing: a debate. *Nurse Education in Practice*, 7, 199–205.
- Owen, S. (1993). Identifying a role for the nurse teacher in the clinical area. *Journal of Advance Nursing*, 18, 816–825.
- Pallant, J. (2001). *SPSS Survival Manual*. Buckingham: Open University Press.
- Park, P. (1999). People, knowledge, and change in participatory research. *Management Learning*, 30(2), 141–157.
- Parker, T. J. (1996). Project 2000 students' perceptions of their training. *Journal of Advanced Nursing*, 24(4), 771–778.
- Pasmore, W. & Friedlander, F. (1982). An action-research program for increasing employee involvement in problem solving. *Administrative Science Quarterly*, 27, 343–362.
- Patton, N. Higgs, J. & Smith, M. (2013). Using theories of learning in workplaces to enhance physiotherapy clinical education. *Physiotherapy Theory and Practice*, 29(7), 493–503.
- Pease, S. & Kane, S. (2010). The role of the nurse specialist. *Nursing Standard*, 24(49), 42–46.
- Pfeil, M. (2001). Re-introducing skills teaching to nurse education: an action research project. *Nurse Education Today*, 21(8), 616–623.
- Polit, D. F. & Beck, C. T. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health*, 30, 459–467.
- Polit, D. F. Beck, T. & Owen, S. V. (2007). Focus on research methods is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing and Health*, 30, 459–467.

- Pope, C. Ziebland, S. & Mays, N. (2000). Analysing qualitative data. *British Medical Journal*, 320, 114–116.
- Price, J. (2004). A parent in the classroom - a valuable way of fostering deep learning for the children's nursing student. *Nurse Education in Practice*, 4, 5–11.
- Quality Assurance Agency for Higher Education. (2001). Subject benchmark statements: Healthcare programmes - podiatry. Gloucester: QAA.
- Quinn, F. (2000). Teaching in clinical and community settings. In *Principles and practice of nurse education* (pp. 413–443). Cheltenham: Stanley Thornes Ltd.
- Rawson, S. Brown, S. Wilkins, C. & Leamon, J. (2009). Student midwives' views of caseloading: the BUMP study. *British Journal of Midwifery*, 17(8), 484–489.
- Reason, P. & Bradbury, H. (2001). *Handbook of action research*. London: Sage Publications Ltd.
- Reason, P. & Bradbury, H. (2008). Introduction. In P. Reason & H. Bradbury (Eds.), *The Sage handbook of action research: participative inquiry and practice* (pp. 1–13). London: Sage Publications.
- Reason, P. & Torbert, R. (2001). The action turn: toward and transformational social science. *Concepts and Transformations*, 6(1), 1–37.
- Rimm, H. & Jerusalem, M. (1999). Anxiety, stress and coping: an adaptation and validation of an estonian version of the general self-efficacy scale (ESES). *Anxiety, Stress and Coping: An International Journal*, 12(3), 329–345.
- Ritchie, J. & Lewis, J. (2003). Carrying out qualitative analysis. In *Qualitative research practice* (pp. 219–262). London: SAGE Publications Ltd.
- Roberts, S. (2008). Using practitioner research to investigate the role of the teacher in encouraging student interaction within group work. *Nurse Education Today*, 28(1), 85–92.

- Robson, C. (2002). *Real World Research*. (2nd ed.). Oxford: Blackwell Publishing Ltd.
- Rodger, S. Fitzgerald, C. Davila, W. Millar, F. & Allison, H. (2011). What makes a quality occupational therapy practice placement? Students' and practice educators' perspectives. *Australian Occupational Therapy Journal*, 58(3), 195–202.
- Rogers, K. (2008a). Action research: part 1. Achieving meaningful reflection. *The Practising Midwife*, 11(10), 54–57.
- Rogers, K. (2008b). Action research: part 2. Testing the new teaching method. *The Practising Midwife*, 11(11), 32–35.
- Rolfe, G. (1994). Listening to students: course evaluation as action research. *Nurse Education Today*, 14, 223–227.
- Rolfe, G. (1996). Going to extremes: action research, grounded practice and the theory-practice gap in nursing. *Journal of Advanced Nursing*, 24(6), 1315–1320.
- Rolfe, G. (2006). Validity, trustworthiness and rigour: quality and the idea of qualitative research. *Journal of Advanced Nursing*, 53(3), 304–310.
- Rose, M. & Best, D. (2005). *Transforming practice through clinical education, professional supervision and mentoring*. Edinburgh: Churchill Livingstone.
- Rowan, P. & Barber, P. (2000). Clinical facilitators: a new way of working. *Nursing Standard*, 14(52), 35–38.
- Rust, J. & Golombok, S. (1999). *Modern Psychometrics* (2nd ed.). London: Routledge.
- Saarikoski, M. Isoaho, H. Warne, T. & Leino-Kilpi, H. (2008). The nurse teacher in clinical practice: developing the new sub-dimension to the Clinical Learning Environment and Supervision (CLES) Scale. *International Journal of Nursing Studies*, 45(8), 1233–1237.
- Salamonson, Y. Bourgeois, S. Everett, B. Weaver, R. Peters, K. & Jackson, D. (2011). Psychometric testing of the abbreviated Clinical Learning Environment Inventory (CLEI-19). *Journal of Advanced Nursing*, 67(12), 2668–2676.

- Sapsford, R. (2007). *Survey research* (2nd ed.). London: SAGE Publications Ltd.
- Schwarz, N. (1997). Questionnaire design: the rocky road from concepts to answers. In L. Lyberg, P. Biemer, C. Martin, E. de Leeuw, C. Dippo, N. Schwarz, & D. Trewin (Eds.), *Survey Measurement and Process Quality*. USA: John Wiley & Sons Inc.
- Schwarz, N. (2007). Cognitive aspects of survey methodology. *Applied Cognitive Psychology*, 21, 277–287.
- Seibold, C. (2005). The experiences of a first cohort of Bachelor of Midwifery. *Australian Midwifery Journal*, 18(3), 9–16.
- Shaw, R. L. (2010). Embedding reflexivity within experiential qualitative psychology. *Qualitative Research in Psychology*, 7(3), 233–243.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22, 63–75.
- Sibson, L. & Machen, I. (2003). Practice nurse as mentors for student nurses: an untapped educational resource? *Nurse Education in Practice*, 3, 144–154.
- Simons, H. (2009). *Case study research in practice*. London: Sage Publications Ltd.
- Smith, J. & Firth, J. (2011). Qualitative data analysis: the framework approach. *Nurse Researcher*, 18(2), 52–62.
- Smith, P. Masterson, A. Basford, L. Boddy, G. Costello, S. Marvell, G. ... Wallis, B. (2000). Action research: a suitable method for promoting change in nurse education. *Nurse Education Today*, 20(7), 563–570.
- Somekh, B. (2003). Theory and passion in action research. *Educational Action Research*, 11(2), 247–264.
- Spector, P. E. (1992). *Summated rating scale construction*. California: Sage Publications Ltd.
- Spence, W. & El-Ansari, W. (2004). Portfolio assessment: practice teachers' early experience. *Nurse Education Today*, 24, 388–401.

- Spouse, J. (2001). Bridging theory and practice in the supervisory relationship: a sociocultural perspective. *Journal of Advance Nursing*, 33(4), 512–522.
- Stake, R. (1995). *The art of case study research*. California: Sage Publications Ltd.
- Stark, S. (1994). A nurse tutor's experience of personal and professional growth through action, 579–584.
- Stenhouse, L. (1981). What counts as research? *British Journal of Education Studies*, 2, 103–114.
- Stew, G. (2005). Learning together in practice: a survey of interprofessional education in clinical settings in South-East England. *Journal of Interprofessional Care*, 19(3), 223–235.
- Steward, B. (1994). Researching fieldwork practice in occupational therapy. *Educational Action Research*, 2(2), 259–265.
- Stickley, T. Rush, B. Shaw, R. Smith, A. Collier, R. Cook, J. Shaw, T. Gow, D. Felton, A. & Roberts, S. (2009). Participation in nurse education: the PINE project. *The Journal of Mental Health Training, Education and Practice*, 4(1), 11–18.
- Straus, S. E. Tetroe, J. M. & Graham, I. D. (2011). Knowledge translation is the use of knowledge in health care decision making. *Journal of Clinical Epidemiology*, 64(1), 6–10.
- Sykes, C. Durham, W. & Kingston, P. (2013). Role of facilitators in delivering high quality practice education. *Nursing Management*, 19(9), 16–22.
- Talbot, M. (2004). Monkey see, monkey do: a critique of the competency model in graduate medical education. *Medical Education*, 38(6), 587–592.
- Taylor, C. (2007). A collaborative approach to developing “learning in synergy” in primary health care. *Nurse Education in Practice*, 7, 18–25.
- Taylor, D. C. M. & Hamdy, H. (2013). Adult learning theories: implications for learning and teaching in medical education. *Medical Teacher*, 35(11), 1561–1572.

- Ten Cate, O. Snell, L. & Carraccio, C. (2010). Medical competence: the interplay between individual ability and the health care environment. *Medical Teacher*, 32(8), 669–675.
- Thomas, G. (2011). *How to do your case study: a guide for students and researchers*. London: Sage Publications Ltd.
- Thompson, C. (1999). A conceptual treadmill: the need for “middle ground” in clinical decision making theory in nursing. *Journal of Advance Nursing*, 30(5), 1222–1229.
- Trede, F. & Smith, M. (2012). Teaching reflective practice in practice settings: students’ perceptions of their clinical educators. *Teaching in Higher Education*, 17(5), 615–627.
- United Kingdom Central Council for Nursing Midwifery and Health Visiting. (1999). *Fitness for Practice (The Peach Report)*. London: UKCC.
- Van der Hem-Stokroos, H. H. van der Vleuten, C. P. M. Daelmans, H. E. M. Haarman, H. J. T. M. & Scherpbier, A J. J. A. (2005). Reliability of the clinical teaching effectiveness instrument. *Medical Education*, 39(9), 904–910.
- Van Wynsberghe, R. (2007). Redefining case study. *International Journal of Qualitative Methods*, 6(2), 80–95.
- Vernon, W. Borthwick, A. Farndon, L. Nancarrow, S. & Walker, J. (2005). Issues of podiatry status in the UK. *British Journal of Podiatry*, 8(1), 6–10.
- Walshe, C. (2011). The evaluation of complex interventions in palliative care: an exploration of the potential of case study research strategies. *Palliative Medicine*, 25(8), 774–781.
- Ward, D. J. Furber, C. Tierney, S. & Swallow, V. (2013). Using framework analysis in nursing research: a worked example. *Journal of Advanced Nursing*, 69(11), 2423–2431.
- Warne, T. Johansson, U. Papastavrou, E. Tichelaar, E. Tomietto, M. Van den Bossche, K. Moreno, M. & Saarikoski, M. (2010). An exploration of the clinical learning experience of nursing students in nine European countries. *Nurse Education Today*, 30(8), 809–815.

- Waterman, H. Tillen, D. Dickson, R. & de Koning, K. (2001). Action research: a systematic review and guidance for assessment. *Health Technology Assessment*, 5(23), 1–166.
- Watts, J. & Waraker, S. (2008). When is a student not a student? Issues of identity and conflict on a distance learning work-based nurse education programme. *Learning in Health and Social Care*, 7(2), 105–113.
- Wenger, E. (2000). Communities of practice and social learning systems. *Organizations*, 7(2), 225–240.
- Westhues, A. Ochocka, J. Jacobson, N. Simich, L. Maiter, S. Janzen, R. & Fleras, A. (2008). Developing theory from complexity: reflections on a collaborative mixed method participatory action research study. *Qualitative Health Research*, 18(5), 701–117.
- Wheelhouse, C. (1997). “Licence to talk”: teaching and learning reflective skills in pre-registration nurse education. *Managing Clinical Nursing*, 1, 144–149.
- Whiting, L. S. (2008). Semi-structured interviews: guidance for novice researchers. *Nursing Standard*, 22(23), 35–40.
- Wilding, M. (2006). Southwark extends Australian student placement connection to help new orthopaedics service. *Podiatry Now*, 9(12), 8–9.
- Wilkins, C. Leamon, J. Rawnsion, S. & Brown, S. (2008). Student midwives’ views of self-assessment. *British Journal of Midwifery*, 16(2), 88–93.
- Wilkinson, S. (2011). Analysing focus group data. In *Qualitative research* (pp. 168–184). London: Sage Publications Ltd.
- Williamson, G. (2012). Action research, nursing and healthcare. In G. R. Williamson, L. Bellman, & J. Webster (Eds.), *Action research in nursing and healthcare* (pp. 51–65). London: Sage Publications Ltd.
- Williamson, G. (2012). Discussion, debate, and controversy surrounding action research. In *Action research in nursing and healthcare* (pp. 31–47). London: Sage Publications Ltd.



- Williamson, G. & Prosser, S. (2002). Action research: politics, ethics and participation. *Journal of Advanced Nursing*, 40, 587–593.
- Williamson, G. R. (2012). Evaluating the quality of action research projects. In *Action research in nursing and healthcare* (pp. 207–226). London: Sage Publications Ltd.
- Williamson, G. R. Callaghan, L. Whittlesea, E. & Heath, V. (2011). Improving student support using Placement Development Teams: staff and student perceptions. *Journal of Clinical Nursing*, 20(5-6), 828–836.
- Williamson, G. R. Callaghan, L. Whittlesea, E. Mutton, L. & Heath, V. (2011a). Longitudinal evaluation of the impact of placement development teams on student support in clinical practice. *The Open Nursing Journal*, 5, 14–23.
- Williamson, G. R. Callaghan, L. Whittlesea, E. Mutton, L. & Heath, V. (2011b). Placement Development Teams and interprofessional education with healthcare students. *Journal of Clinical Nursing*, 20(15-16), 2305–2314.
- Willis, J. W. (2007). *Foundations of Qualitative Research: Interpretive and critical approaches*. London: Sage Publications Ltd.
- Wilson, A. E. (2012). Effectiveness of an educational programme in perineal repair for midwives. *Midwifery*, 28(2), 236–246.
- Winter, R. & Munn-Giddings, C. (2001). *A Handbook for Action Research in Health and Social Care*. London: Routledge.
- Wright, K. (2005). An exploration into the most effective way to teach drug calculations skills to nursing students. *Nurse Education Today*, 25, 430–436.
- Yin, R. (2009). *Case study research: Design and methods*. California: Sage Publications Ltd.
- Zeni, J. (1998). A guide to ethical issues and action research. *Educational Action Research*, 6(1), 9–19.