

**Motivation and engagement of physiotherapists as lifelong learners through the use of a student continuing professional development (CPD) portfolio: A mixed methods exploratory study.**

**By**

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**A thesis submitted in partial fulfilment for the requirements for the degree of Doctor of Philosophy at the University of Central Lancashire.**

**November, 2019.**



# STUDENT DECLARATION FORM

I declare that while registered as a candidate for the research degree, I have not been a registered candidate or enrolled student for another award of the University or other academic or professional institution

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## ABSTRACT

**Background** - Physiotherapy education aims to prepare graduates for the world of work, and this includes being autonomous reflective practitioners, and lifelong learners. Many universities use a student continuing professional development (CPD) portfolio to achieve this, however there is no research investigating whether developing and completing an undergraduate portfolio has any impact on the graduate's motivation to engage with continuing professional development. This study aimed to explore both undergraduate and graduate views on whether their level of motivation for CPD and lifelong learning (LLL) had been influenced by using a student CPD portfolio.

**Methods** – This was a mixed methods study, in an idealistic research paradigm, with an inductive methodology. The study used two online questionnaires and semi-structured telephone interviews with final year physiotherapy students and qualified physiotherapists in the UK to collect data, with statistical, content and thematic analysis applied as appropriate.

**Findings** – There is evidence to suggest that requirement and assessment of the portfolio, portfolio structure, and perceived level of support and guidance for the portfolio building process all influence student motivation towards lifelong learning and using a CPD portfolio post-graduation. From a graduate physiotherapy perspective, those who completed a student portfolio were more motivated to use a portfolio and to undertake CPD, although other variables may have influenced these results. There is also evidence that motivation fluctuates depending on point on career path, with those in middle grade bandings least motivated to undertake CPD and use a portfolio. A model of motivation was developed from analysis of the findings from the study, showing the internal and external motivating factors that influence physiotherapists' engagement with CPD portfolios, CPD and LLL.

**Implications** – Physiotherapy educators should be aware of the internal and external factors influencing motivation towards use of a portfolio and utilise these to engage students in the portfolio building process to improve motivation for LLL. Physiotherapists and physiotherapy managers should consider the influence of internal and external motivating factors when discussing on-going development.

**Original Contribution to Knowledge** – The research concludes that completing a student portfolio has a positive influence on motivation towards CPD portfolios, CPD and LLL, and that if students perceive the structure of the portfolio to be helpful, and receive useful support and feedback for portfolio development, the positive influence of completing the portfolio on motivation towards CPD portfolios, CPD and LLL is enhanced. The findings also suggest that portfolios that are a requirement of the course and/or are assessed reduce the positive

influence of completing a portfolio on motivation for future use of a portfolio and learning. The research indicates that physiotherapists perceive greater benefit from learning that is internally motivated, and there are many internal and external motivating factors that can influence the decision to learn, both positively and negatively. Ultimately, this study has shown that physiotherapists and student physiotherapists will only engage in learning when the perceived benefits outweigh the perceived costs.

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## GLOSSARY OF ABBREVIATIONS

AHPs –	Allied Health Professionals
APEL –	Accreditation of Prior Experiential Learning
APTA –	American Physical Therapy Association
BASW –	British Association of Social Workers
CE –	Continuing Education
COT –	College of Occupational Therapists
CPD –	Continuing Professional Development
CSP –	Chartered Society of Physiotherapy
DH –	Department of Health
EM –	External Motivator
GDC –	General Dental Council
GMC –	General Medical Council
GPhC –	General Pharmaceutical Council
GP –	General Practitioner
HCPC –	Health and Care Professions Council
HEE –	Health Education England
HEI –	Higher Education Institution
HP –	Health Professionals
I –	Interview
ICS –	Integrated Care Systems
iCSP –	Interactive Chartered Society of Physiotherapy
IM –	Internal Motivator
KSBV –	Knowledge, Skills, Behaviours and Values
KSF –	Knowledge and Skills Framework
KW –	Kruskal Wallis
LLL –	Lifelong Learning
LWAB –	Local Workforce Action Board
MDT –	Multidisciplinary Team
MSK –	Musculoskeletal
NAO –	National Audit Office
NHS –	National Health Service
NMBA –	Nursing and Midwifery Board of Australia
NMC –	Nursing and Midwifery Council
PDP –	Personal Development Planning
PP –	Private Practice

Q –	Questionnaire
RCN –	Royal College of Nursing
SDL –	Self-directed Learning
SETs –	Standards for Education and Training
SOPs –	Standards of Proficiency
STEMH –	Science, Technology, engineering, Medicine and Health
SWOT –	Strengths, Weaknesses, Opportunities, Threats

## CHAPTER ONE – INTRODUCTION

### 1.1 – Personal and Situational Context for the Study.

*Let me introduce myself. I graduated as a Physiotherapist in 1990 and worked clinically until 2001 when I moved into the education sector. During my time in education, I have witnessed the physiotherapy student portfolio take many different guises.*

*The first portfolio I was involved with facilitating students to use, required students to reflect on at least three experiences for each of their clinical placements during the three-year programme. These were marked by personal tutors on a pass-fail basis. In their final year, the students were required to write a 4000-word assignment, summarising and reflecting on their development, using evidence from their portfolio to support their work. Reflection by the course team and the students suggested that a lack of structure resulted in insecurity and anxiety over what was required, and students often spent long periods of time deciding what to reflect on, rather than reflecting itself.*

*The second portfolio was significantly more structured, based on the Chartered Society of Physiotherapy (CSP) guidance for learning in the practice environment (CSP, 2005) and the Standards of Proficiency for Physiotherapists from the Health Professions Council (reference superseded by Health and Care Professions Council (HCPC), 2013). Students were required to collect evidence related to nine core elements of physiotherapy practice on each placement, as well as mapping their experiences in terms of types of condition, location of practice, and social and psychological factors influencing decisions on placement. Reflection by students and the course team on this portfolio was that it was cumbersome, time-consuming, too inflexible, and a tick-box exercise, with the HPC Standards being too generic to represent physiotherapy specific practice.*

*The next iteration of the student portfolio was based on the CSP's Physiotherapy Framework (CSP, 2013a). Mindful that students had not liked the freedom of the first portfolio nor the inflexibility and generic nature of the second, the Physiotherapy Framework seemed to offer profession specific standards which could be adapted to provide a more relevant but less cumbersome portfolio for the students to use. Across their placements, students had to demonstrate, through evidence, achievement of the domains within the Framework. Student feedback was that the number of domains was overwhelming, and even with reduction in this number by the staff team over the course of two academic years, reflection suggested that the volume of work required was reducing the quality of reflection produced by students and limited their learning through the portfolio.*

*Following further changes, the current portfolio requires students to reflect on three experiences of their choice during each placement, giving a total of 12 reflections. Students must also provide three critical appraisals of research relevant to each placement, showing how they have considered the evidence base in relation to their practice. Although this current structure seems to be more acceptable to students, the course team are still challenged by students as to the purpose of the portfolio, with comments such as “I don’t see the point”, “It doesn’t allow me to write what I want to”, and “why do we have to do this anyway?”*

*This continuous criticism from students of the portfolio despite its many different guises led me to wonder where we were going wrong. My personal feelings are that a portfolio can be a valuable tool for student learning and development, if it is designed appropriately and used effectively, but this did not appear to be happening. My understanding is that a portfolio should have three aims – to help students to develop the skills and understand the processes of portfolio building so that they can take these forwards into their careers, to help students to recognise the value of reflection, but more specifically of documented reflection, to their development as self-aware, autonomous and critical practitioners, and to instil in them a passion for lifelong learning (LLL). While students do seem to have developed skills of portfolio building over the years, the majority have struggled with seeing the value of documenting reflections and the portfolio appears to have had little impact on their commitment to LLL. All these points made me wonder what the impact of the student portfolio was on their future attitudes and motivations towards CPD and LLL.*

*Alongside these musings about the student portfolio and its usefulness, as part of my role visiting students on placements, I encountered several physiotherapists who had been called for audit of their CPD by the HCPC. Having successfully been through the process myself, I offered to support these clinicians in preparing their portfolios for submission. While many of these clinicians had undertaken CPD and were keen and motivated, there was a sense of panic that they would not have “enough stuff” to show what they had done, as well as limited recognition of the learning they did every day in their clinical posts. When discussing their CPD, clinicians would talk about courses they had been on and show me certificates, or email confirmation of attendance, and when challenged by the statement “that only shows that you sat in the room, not what you learned”, could easily tell me what they had learnt and the impact of this on their practice and service users, fundamental to passing HCPC audit, but none of them had any evidence of this learning or its application. Clinicians generally reported that they did not document this process because they found it time-consuming and irrelevant once learning had already been absorbed and applied to practice, and so were left “creating” the evidence of this for the purposes of the audit. These experiences and discussions with*

*physiotherapists made me wonder why they had this approach to documenting reflection at the time of an experience, and whether their undergraduate education, and specifically their student portfolios, had influenced their approaches to CPD now.*

*On beginning my career in physiotherapy in the early 1990s when we were primarily technicians, and as someone for whom reflection did not come naturally, I can recognise the point of view of the students; they want to get on with doing the job, and not spend time thinking about why they have done something in a particular way, or the implications of this for all parties concerned. Equally, I can recognise my younger self in the clinicians I spoke to, in that practice is the important bit, and learning is to make me better at the job, not to write it down for someone else to read. However, the national drivers for all healthcare workers require that we are reflective practitioners, and the level of autonomy within the profession in current practice, means that we must be able to explain and justify our decisions, actions, values, thoughts and behaviours. Having developed within an academic world, where self-reflection on practice is extremely important, and having matured as an individual as well as a professional, I now view reflection as a highly valuable skill, that turns a good therapist into an excellent one. I wish to facilitate this development in my students, so that they can be the best physiotherapists they can be, but how we do this, and where the portfolio fits within this development, are questions that continue to raise their heads, as none of the changes we have made to the portfolio seem to have the outcomes that we are looking for.*

*And so, to this PhD. During this thesis I hope to take you on a journey, initially through the background to CPD, healthcare education, and theories around motivation, through the literature relating to attitudes to CPD and student portfolios, to my study, investigating whether there are any links or influences of a student portfolio on attitudes and motivation towards CPD portfolios, CPD and LLL. My hope is that the outcome of this study will enable educators to develop portfolios that have meaning to students, that will encourage them to see the benefits of reflective practice, and to lead them enthusiastically on a path of LLL and CPD.*

## **1.2 – Brief Overview of Thesis Structure and Chapter Content**

The following section will give an overview of the thesis structure, outlining the content that can be found in each chapter. Figure 1.1 gives a diagrammatical representation of the thesis, showing how the chapters fit together, resulting in the original contribution to knowledge, and application and implications of findings.

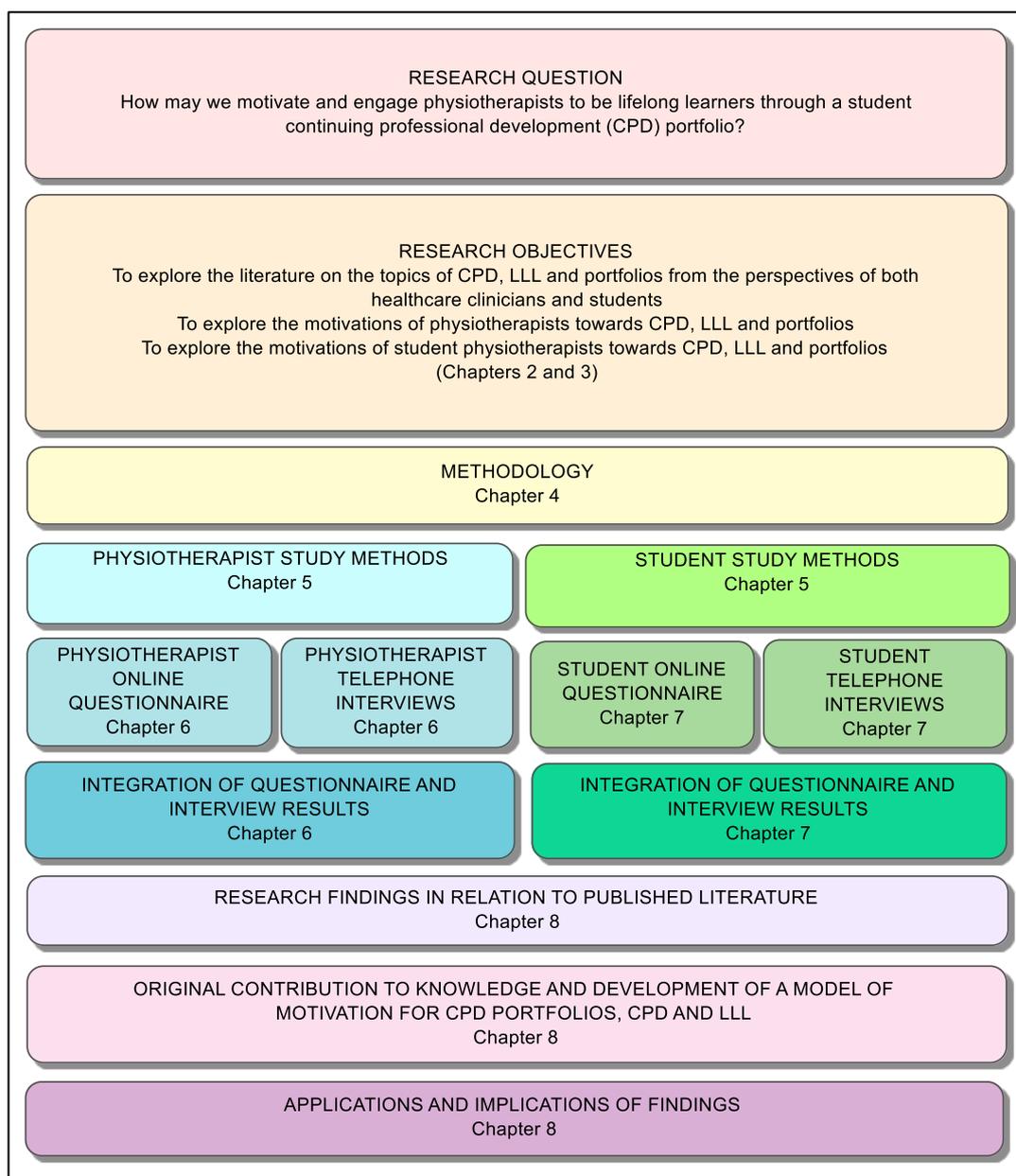
**Chapter Two** takes a UK focus, to set the scene for the thesis, and begins with an overview of CPD, including definitions of CPD, the purposes and processes of CPD, types of CPD activity,

the drivers for CPD, some models of CPD, and an introduction to CPD portfolios. This chapter then moves on to discuss the education of physiotherapists, considering programme design and regulation, and how the development of knowledge of CPD and portfolios and LLL skills might be integrated into curriculum design. This chapter will present the theoretical background for motivation in learning, as well as theories about adult learning and the relation of these to both CPD and student LLL skills. The research objectives are introduced at the end of this chapter.

**Chapter Three** is a review of the worldwide literature on the research topic. Because there was a paucity of literature specifically examining the relationship between student portfolios and motivations towards CPD, LLL and portfolio use, the literature review is divided into two sections. Firstly, the literature investigating health professionals and CPD, LLL and portfolios, including both their behaviours as well as their attitudes and motivations, is collected and critiqued. Secondly, the research focussing on student portfolio use in health professional courses is critically analysed, considering the aims and purposes of the portfolios, the structure, format and content of student portfolios, and students' attitudes to their portfolios. This chapter concludes with the presentation of two thematic frameworks, drawn from the literature, which were used to formulate the research tools (questionnaire and interview structures), as well as used in the analysis of the data collected.

**Chapter Four** provides the reader with the methodological standpoint of the researcher and the research, presenting and justifying the ontological and epistemological perspectives, as well as the methodology and research methods used in the study. Data analysis processes are presented and critiqued.

**Chapter Five** describes the specific procedures that were undertaken to collect and analyse the data within the study. This chapter gives an overview of study design and details of ethical approval, as well as a description of how the questionnaires and interview questions were developed. Recruitment and procedures for each group of participants are described, along with details of the purposive sampling processes for interviewees. The processes of data analysis are described for each set of data – the two questionnaires and the two sets of interviews, but this chapter also explains how the data sets were brought together to answer the research questions.



**Figure 1.1 – Diagrammatical Representation of Thesis Structure**

The results from the physiotherapist participants are described in **Chapter Six**. These begin with presentation of the results from the questionnaire, giving descriptive analysis of the full dataset. This includes demographic and employment data, their reported CPD activities, perceived benefits and barriers to CPD and their opinions on CPD. The chapter moves on to present physiotherapists' responses to questions about their student portfolios, if they had them, giving details of portfolio structure, content and requirements, and then summarises the results in relation to their current portfolio use and their attitudes towards using a portfolio.

The chapter then gives an overview of the interviewees, including their demographic and employment data, and summarises their responses to the questionnaire. Results of the content analysis of interview transcripts are provided next, followed by the thematic analysis of the interview data.

The questionnaire and interview data are then combined in relation to the research objectives, and are presented in terms of answering these –

- The influence of the student portfolio on physiotherapists' attitudes to portfolios
- The influence of the student portfolio on physiotherapists' attitudes to CPD and LLL
- Other influences on physiotherapists' attitudes to portfolios, CPD and LLL

The results from the student participants are described in **Chapter Seven**. These follow a similar structure in terms of their presentation, beginning with the descriptive analysis of the full dataset from the questionnaire, including demographics and details about their portfolios. Details of their responses to questions about guidance for, assessment of and feedback on portfolios, and their attitudes towards using their portfolio are described next. Following this, their responses to questions regarding knowledge of CPD and their attitudes towards CPD and portfolios are presented.

The chapter then gives an overview of the student interviewees, including their demographic and course information and summarises their responses in the questionnaire. Results of the content analysis of interview transcripts is provided next, followed by the thematic analysis of the interview data.

The questionnaire and interview data are then combined in relation to the research objectives, and are presented in terms of answering these –

- The influence of the student portfolio on student attitudes to portfolios
- The influence of the student portfolio on student attitudes to CPD and LLL
- Other influences on student attitudes to CPD, LLL and portfolios

**Chapter Eight** discusses the findings of this study in relation to published research and attempts to explain any differences found. The chapter then moves on to discuss the findings in relation to motivational theory, and a model of motivation for CPD portfolios, CPD and LLL is proposed, based on the findings from the research. The strengths and weaknesses of the study from a research design perspective are discussed, along with the presentation of a reflexivity statement from the researcher. Finally, the applications and implications of the research are presented, and further areas for future research studies are proposed.

**Chapter Nine** provides a brief final summary of the thesis, including the findings from the literature review, and the research processes. The chapter recaps the motivational factors influencing physiotherapists' engagement with CPD portfolios, CPD and LLL, and finishes with the key take home messages.

## CHAPTER TWO – BACKGROUND

### **2.1 – Introduction**

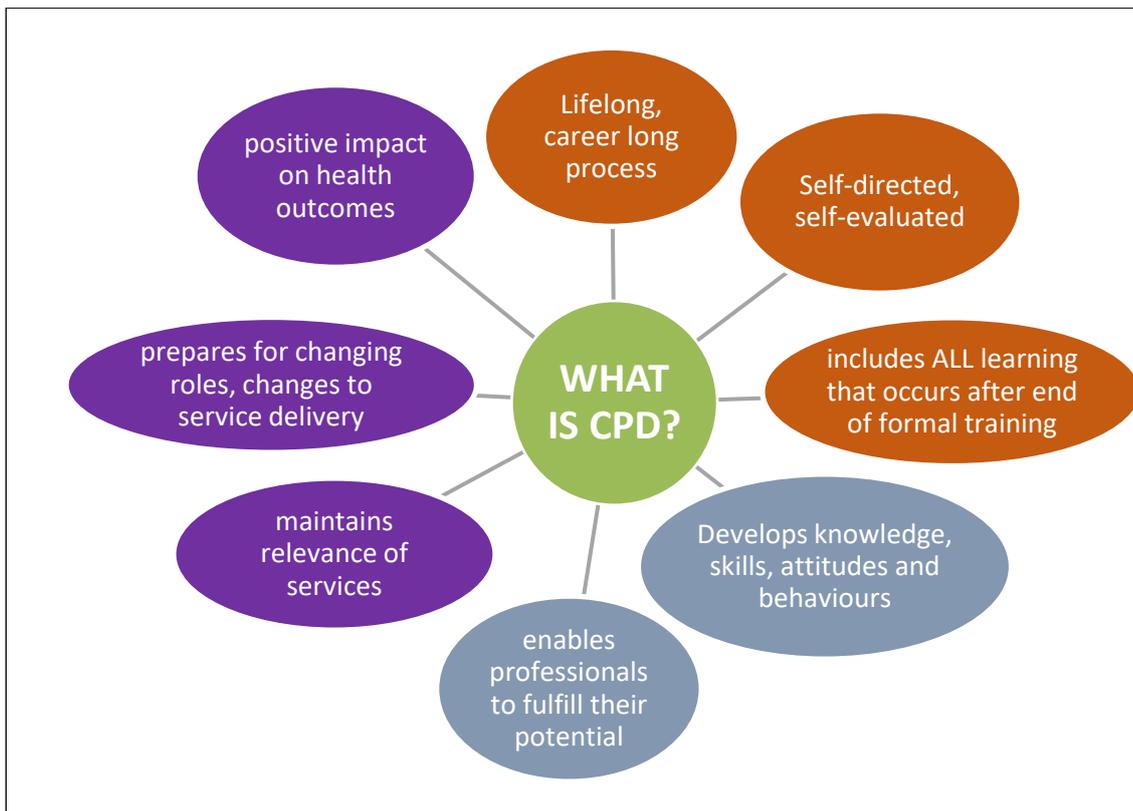
Before reviewing the literature around CPD and portfolios in Chapter Three, this chapter will provide the context for CPD, LLL and portfolios in UK healthcare settings. This will include definitions of CPD, purposes and processes of CPD and types of CPD activity as described by several authors. Models of CPD are provided, and the reader is introduced to portfolios in a healthcare context. The chapter will also discuss the development of skills for LLL and CPD in current undergraduate healthcare education in the UK, and the factors influencing this. After providing a summary of adult learning theory and learning styles, motivational theories for learning are outlined, drawing on models from many authors, in different contexts, and linking these to the development of LLL skills. The chapter concludes by providing the research objectives for this study.

### **2.2 – What is CPD?**

#### **2.2.1 – Description and Definitions**

CPD is a term that has been widely used for many years, within health and social care professions as well as other sectors of employment. According to Savage (2015), CPD can trace its roots back to the period shortly after World War Two, when institutional bodies recognised the need for more formalised processes for on-going education and training of the workforce, particularly considering the growing litigious and technological environments. The Department of Health (DH) first acknowledged the benefits of CPD within the health care sector in the document *A First Class Service, Quality In The New NHS* (DH, 1998), and further developed this with the *Continuing Professional Development* document (DH, 1999). The Department for Education and Employment soon followed this with publication of their professional development strategy in 2001. While it is acknowledged that we all continue to learn throughout our lifetimes, for the purposes of this thesis, CPD means the continued development of qualified practitioners post-registration.

Many of the professional bodies and regulators for health professionals in the UK and around the world provide their registrants with a definition of CPD (American Physical Therapy Association (APTA), 2012; British Association of Social Workers (BASW), 2012; CSP, 2007; College of Occupational Therapists (COT), 1994; General Medical Council (GMC), 2012; HCPC, 2014; Nursing & Midwifery Board of Australia (NMBA), 2010; Nursing & Midwifery Council (NMC), 2011). From the multitude of different definitions provided from these sources, several

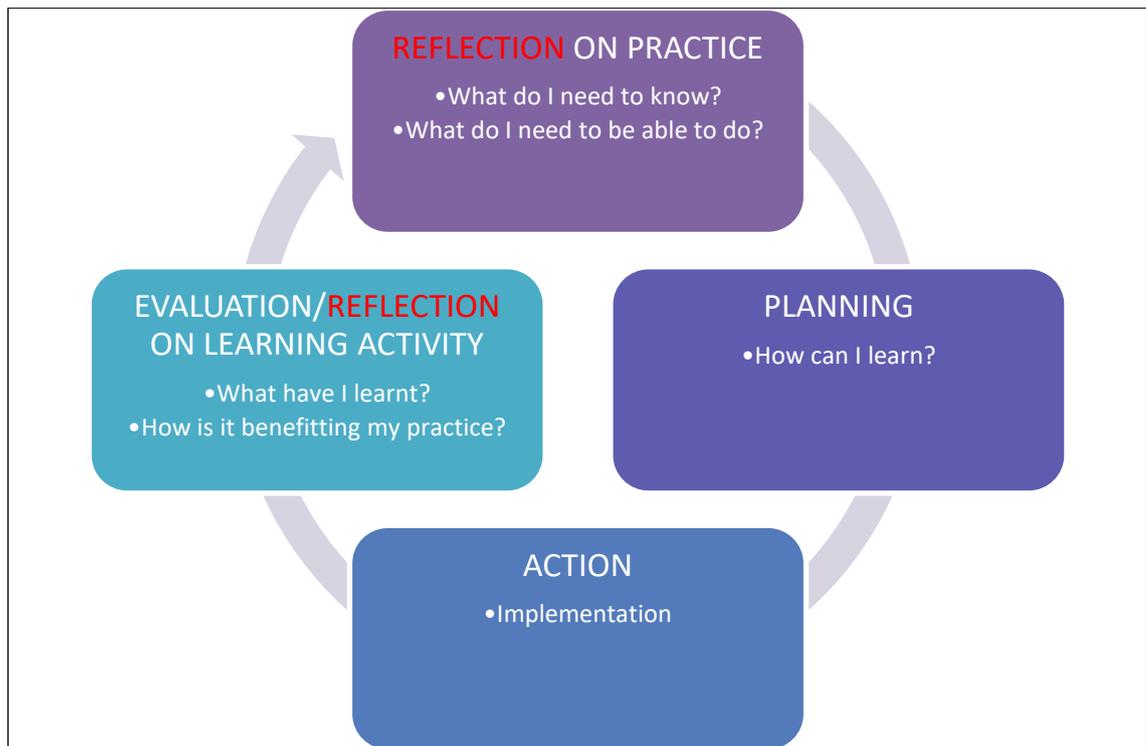


**Figure 2.1 – Key Elements Characterising CPD.**

recurring elements, which characterise CPD, emerge (see Figure 2.1). These documents describe CPD in terms of the process undertaken (shown in orange) and the outcomes (shown in grey and purple). Madden and Mitchell (1993) suggested that the CPD process should be undertaken based on a formalised plan that considers the needs of the individual (grey) and the employer and society (purple) (Madden & Mitchell, 1993). Several authors also suggested that reflection is a key component of the CPD process (Jones & Jenkins, 2006; Strickland-Hodge, 2008) and the Royal Pharmaceutical Society of Great Britain (2005) published a CPD cycle which clearly demonstrated the role of reflection at two points within the CPD process (see Figure 2.2). It could be argued that reflection is also required in the planning stage, using self-awareness and self-knowledge to determine how the learning can most effectively be undertaken. This cycle clearly shows the formal plan as suggested by Madden and Mitchell (1993), as well as the focus on individual and service, but also the fact that CPD should be self-driven, and self-evaluated, as shown in Figure 2.1.

### 2.2.2 – Types of CPD Activity

In terms of the CPD activity, Figure 2.1 clearly shows that professional and regulatory bodies consider CPD to be any learning that is undertaken after the completion of formalised professional education. Within the medical professions there has been a move away from



**Figure 2.2 – The CPD Cycle (Royal Pharmaceutical Society of Great Britain, 2005).**

continuing education (CE), to a model of CPD (World Federation for Medical Education, 2003), highlighting that learning does not only take place through formal educational events.

Many authors put forward differing ideas with regards to how learning can be categorised (see Figure 2.3). Within adult education, UNESCO (2009) divided learning into three clear categories – formal, non-formal and informal. Also in education, Rogers' (2003) description of incidental learning appears to match UNESCO's (2009) informal learning, where learning occurs, but from a task not planned for the purposes of learning. Hager and Halliday (2009) suggested that informal learning may occur unintentionally, when the learner is not aware that learning is happening. Still within an educational context, there were conflicting ideas about how self-directed learning (SDL) occurs, with Brookfield (1985), Boekaerts (1999) and Solomon (2003) suggesting that this can fall under any of the UNESCO (2009) descriptions, whilst Rogers (2014) suggested that SDL cannot be formal learning.

Within the research specifically describing types of CPD activities in healthcare, the descriptions by Dowds and French (2008) appeared to clearly mirror those of UNESCO (2009). Johnson (2008), however, described CPD differently, with attendance spanning both formal and non-formal learning, SDL sitting within non-formal learning, and work-based learning spanning non-formal and informal learning. It is suggested that Johnson's (2008) category of learning from research or audit, could be included in any of the three original categories, in that both can be intentional and structured, and are often undertaken for the purposes of

UNESCO (2009, p27)	<b>FORMAL LEARNING</b> Experiences in an educational or training institution, with structured learning outcomes, learning time and support, which leads to certification. Formal learning is intentional from the learner's perspective	<b>NON-FORMAL LEARNING</b> Experiences not provided by an educational or training institution and usually does not lead to certification. Non-formal learning is still structured in terms of learning outcomes, learning time and support and is intentional from the learner's perspective	<b>INFORMAL LEARNING</b> Results from daily life activities. Not structured, in terms of learning outcomes, time or support and typically does not lead to certification. Informal learning may be intentional, but in most cases, is not.
BROOKFIELD (1985); BOEKAERTS (1999); SOLOMON (2003)	<b>SELF-DIRECTED LEARNING</b> Planned and controlled by the self, set out to learn with a purpose and measure success in terms of how much is learnt. Largely conscious. May include formal, non-formal, and/or informal learning		
ROGERS (2003), (2014)	<b>SELF-DIRECTED LEARNING (2014)</b> Structured or unstructured, can be intentional or not; sits across the non-formal and informal learning boundaries, does not include formal learning		
			<b>INCIDENTAL LEARNING (2003)</b> Learning that occurs when engaged in a purposeful activity, but where focus is on the task, not on learning; task is not undertaken for the purposes of learning
HAGER AND HALLIDAY (2009)			<b>UNINTENTIONAL LEARNING</b> Unplanned and almost always unconscious. Learner is nearly always unaware of any learning occurring
DOWDS AND FRENCH (2008)	<b>FORMAL LEARNING</b> Short course Mandatory training Scientific meetings	<b>INFORMAL PLANNED LEARNING</b> Where an activity is planned to meet a learning need	<b>INFORMAL UNPLANNED</b> An activity where learning occurs, but the activity was not undertaken for the purposes of learning
JOHNSON (2008)	<b>WORKBASED LEARNING</b> Any of – secondment/shadowing; using EBP/critical appraisal; peer support/sharing good practice; clinical supervision/mentoring of staff; appraisal/PDR; journal club; in-service training – general, clinical specialty, interprofessional; professional development; patient care		
		<b>SELF-DIRECTED LEARNING</b> Any of – self-directed study; reading journal article; reading books; internet searches; reflective practice; SWOT analysis/setting learning outcomes; portfolio keeping; personal development; IT skills	
	<b>ATTENDANCE</b> Any of – external courses; external courses/workshops on clinical specialty; CIG participation; clinical education of students; courses – general, non-credit-bearing; management training/leadership development; mandatory courses; union sponsored; clinical educator course; post-graduate study		
	<b>RESEARCH OR AUDIT</b>		

Figure 2.3 – Types of Learning and CPD Activity.

generating new knowledge or understanding of a professional situation (formal or non-formal), and although audit may be seen as a task, rather than a learning opportunity, learning will still occur as a result of its outcomes (informal).

### 2.2.3 – Drivers for CPD

#### *2.2.3.1 – Policy Drivers for CPD*

In the context of UK health and social care, several factors drive the need for and provision of CPD. At a national level, the National Health Service (NHS) published its Long-Term Plan in January 2019. This plan sets out a new service model, creating Integrated Care Systems (ICS) which will bring together health and social care to provide services at the right place, the right time, and with the right people (NHS, 2019). Within this, the NHS committed to do more to support current staff, including investment in CPD, however how much investment is made is dependent on the Government Spending Review due later in 2019.

Several aspects of the plan will require investment in the upskilling of the current workforce. The development of a self-care agenda will require professionals to be able to develop new skills and knowledge to assist people to manage long-term conditions, while a focus on preventative care will require staff to be able to influence behaviour change and implement the Making Every Contact Count agenda (Public Health England, NHS England & Health Education England (HEE), 2016). On 31<sup>st</sup> January 2019 a new five-year General Practitioner (GP) contract was announced for England, which will see the recruitment of 22,000 multidisciplinary staff, including physiotherapists, pharmacists and social prescribers, who will work alongside GP's to provide first contact interventions and reduce the burden on GP appointments (Millet, 2019). The physiotherapy provision of this service, while welcomed and appropriate, will require some upskilling of current musculoskeletal physiotherapists, particularly in terms of CPD for injection therapy and independent prescribing (CSP, Royal college of General Practitioners & British Medical Association, 2018).

While many of these aspects of service redesign require some upskilling to build on current levels of practice, perhaps the development of a digital workforce holds more challenges in terms of the need for staff training and CPD. The Topol Review (2019), following on from the NHS Long Term Plan (2019), highlighted the top ten digital healthcare technologies that will impact on the workforce. From a physiotherapy perspective, these included the use of telemedicine to provide virtual fracture clinics, the prescription, explanation to patients and evaluation of validated smartphone apps, and the integration of artificial intelligence, robotics and virtual reality into rehabilitation. Scepticism about the use of technology in healthcare

often stems from a lack of understanding, and this can create a barrier to progress (Evidence Centre for Skills for Health, 2011). Making these changes

*“requires an effective culture of learning at every level that enables the workforce to reframe their knowledge within an increasingly technology-driven world.”*

(Topol, 2019, page 74).

Published in January 2019, the Principles for Continuing Professional Development and Lifelong Learning in Health and Social Care were developed by collaboration of several professional bodies (Broughton & Harris, 2019). This document set out 5 principles for CPD and LLL (see Table 2.1). These principles recognised that learning should result in improvement for service users and/or service delivery, but also highlighted the need for support from the employer for CPD and LLL to happen. Topol (2019, p10) also supported the idea that CPD and LLL cannot occur through the drive of the individual alone, and suggested that staff require allocated time outside of their normal responsibilities to develop and reflect on their learning, to undertake learning activities that are proactive rather than reactive, and that the workplace needs to have a strong learning infrastructure and a reputation for training and support.

**Table 2.1 – Five Principles of CPD and LLL (from Broughton & Harris, 2019).**

PRINCIPLE 1	CPD and LLL should be each person’s responsibility and be made possible and be supported by your employer
PRINCIPLE 2	CPD and LLL should benefit service users
PRINCIPLE 3	CPD and LLL should improve the quality of service delivery
PRINCIPLE 4	CPD and LLL should be balanced and relevant to each person’s area of practice or employment
PRINCIPLE 5	CPD and LLL should be recorded and show effect on each person’s area of practice.

The National Audit Office (NAO) reported that the NHS had over 50,000 staff vacancies in 2014 (NAO, 2016), and this figure had risen to over 100,000 by 2018 (Nuffield Trust, The Health Foundation & The King’s Fund, 2018). To meet the shortfall in the workforce, several new and innovative methods of training health and social care professionals have recently been developed, including the nursing and physician associate programmes, and a range of degree apprenticeships. While these initiatives aim to improve the staffing levels within the NHS and are attractive as a means to recruit staff from within an organisation and “grow your own”, there is also a need for training for those who will supervise and support these learners in practice.

At a regional level, there have been changes to the way that the workforce can access funds for CPD activities. CPD Apply, the process by which NHS staff could receive funding for courses

or study days provided by higher education institutions (HEI's) is no longer active. Local Workforce Action Boards (LWABs) are now in place to work with local health and social care providers around the move to ICS, with a specific focus on the workforce. As part of their remit, the Lancashire and South Cumbria LWAB received £150,000 for upskilling the workforce in 2018-2019 (Lancashire Workforce Action Board, 2018), however it is unclear how these monies will be allocated throughout the region to support CPD and LLL, with several bids received and no decisions made. Anecdotal evidence from within the HEI suggests that one challenge with regards to funding for CPD is that HEE target areas for CPD do not always match Trust or local workforce development priorities, meaning that Trusts do not want to spend their monies on the training that is available. CPD provision needs to be responsive to local needs, and this is often for non-credit-bearing, cheaper delivery, with a focus on bespoke provision.

At a local level three NHS Trusts, who were contacted informally by email, agreed to share information about their CPD policies and practice. For two of these, CPD forms part of the annual appraisal or performance development review process. In both cases, staff must have completed all mandatory and essential training for their role as part of the process, but developmental or career progression CPD is not part of the requirements. These same two Trusts indicated that if staff have not completed mandatory/essential training, then increments in pay will be withheld, with one also not letting staff apply for any further training or CPD support. One Trust had a clear policy on funding for training, with essential training being fully funded and 100% of time allocated for this, up to 75% funding and time allocated for desirable training, and up to 50% funding and time for further education or CPD activities, negotiated on a case-by-case basis. The second Trust supported mandatory or essential training fully in terms of time/costs, but all other learning activities were negotiated. Interestingly, neither of these two Trusts formally provided staff with time for CPD within their work hours. The third Trust, whose policies provided no information regarding the appraisal/allocation of funding processes, provide all staff with 45 hours of CPD time pro rata, per year (roughly one hour per week), and include this in all their therapy job plans. With the current challenges affecting recruitment, one of the factors that may influence and attract staff to working in a Trust is likely to be that of opportunities for career development, support for learning and involvement with research projects. It will be key for Trusts to ensure attractive CPD packages and policies in order to improve their staffing levels.

### 2.2.3.2 – Regulatory and Professional Drivers for CPD

One of the most important drivers for CPD activity in the current climate is the move towards compulsory CPD as a requirement of re-registration for many of the health professions. In the UK there are different requirements across the different professions and regulatory bodies (see Table 2.2), with some requesting specific amounts of CPD, while others just require the registrant to be able to demonstrate how their CPD relates to improvements in their practice.

**Table 2.2 – CPD Requirements of UK Healthcare Professionals.**

Profession	Requirement	Reference
Nursing/midwifery	35 hours of CPD every 3 years, of which 20 hours must be participatory learning 5 pieces of practice-related feedback 5 written reflective accounts Reflective discussion	NMC (2019a)
All professions registered with the Health and Care Professions Council	Not guided re number of hours, or volume, but CPD must be relevant to the role and meet the HCPC standards for CPD. Sample reviewed every 2 years.	HCPC, (2014).
Medicine	Not guided re number of hours or volume, but CPD must be relevant to the role and Good Medical Practice framework. Reviewed every 5 years.	GMC, (2013).
Dentistry	As per Medicine.	General Dental Council, GDC, (2011).
Pharmacy	9 CPD entries per year. Sample reviewed yearly.	General Pharmaceutical Council, (GPhC), (2010).

The CSP (2013b) provide two standards within their Quality Assurance Standards for Physiotherapy Service Delivery, which outline the professional requirements for CPD for physiotherapists, in relation to employer policies and procedures. These are –

- Development needs of the service are evaluated on an annual basis and used to inform the learning and development needs of physiotherapy team members (Standard 3.4.1, p 14)
- There are policies in place to ensure
  - CPD policies and procedures are inclusive and equitable, and implemented in ways that accommodate all members’ learning and development needs
  - Members have protected personal learning time of at least half a day per month for informal CPD activities in addition to study leave arrangements for formal CPD and mandatory training (Standard 3.4.2, p 14).

At an individual level this same document (CSP, 2013b) outlines the responsibility of members towards CPD and LLL –

- Members assess their learning development needs and preferences
- Members develop and engage in a personalised plan to meet their learning and development needs
- Members critically evaluate their learning in terms of how it relates to their current/future practice
- Members record and evidence the outcomes of the learning process (Standard 3.1, p 13).

These standards clearly mirror the 5 principles of CPD shown in Table 2.1 (Broughton & Harris, 2019), considering the focus on service effectiveness and improvement, as well as employer and employee responsibility for CPD activity and evidence.

### *2.2.3.3 – Personal Drivers for CPD*

Henwood and Taket (2008) acknowledged the external influence of national policies, local factors and professional and regulatory body requirements for CPD, but these authors suggested that there are many other factors influencing participation in CPD. From an individual perspective, they proposed that there is a relatively static component that has been created over time and is influenced by previous experience, their commitment to their profession, their sense of professionalism, self-esteem, job satisfaction and their perception of the value of CPD. There is also a more dynamic individual component, comprising a drive to undertake CPD and a desire to implement this into practice. These can be considered to be the internal drivers or motivators for learning. Research suggested that health professionals are highly intrinsically motivated to undertake CPD (O’Sullivan, 2003), and Pintrich (2000) found that motivated staff have high levels of self-efficacy and believe they can change, implement and evaluate change, and see continuing development as important.

Henwood and Taket (2008) suggested that factors such as whether there is a learning culture in the work environment, funding, and time support would also influence whether practitioners engage with CPD activities, although Bell and Gilbert (1996) thought that the desire to learn must originate with the individual and can thereafter only be encouraged or restrained by these external drivers or motivators for learning. Research suggested that in most cases, these external drivers tend to be demotivating. O’Sullivan (2003) reported that the NHS as an organisation was not conducive to learning and development, while Johnson (2008) reported a lack of support for CPD at departmental and organisational levels. Even where learning occurs, staff appear to be demotivated by the barriers to implementing new learning into practice. In 2002, Rappolt and Tassone found that rehabilitation therapists were resigned to organisational barriers that impeded implementation of new knowledge, and Stathopoulos and Harrison (2003) similarly reported that the workplace was dominated by forces resisting

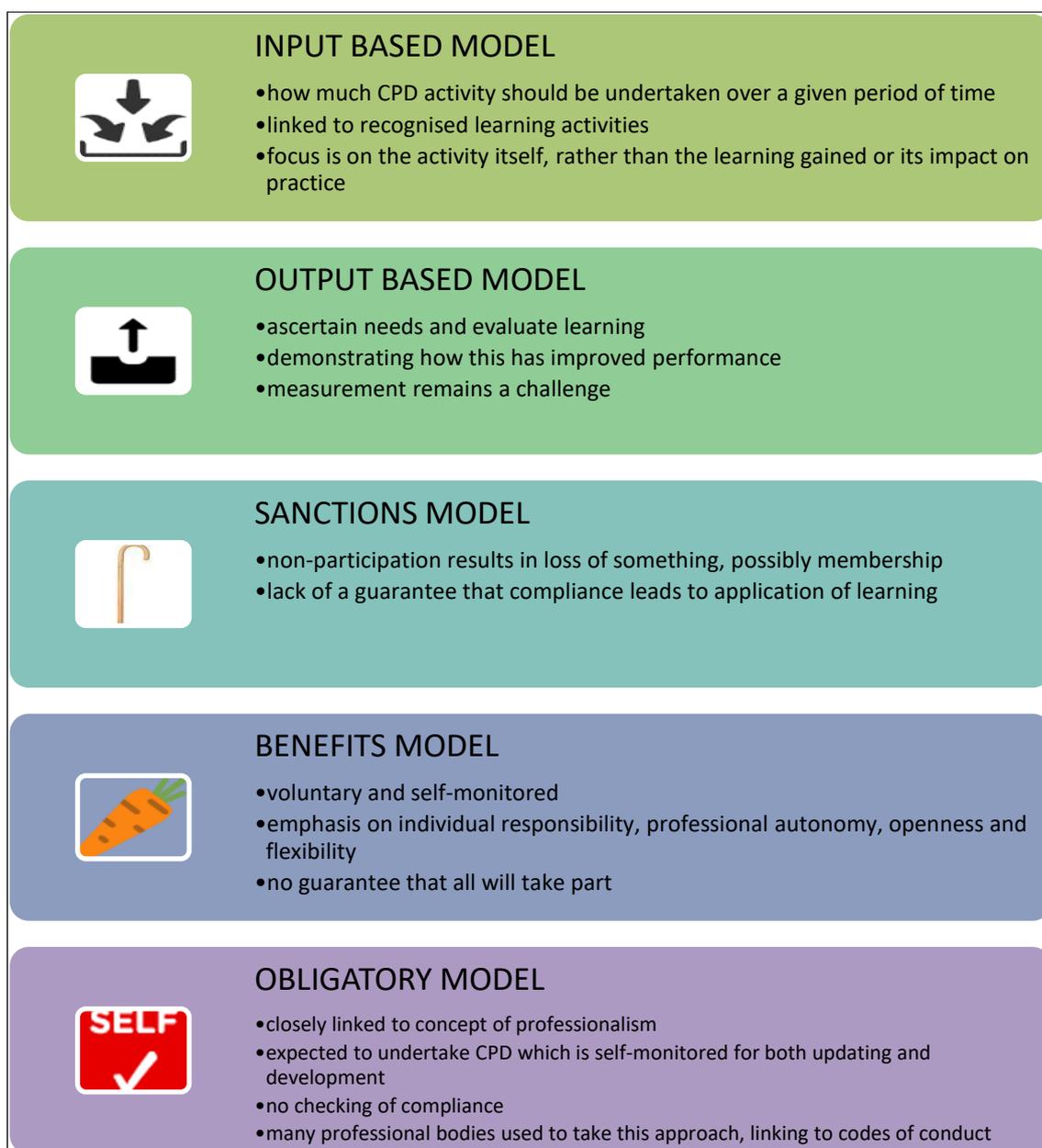
change. More recently, Gilbert, Hockey, Vaithianathan, Curzen & Lees (2012) found that junior doctors felt inhibited by the lack of receptivity within the NHS to ideas and clinical innovation. The interplay between internal and external motivation to undertake CPD will impact on whether clinicians actively engage with LLL.

#### 2.2.4 – Models of CPD

Jones and Jenkins (2006) suggested several different models of CPD which link with some of the drivers, requirements from regulatory bodies (see Figure 2.4), and motivating factors. The drive for CPD to improve experiences for service users and/or service delivery is clearest within the outputs-based model, whilst development of self to deliver a different or evolving service falls within the outputs-, benefits- and obligatory models. The majority of mandatory CPD requirements from professional and regulatory bodies (see Table 2.2) have overlap between these models of CPD, including elements of input-based and output-based with monitoring falling into the sanctions-based model. CPD does not automatically result in learning or the application of learning to practice, however, the requirement for reflective pieces and in particular, the obligation to have a reflective discussion by the NMC (2019a) as part of the revalidation process is an effective way of nurses and midwives demonstrating that their CPD has enhanced their practice. Standards from the HCPC (2014), GMC (2013) and GDC (2011) require that practitioners show how their CPD is linked to their role, which requires analysis and evaluation of the learning. Landers, McWhorter, Krum & Glovinsky (2005) found that requirement to undertake CPD did not influence the amount or type of CPD undertaken, but that the minimum amount was done where the extrinsic drive of mandate was stronger than individual intrinsic motivation, suggesting that the removal of the obligation could result in inequality of CPD activity.

#### 2.3 – CPD Portfolios

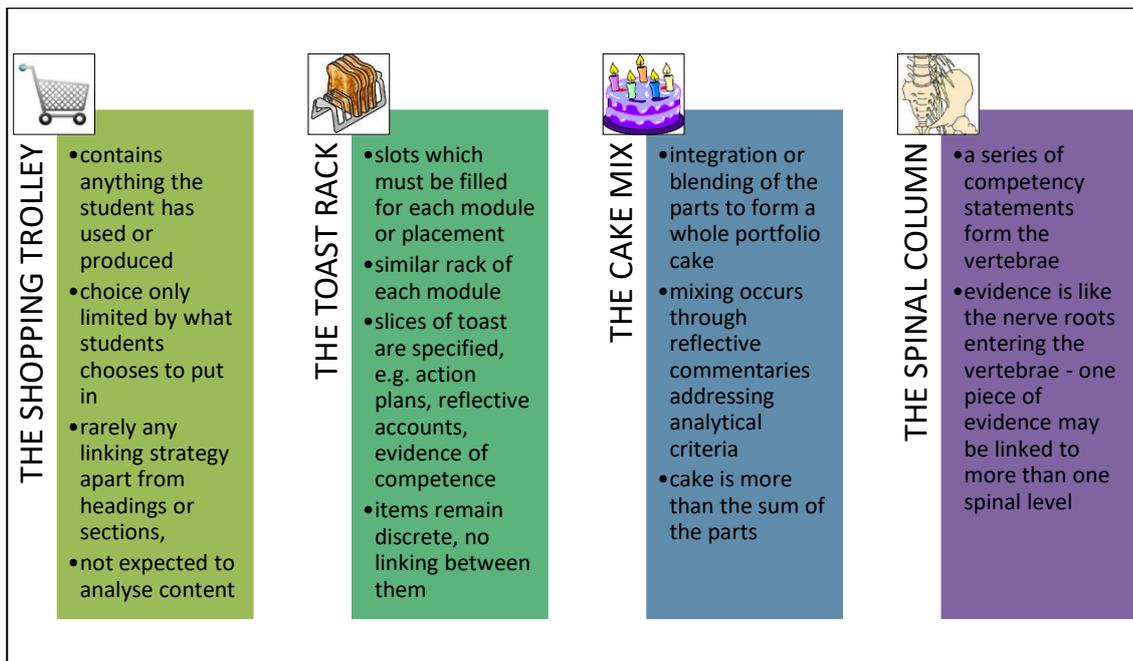
A record of CPD activity and reflection on the learning that has occurred often takes place within a CPD portfolio. Williams (2001) defined a portfolio as being a collection of work that is used to document, monitor and evaluate performance, while Gathercoal, Love, Bryde & McKean (2002) considered a portfolio to be a compendium of material which demonstrates career readiness, and a person's achievements. Chaney (2000) described different types of portfolios in relation to their purpose, such as a portfolio for accreditation of prior experiential learning (APEL), portfolio linked to occupational standard, or a professional educational portfolio, while Baume (2003) described portfolios for development, assessment, and presentation. Webb, Endacott, Gray, Jasper, Miller, McMullan & Scholes (2002) described 4



**Figure 2.4 – Models of CPD (Jones and Jenkins, 2006)**

different types of portfolios in their model, based on nursing portfolio literature (see Figure 2.5), which reflect the different levels of engagement and critical analysis used by the creator when compiling their portfolio.

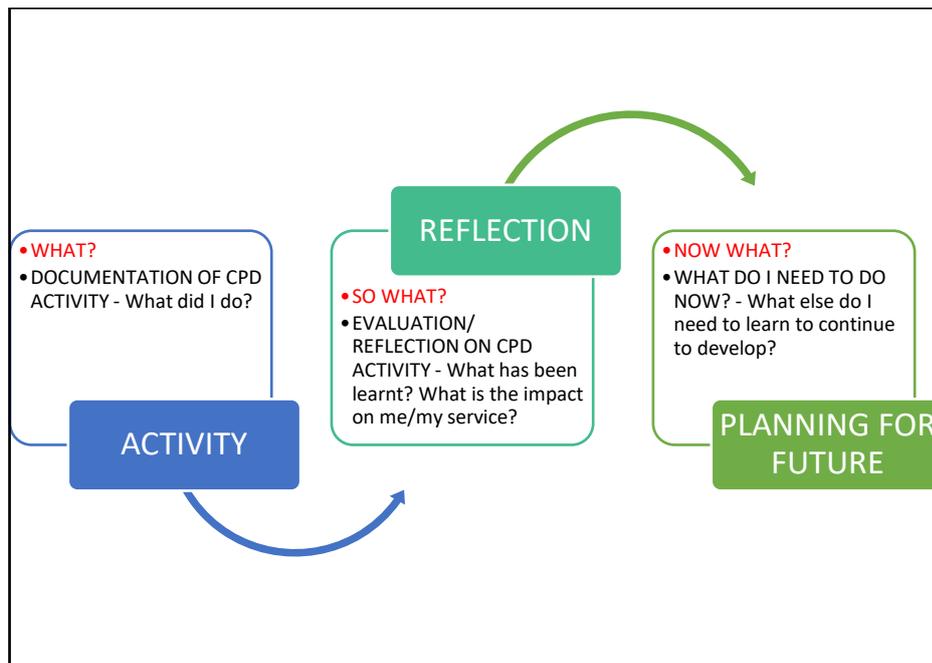
Many of the professional bodies in the UK encourage their members to maintain a record of their CPD within a portfolio (Alsop, 2002; Bowers & Jinks, 2004; Owen, 2012; Priestley, 2011; Royal College of Speech & Language Therapists, 2006; Society of Radiographers, 2015; Teunissen & Dornan, 2008), with a structure that reflects the regulatory body requirements for CPD audit or re-registration, however comments on an online discussion forum (Physiotalk, 2015) suggest that clinical physiotherapists organise their portfolios according to their job descriptions, the knowledge and skills framework (KSF), appraisal goals or client outcomes,



**Figure 2.5 – Webb et al's (2002) Models of Portfolios.**

rather than the HCPC regulatory standards for CPD (HCPC, 2014). However the portfolio is created, structured and maintained, it is important that it documents the CPD activity that has taken place, a reflection on the learning or development that has occurred, the outcome of this learning or development in terms of the individual and the service and any further learning needs that have been identified as a result (HCPC, 2014). This fits with Rolfe, Freshwater & Jasper's (2001) reflective model (shown in red), recognising that reflection is a cycle, as is CPD (See Figure 2.6).

Alsop (2003) and Cruickshank (1998) suggested that the actual process of documenting CPD changes the way that learning is approached and improves reasoning, communication and analytical skills, and this links back to the CPD cycle (Figure 2.2) and the role of reflection in learning from CPD activities, although the CPD cycle does not include the process of documenting learning from CPD. Other benefits of documenting CPD activities include assisting with identification of future learning needs, for career mapping, and when seeking new employment (Blake & Cooney, 2000). These authors also suggested that a written record of CPD can help managers determine how to allocate future educational resources, benefitting the employer as well as the practitioner and that maintenance of CPD records can enhance professional credibility and improve the image of the profession.



**Figure 2.6 – Relationship between CPD Cycle and Rolfe et al (2001)'s Reflective Cycle.**

## **2.4 – Pre-registration Education Related to CPD, LLL and Portfolios.**

### **2.4.1 – Guidelines for the Development of Pre-registration Programmes.**

Pre-registration education of health professionals is governed by professional and regulatory bodies, who provide standards of education and training, and standards of proficiency that need to be met by students, by the end of their course of study. Examination of a range of these documents gave some indication of the level of guidance provided to HEI's about inclusion of education about CPD within pre-registration curricula.

In the UK, within nursing and midwifery, there are several documents relating to educational curricula and standards of proficiency. In the Standards Framework for Nursing and Midwifery Education (NMC, 2018), standard 5.13 states that “students’ self-reflections must contribute to, and be evidenced in, assessments” (p 12). The Standards of Proficiency for Registered Nurses (2019b) state that nurses must “take responsibility for continuous self-reflection, seeking and responding to support and feedback to develop professional knowledge and skills” (standard 1.17, p 9), while the Standards for Competence for Registered Midwives (2009; due for update in early 2020) state that registered midwives must use “professional standards of practice to self-assess performance” (p10), and “review, develop and enhance the midwife’s own knowledge, skills and fitness to practice” (p 12). These statements suggest that reflection is an important part of both the pre-registration curriculum, and in the continued development of the practising nurse or midwife. However, although reflection is one component of CPD,

there are no standards relating to educating pre-registration students in the processes or requirements of CPD.

The Standards of Proficiency (SOPs) for all professions regulated by the HCPC (HCPC, 2013-2017) provide two standards relating to reflection and LLL. Standard 3.3 states that professionals must “understand both the need to keep skills and knowledge up to date and the importance of career-long learning”, while standard 11.1 states that professionals must “understand the value of reflection on practice and the need to record the outcomes of such reflection”. The Standards for Education and Training (SETs) (HCPC, 2017) state that “delivery of the programme must support and develop autonomous and reflective thinking” (SET 4.7). These sets of standards again, while recognising the need for reflection, and the importance of LLL, do not clearly state how or whether explicit content about CPD should be included in pre-registration programmes of study, although the process of documenting reflection is acknowledged.

Within Physiotherapy, the CSP provides their Learning and Development Principles for CPD Accreditation of Qualifying Programmes in Physiotherapy (CSP, 2015) document, to guide institutions developing pre-registration education programmes. However, this document gives no specific guidelines regarding content of programmes, other than to say that “programme planners should aim to ensure the knowledge, skills, behaviours and values (KSBV) required of a newly-qualified physiotherapist are effectively developed” (CSP, 2015, p 4). The KSBV are published in the Physiotherapy Framework (CSP, 2013a). One domain within this document relates specifically to LLL (p 34-35) and includes the following statements at the level of the newly qualified physiotherapist –

- Demonstrate self-awareness of learning preferences, and with guidance, identify personal learning and development needs
- Independently advance personal knowledge, understanding and skills in line with identified learning needs
- Reflect on personal learning and development, and with guidance, use this information to inform the planning and management of future learning and development experiences
- Record the outcome of personal learning and development in a format that meets personal preferences and professional requirements

These statements mirror, although with some greater degree of detail, those provided by the HCPC, as well as the CPD cycle (Figure 2.2) to some extent.

The GMC (2018) provides a document entitled “Outcomes for Graduates” which outlines the outcomes that a medical student must be able to achieve by the end of their undergraduate studies. Within this document are two statements relating to skills and understanding of learning, which perhaps give the clearest guidance on what a curriculum should include. Outcome 2p (GMC, 2018, p10) states that a medical graduate should be able to “explain and demonstrate the importance of professional development and lifelong learning, and demonstrate commitment to this”, while outcome 2t (GMC, 2018, p10) states “explain and demonstrate the importance of engagement with revalidation, including maintaining a professional development portfolio which includes evidence of reflection, achievements, learning needs and feedback from patients and colleagues”. These indicate both a requirement for understanding and demonstration of a commitment to LLL, as well as concrete guidance regarding documentation processes.

#### 2.4.2 – Learning Styles, and the Development of LLL Skills and Attributes in Pre-registration Programmes

A significant body of research has tried to identify the mental conditions that support the construction of knowledge, so that these can be recreated to facilitate learning (Mate, Brazil & Tirassa, 2011). One of the suggested influences on these mental conditions are learning styles, which have been described as the ways in which students prefer to take in and process information (Tsingos, Bosnic-Anticevich & Smith, 2015).

There is confusion in the literature regarding learning style theory for several reasons. Firstly, the terms cognitive style and learning style are often used interchangeably, while several authors describe these as being different. Cassidy (2004) described cognitive style as the way an individual typically thinks, problem solves, perceives and remembers information, or the ways in which an individual approaches a cognitive task (Hartley, 1998). Kirton (1976), considered that cognitive style is related to an individual’s creativity, their problem-solving skills and their strategies for decision making, but also related to aspects of personality. Riding and Cheema (1991) suggested that cognitive style forms one component of learning style, and that learning style is the application of the cognitive style in a learning situation.

Secondly, there is confusion between the terms learning style and learning approach/strategy. While learning style refers to the way in which a student grasps information and processes it for understanding (Kolb, 1976), Biggs and Tang (2011) and Hartley (1998) suggested that the learning approach or strategy is the method in which the student prefers to approach learning and is primarily associated with the depth of understanding, linking with the three levels of learning as described earlier (Entwistle, Hanley & Hounsel, 1979). Learning approaches and

strategies are more likely to change or are optional depending on the situation (Biggs and Tang, 2011; Hartley, 1998).

In a review of the literature on learning styles, Coffield, Mosely, Hall and Ecclestone (2004) found 71 different learning styles were described. On reading the research, several of the models seem to describe learners as being at divergent ends of a bipolar cognitive scale (see Table 2.3), in terms of whether, when they are set a learning task or given new knowledge, they assimilate this and consider it as a whole, or whether they break the task down and consider it in distinct parts. Some researchers appeared to see strengths and weaknesses in both approaches. Pask (1972) and Holzman and Klein (1954) both suggested that the serialist/sharpener takes a logical step-by-step approach, linking these to achieve understanding, but is likely to have a narrow focus, can introduce complexity to a task, and their cautious approach can lead to a failure to see the task from a global perspective. On the other hand, the holist/leveller looks for understanding by focussing on patterns and trends in information, looking at a task from a broad perspective, but they can oversimplify a task and fail to collect sufficient information or perform detailed analysis, leading to hasty decisions.

**Table 2.3 – Bipolar Orientation of Learning Styles as described in the Literature**

	<b>Looking at things as a whole – assimilators</b>	<b>Looking at things in small parts – break down a task</b>	
Holzman and Klein, 1954	Leveller	Sharpener	Identify strengths and weaknesses in both learning styles
Pask, 1972	Holist	Serialist	
Kagan, 1965	Impulsivity	Reflexivity	
Hunt et al, 1978	Low conceptual level	High conceptual level	
Letteri, 1980	Impulsive and global	Reflective and analytic	
Witkin and Goodenough, 1981	Field dependence	Field independence	
No author	Convergent thinking	Divergent thinking	
Kaufmann, 1979	Assimilators (desire familiarity)	Explorers (desire novelty)	Do not comment on strengths or weaknesses of each style
Riding and Cheema, 1991	Wholist	Analytic	
Allinson and Hayes, 1996	Intuition/right brain	Analytic/left brain	
	<b>Description does not fit “big picture” “small detail” categorisation</b>		
Kirton, 1976	Innovator – do things differently Adaptor – do things better		

Kagan (1965), Hunt, Butler, Noy and Rosser (1978), Letteri (1980) and Witkin and Goodenough (1981), all appeared to suggest that there is a “good” learning style that will result in better

learning for the individual, with students who adopt a “breaking down of the task into small parts” approach as more independent, and intrinsically motivated, with self-directed goals and the ability to structure and define their own learning, reflecting skills of SDL and LLL, while those who assimilate and take a holistic approach are more dependent and externally motivated. Cassidy (2004) stated that the divergent style of thinking is associated with field independence suggesting this should also be classed as a preferred learning style, however, he also suggested that convergent thinking, where there is one accepted answer, is often encouraged and rewarded because of the inherent structure and routine of education, meaning that divergent thinking (and in turn reflexivity, reflective and analytic thinking) is discouraged and unpopular. This may also suggest that learners who wish to explore subjects in a novel or unfamiliar way (Kaufmann, 1979), may also be discouraged and demotivated.

Allinson and Hayes (1996) and Riding and Cheema (1991) did not state whether they thought either of their styles is stronger or weaker than the other in terms of the level of learning that occurs, while Kirton (1976)’s description of innovators and adaptors does not really fit with the categorisation of big picture or small detail provided. Adaptors in this instance appear to be people who are creative, but within a narrow field, perhaps suggestive of the serialist of analytic learners of Pask (1972) and Riding and Cheema (1991), but they also are described as conforming to organisational structure and practices, which seems to fit with convergent thinking of Kaufmann’s (1979) assimilators, and the desire for familiarity. Kirton (1976)’s innovators, on the other hand, appear to desire novelty (as per Kaufmann’s (1979) explorer), in that they want to do things differently and fight against the norm, but also share characteristics of the impulsive and intuitive learner (Letteri, 1980, Allinson and Hayes, 1996). Although included in Coffield et al’s (2004) list of learning styles, it may be that because this cognitive model is aimed at management and human resources (Bobic, David & Cunningham, 1999), it is not suitable to apply to the educational and learning environment.

One of the most commonly cited learning models within health education is the experiential learning model of Kolb (1976), which led to the development of Honey and Mumford’s learning styles questionnaire (Honey and Mumford, 1982). Kolb (1976) proposed a four-stage hypothetical cycle and suggested that individuals would show a preference for some stages, based on their learning orientation. Two orthogonal bipolar dimensions of concrete experience-abstract conceptualisation and active experimentation-reflective observation resulted in four learning styles – convergence, divergence, assimilation and accommodation – or pragmatists, reflectors, theorists and activists (Honey and Mumford, 1982). Kolb (1976) described convergent learners as having an abstract understanding of a task and ability to project strategies for completion, divergent learners as being creative, and able to consider

multiple strategies for learning, assimilators as being concerned with theoretical refinement rather than solutions and accommodators as having a tendency for prompt action and ability to adapt.

Several authors approach learning styles from the perspective of the level of understanding that occurs, rather than cognitive information processing. Schmeck, Ribich and Ramaniah (1977) considered that quality of thinking, rather than the way an individual thinks, affects the outcome of learning and described four different levels of thinking, ranging from methodical study and fact retention to synthesis-analysis and elaborative processing. Entwistle et al (1979) considered level of engagement and the depth of processing to be important and described four types of learners – from apathetic and surface, to deep and strategic. Biggs (1985) recognised the influence of motivation on learning and considered that as well as being deep or surface learners, motivation to learn can be either intrinsic, extrinsic or achievement orientated. Finally, Vermunt (1992) described learners as undirected, with no ability to assimilate or prioritise tasks) reproductive (where information reproduction is the goal), application directed (where learning is applied to concrete situations to gain understanding) or meaning directed (where learner draws on existing knowledge to achieve a critical understanding). Several characteristics of these higher level of learners (synthesis-analysis and elaborative processing (Schmeck et al, 1977), deep/strategic (Entwistle et al, 1979) deep/intrinsically motivated (Biggs, 1985), meaning directed (Vermunt, 1992)) have been described, including a higher level of conscientiousness, greater intellectual curiosity, emotional stability, an ability to use appropriate learning methods, to be able to draw conclusions effectively and having a stronger internal locus of control (Gadzella, Ginther, Masten & Guthrie, 1997; Geisler-Bernstein, Schmeck & Hetherington, 1996; Zhang, 2003).

Three authors' models of learning styles included the way in which learners prefer to take in information. Edmund's learning style identification model (Reinart, 1976) included the preferences of imagery, sound, verbalisation and affect, while Riding and Cheema (1991) and Pavio (1971) classified learners as either visualisers, preferring to receive and represent information visually, or verbalisers, who prefer oral instruction and representation.

Reichman and Grasha (1974) focussed on the social aspects of learning and considered that learners could be considered on three bipolar scales – either avoidant or participant, competitive or collaborative, and dependent or independent. These authors considered style to be fluid and influenced by the learning situation, supported by more recent work (Gurpinar, Bati & Tetik, 2011; Rayner, 2011), suggesting an ability to adapt behaviour, but this is contradicted by others (D'Amore, James & Mitchell, 2012; Kirton, 1976; Loo, 1997).

Miller (1991) suggested that learning style was strongly influenced by personality and motivation, and two authors have put forward descriptions of personality traits that influence learning. Myers (1962) proposed that 4 different elements influenced personality, and that people sit on an ordinal scale for each of these. Firstly, whether a person prefers to focus on the outer or the inner world determines their preference for extroversion or introversion. Secondly, whether people prefer facts and information or interpretation or meaning reflects their sensing or intuitive trait of personality. Thirdly, taking a logical approach to problem solving or examining the people and circumstances involved in the problem defines whether they are thinkers or feelers. Finally, the desire for structure or flexibility when dealing with the outside world gives them either a judging or a perceiving personality. From these four dichotomies, the Myers-Briggs Type Indicator (Myers, 1962) gives 16 different personality types. It is easy to see how these could potentially influence learning style and/or approaches to learning. Costa and McCrae (1991) were among authors who proposed the Big Five personality traits. The first of these is conscientiousness, being disciplined and organised and have an achievement focus. Neuroticism reflects the degree of emotional stability of the individual, their ability for impulse control and levels of anxiety. The third element is extraversion, displayed through assertiveness, talkativeness and degree of sociability. Openness describes the level of intellectual curiosity, and preference for variety and novelty. Finally, agreeableness considers how sympathetic the individual is towards others, and whether they are helpful and co-operative. Komarraju, Karau, Schmeck and Avdic (2011) found that of these, conscientiousness and agreeableness correlated positively, and neuroticism correlated negatively, with all four learning styles as described by Schmeck et al (1977), while extraversion and openness correlated positively with elaborate processing, suggesting that personality has a significant impact on learning styles and approaches.

Two models included multiple factors within their models, combining elements from the other models discussed above, perhaps recognising the complexity of learning. Keefe and Monks (1981) proposed a model that considered and measured information processing and memory, perceptual responses to auditory and visual stimuli and study preferences, as well as including motivation and the environment. Similarly, Dunn, Dunn and Price's (1989) model has several elements. These authors considered the environment and emotional aspects (a desire for structure or choice, persistence, motivation and conformity or non-conformity), social aspects (learning alone or with peers, learning with a collegial or authoritative adult, variety of learning versus routine), physical influences (such as tactile, auditory, visual, kinaesthetic, the need to move or be static when learning, energy levels and different times of the day, and snacking

while concentrating), and finally the cognitive elements of global-analytic, impulsive-reflective, and cerebral dominance, either left- or right-brain.

Having considered all the ways that cognitive styles, learning styles and learning approaches have been described, it is worth noting that there is still debate over whether it is worth educators being aware of these, in terms of student performance. Several authors have demonstrated that learning styles can influence academic performance or achievement (Farsides & Woodfield, 2003; Ferguson, James & Madeley, 2002; Komoarraju et al, 2011; Lynch, Woelfl, Steele & Hanssen, 1998). McManus, Richards, Winder & Sproston (1998) found a positive correlation between the amount of knowledge gained from clinical experiences in medical students and having strategic or deep learning styles, however, this did not relate to final examination results. This is supported by Tsingos et al (2015), who found that learning styles did not have a relationship with assessments, and that they appeared to be unrelated to the students' ability to understand learning content.

There have been countless papers published on the effects of matching the instructional method to learning style. Many authors have suggested that this has a significant positive effect on student performance (Dunn, Griggs, Olson, Gorman & Beasley, 1995; Ford and Chen, 2001; Hayes and Allinson, 1993; Miller and Dunn, 1997; Morgan, 2014) and behaviour (Oberer, 1999). However, several authors showed that matching the teaching method to supposed learning style did not work in terms of student outcomes (Constantidinou and Baker, 2002; Massa & Mayer, 2006; Cook, Thompson, Thomas & Thomas, 2009), and Scott (2010) suggested that evidence from the last 40 years has failed to demonstrate that individual characteristics can be used to design and deliver effective teaching.

The criticism towards the use of learning styles in designing effective educational interventions is partly because they are difficult to diagnose, due to the number of different styles described, but also because self-reported tests are used, and test-retest reliability is low on the majority of measures (Coffield et al, 2004, Prashnig, 2005). Having said this, Burke, Guastello, Dunn, Griggs, Beasley, Gemake, Sinatra and Lewthwaite (1999/2000) say that instructional preferences can be measured reliably. Criticism also stems from the fact that individuals do not fit into one distinct group, and that differences between them are gradual not nominal (Kirschner, 2017; Coffield et al, 2004), limiting the ability to label learners and select one style as the predominant one (Prashnig, 2005). Several authors found that the relationship between how people say they learn and how they actually learn is weak (Coffield et al, 2004), and Clark (1982) reported that learners who claimed a preference for a particular type of instruction did not gain any benefit from experiencing it, or potentially performed worse when it was used. Riener and Willingham (2010) supported this, saying that learning is equivalent, whether it

occurs in the students' preferred mode or not. Another criticism is that what people prefer is often not what is best for them (Coffield et al, 2004). Clark (1982) found that, due to the complexity of skill required in different situations, a learning style that may be desirable in one, does not suit another. Felder and Spurlin (2005) also said that students need to be able to learn and work in all the dichotomies of learning to be effective practitioners, so teaching in their preferred method is not in their best interest.

Sweller, van Merriënboer and Paas (1998) suggested that it was more important to focus on recognising similarities rather than differences between students, not denying that there are differences, but identifying those that are important, such as previous experience and prior knowledge. This was supported by Riener and Willingham (2010), who also felt that students differ in their interests, and these, along with attention, are preconditions of learning. Mate et al (2011) also supported the theory that attention is an indicator of general learning attitude, adding that participation is an indicator of engagement in learning.

The move away from teaching to facilitation of learning has its downfalls, although it is embedded in the principles of SDL and LLL. Hase and Kenyon (2000) call this a shift from andragogy to heutagogy, where the focus is on learning how to learn and learner self-direction. For students to be able to self-educate, they must be able to self-direct their learning, making use of sources of information that are available to them, and this has its pitfalls. Students need to be careful of the quality of knowledge they find and use, and this requires a complex cognitive process of identifying information needs, locating relevant sources, extracting and organising the information provided and synthesising this information. This process is largely determined by prior knowledge and experience (Kirschner, 2009). Coffield et al (2004) and Hase and Kenyon (2000) stated that learners are not good at finding information, and that they also tend to trust the first information they find. Forcing the locus of control for learning onto the student can be counterproductive (Rasmussen and Davidson-Shivers, 1998), and giving them too much choice can lead to frustration (Schwartz, 2004), due to lack of ability to select appropriately. Van Merriënboer and Kirschner (2013) suggested that a limited choice of tasks or learning that builds on those undertaken previously, with a gradual reduction in support and guidance, can positively affect both learning and motivation and lead to the development self-directed learning skills. Focussing instruction towards engagement, or active learning, is more likely to develop skills required for self-direction and LLL (Iversen, Pedersen, Krogh & Jensen, 2015), than trying to teach in a preferred learning style. Based on this discussion, the current study did not examine the learning styles of its participants, or consider these in relation to the portfolio as a learning tool.

Hall (2005), in a study in physical therapy in the USA, stated that LLL is the foundation to quality practice, but they concluded that the link between pre-registration education and CPD has not been well articulated. LLL has been defined as an active process, which includes independently searching for and understanding knowledge, and applying this to meet personal and professional goals throughout the whole of life (Aggarwal & Bates, 2001; Nayda & Rankin, 2008).

The extensive influence of curriculum design on the development of students as learners has been widely investigated (Gibbs, 1992; Long, 2000; Norton, Tilley, Newstead & Franklyn-Stokes, 2001; Ramsden & Entwistle, 1981). Several authors have commented that principles of, and strategies for, CPD and LLL should be embedded within pre-registration educational programmes (Cervero, 1988; Hall, 2005; Houle, 1980; Livneh & Livneh, 1999) as this will instil the values of continuous learning and build the foundations for successful professional development (Marra, Campese & Litzinger, 1999). However, Eraut (1994) found that pre-registration health curricula are so full of all the necessary content for a lifetime of clinical practice, that LLL strategies are often overlooked, and Svinicki (2004) suggested that students are too often motivated by grades or performance rather than learning. Eraut (1994) suggested that programmes could model the expectations for and provide opportunities to practice learning strategies used in CPD but gave no explanation for how programme designers may do this. Research in computer science has suggested that problem-based learning (PBL) or SDL approaches encourage the development of LLL skills (Bidokht & Assareh, 2011; Dunlap, 2005). However, in a small nursing study in Hong Kong, Chiang, Leung, Chui, Leung & Mak (2013) found no change in critical thinking, group process or SDL ability through the introduction of small group PBL. These results supported the findings of Kell and van Deursen (2003) in physiotherapy, who found that students on a traditional teacher-led curriculum had significantly greater growth in perceived readiness for SDL than those on a PBL curriculum. These authors suggested that the PBL approach did not work to develop LLL skills in their undergraduate physiotherapy curriculum because it assumed too many thinking and learning skills too early in the programme.

The learning environment can also have an impact on the development of LLL skills. Hall (2005) stated that universities provided an environment that facilitated students' desire to seek new knowledge that they can then integrate into their practice, and Sim, Zadnik & Radloff (2003) also found that academic environments supported the development of independent thinkers, who did not just accept the norm, but questioned it. However, research found that clinical environments did not have this nurturing culture for learning, either for students on placement or for clinicians (Sim et al, 2003), suggesting that having a critical and inquisitive mind, in a

workplace entrenched in tradition, was challenging. Kell and van Deursen (2003) found that students' level of perceived readiness for SDL fell during periods of clinical placement, suggesting that approaches established in the academic environment were fragile, and could be easily deterred if the environment did not nurture them.

#### 2.4.3 – The Use of Portfolios in Pre-registration Programmes

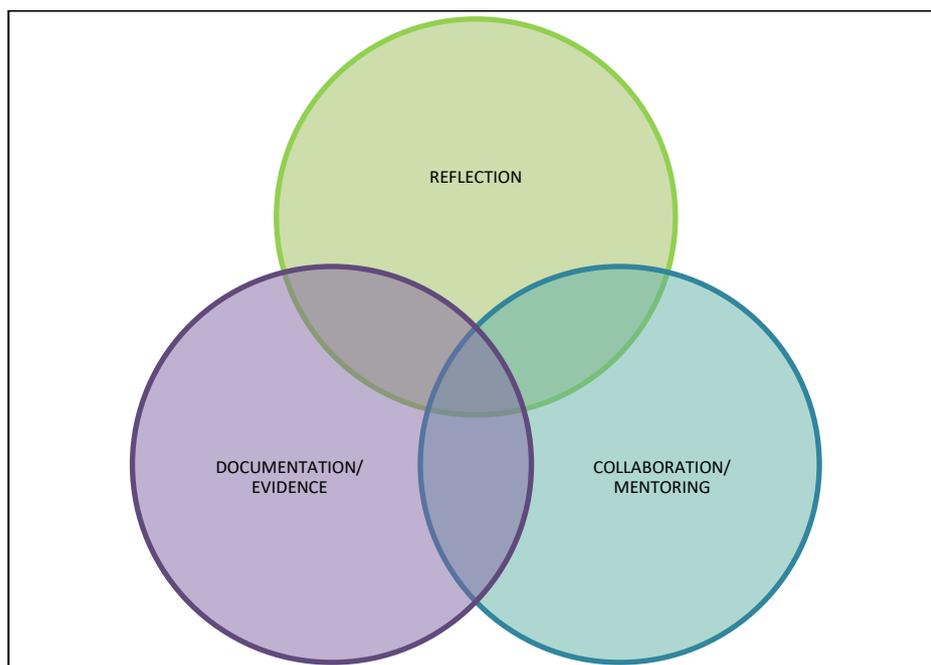
The evidence for the use of portfolios within education began to appear in the early 1990's, with research published regarding portfolio use in teacher education (Jarvinen & Kohonen, 1995), and the arts (Scott, 1992). The portfolio was introduced to nursing education in 1993, following recommendations by Bedford, Phillips, Robinson & Schostak (1993) that it was an appropriate method to assess competence, although this approach had been criticised by Glen and Hight in 1992. The first discussion of the use of portfolios in medical education was published in 1992 by Usherwood and Hannay, while the first evaluation of portfolio use in Physiotherapy was published in 1997 (Cross, 1997).

Cottrell, Girvan & McKenzie (1992) described a student portfolio to be a collection that enabled students to demonstrate achievement of course or programme learning outcomes, while Slusarchuk (1998) highlighted that the evidence in a portfolio should identify strengths and weaknesses and help with the preparation and monitoring of action plans. Two clear types of portfolios can be identified from these descriptions - that of the portfolio as a tool to demonstrate achievement, or a *best work portfolio* (Andre, 2010; Baume, 2003; Gaberson & Oermann, 1999; Wenzel, Briggs & Puryear, 1998); and the portfolio that is used to aid progress and growth, or a *learning portfolio* (Baume, 2003; Grant & Huebner, 1998; Oermann, 2002).

In terms of learning portfolios, other authors have given further detail about how these should be conceptualised, and of how they can be of benefit to the user. Thompson and Bybee (2004) stated that a portfolio should be a living document and that the content, structure and focus will change as depth of knowledge and experience develops. However, Jensen and Saylor (1994) provided a different view, stating that the evidence in the portfolio is useful in its entirety, to show the journey that a student has taken, as well as the end-point, suggesting that all content should be maintained to reflect progress and development, either to other people, or the creator, for the purposes of reflection. Winsor and Ellefson (1995), suggested a combination of these two approaches, where a portfolio is a fusion of both the processes of reflection, selection, rationalisation and evaluation, and the final product.

Zubizarretta (2008) described a learning portfolio model, suggesting that there are three key components that need to be included in the process of portfolio development, if students are to learn at a deep level (see Figure 2.7). The inclusion of evidence is fundamental to the

portfolio process, and reflection has been noted by many authors to be critical to the success of learning with a portfolio (Bulman & Schulz, 2004; Driscoll & Teh, 2001), but Zubizarretta's (2008) inclusion of collaborative elements builds on the work of Winsor and Ellefson (1995) and is supported by Driessen (2008). Firstly, Winsor and Ellefson (1995) suggested that although professional development is the responsibility of the individual, students beginning this process need to be provided with scaffolding and guided to opportunities for learning. They also considered that although self-assessment is critical to the process of professional development, it is not sufficient, and that for students to grow professionally, they must be provided with assessment and advice from skilled and knowledgeable professionals. In



**Figure 2.7 – Learning Portfolio Model (Zubizarretta, 2008).**

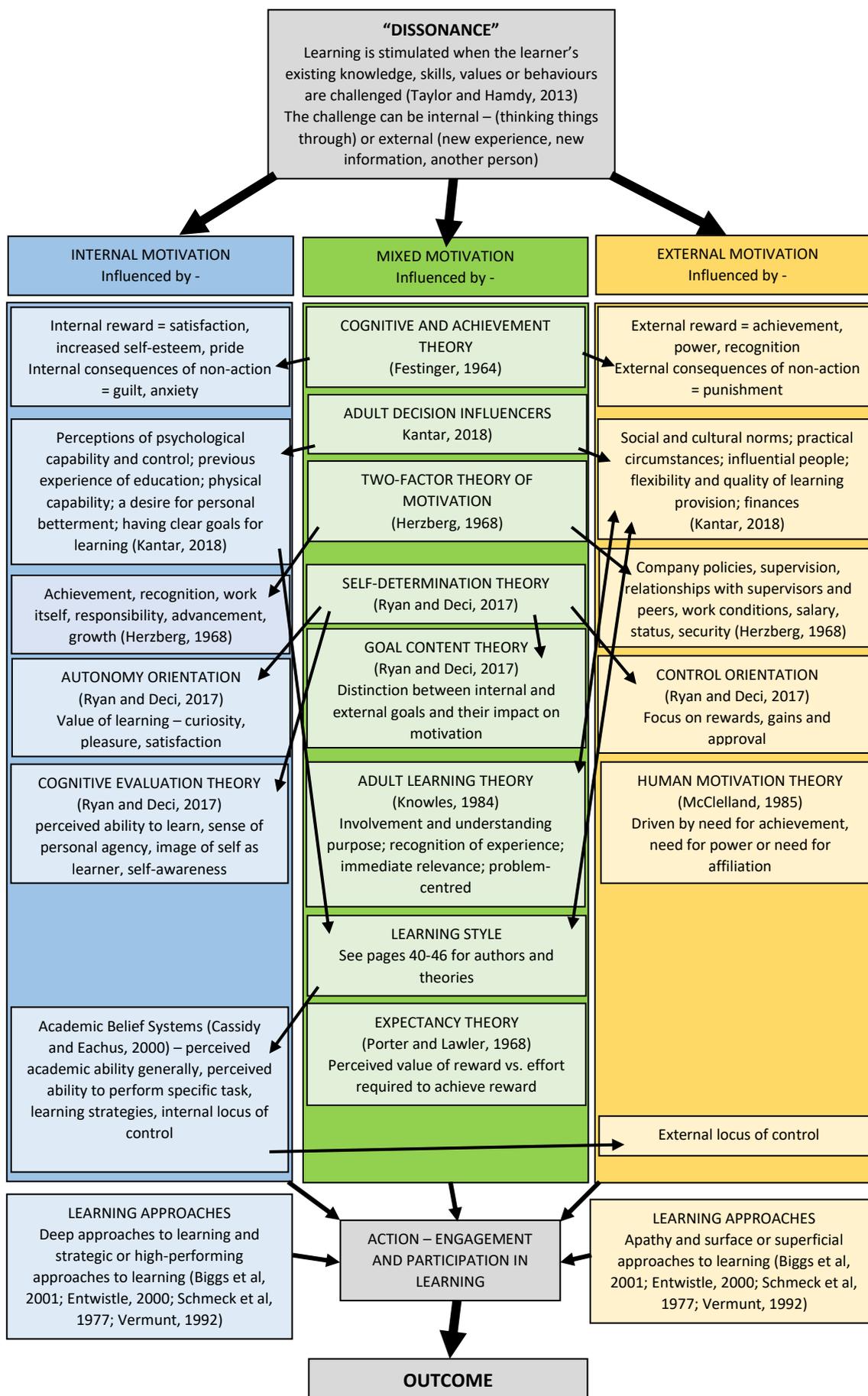
accordance, Driessen (2008) considered mentoring to be the most decisive factor in portfolio success. The key benefits of a student portfolio, are that it encourages personal reflection on experiences, learning and development (Swingonski, Ward, Mama, Rodgers & Belicose, 2006), provides a useful link between academic knowledge and clinical practice (Kostrzewski, Dhillon, Goodsman & Taylor, 2008) makes students more aware of their own learning (Klenowski, Askew & Carnell, 2006) and promotes critical thinking (Azer, 2008). Paulson, Paulson & Meyer, (1991) also stated that a portfolio should encourage students to develop the abilities they will need to become independent learners.

### **2.5 – Adult Learning, Motivation and Portfolios.**

It is important to remember that both physiotherapy students and physiotherapists are adults, and as such, should be motivated to learn through the principles of adult learning (Knowles,

1988). Adult learning theory relies on 4 basic principles – that adults need to be involved in planning and evaluating their learning and need to know why something is being learnt; that experience provides the basis for their learning; that learning needs to be immediately relevant for adults to be interested, and that learning is problem-centred, not content-centred (Knowles, 1984). Motivational theory is complex but can be summarised in these three points. Firstly, there are personal factors that influence our motivation, both for specific learning tasks or learning in general. Secondly, there are external factors, that will influence our motivation to engage with learning. Finally, the combination of internal and external factors will result in learning action or non-action. There are many overlapping concepts, definitions and terminology, but Figure 2.8 attempts to demonstrate, using adult learning and motivation theory from several authors (Cassidy & Eachus, 2000; Festinger, 1964; Herzberg, 1968; Kantar, 2018; Knowles, 1984; McClelland, 1985; Porter & Lawler, 1968; Ryan & Deci, 2017, Schmeck et al, 1977; Vermunt, 1992), how adults are prompted to learn, and the factors affecting both the decision to undertake learning and the learning itself. Learning styles and approaches are also included in this diagram, as learning styles may influence or be influenced by elements of both internal and external motivation, while learning approaches may influence the level of engagement and participation in the learning activity. Kantar (2018 p7) summarised motivation and adult learning well, stating that “the trigger to participate in learning for each adult comes at a tipping point where personal benefits outweigh personal costs”. This principle can be applied to both students in training and professionals undertaking CPD.

Considering these factors, it is also important to discuss the skills required to be a lifelong learner. Several authors have suggested that confidence in and ability to self-direct learning is key to LLL (Devlin, 2002; Higgs, Hunt, Higgs & Neubauer, 1999; Hunt, Higgs, Adamson & Harris, 1998). Steur, Jansen & Hofman (2012) suggested that LLL was one element of gradueness, and that it required the graduate to be able to guide their own learning, possess a willingness to learn, be able to recognise their own flaws and overcome these through learning. There is significant overlap between the skills of LLL and the factors influencing motivation to undertake learning (Figure 2.8), in that the self-directed learner must be committed to professional growth, be ready for change, have a positive self-perception of their abilities, and be able to take the initiative and responsibility for their own learning (Bonham, 1991, Candy, Crebert & O’Leary, 1994; Chiang et al, 2013; Durr, Guglielmino & Guglielmino, 1996; Hall, 2005; Hanson & DeMuth, 1992, Knox, 2000; Livneh, 1988; Livneh & Livneh, 1999; Sim et al, 2003). Expecting students to be self-directed learners has its pitfalls, however, and many students do



**Figure 2.8 – Effects of Adult Learning Theory, Learning Styles and Motivation on Learning.**

not enter higher education possessing these skills. Passing the locus of control for learning to the student, described as a move from andragogy to heutagogy by Hase and Kenyon (2000), requires them to be able to employ the complex cognitive processes involved with identifying learning needs, locating appropriate information sources, extracting, organising and evaluating that new knowledge and synthesising this with their existing knowledge (Coffield et al, 2004; Kirschner, 2009). Their ability to do this is built by previous educational experience, and a standardised test-driven education does not adequately prepare learners for this level of self-direction (Costa & Kallick, 2004). Portfolios have been suggested by many authors as a means for students to become reflective and self-directed learners, suggesting that the portfolio assists in the development of these skills (Driessen, van Tartwijk, Overeem, Vermunt & van der Vleuten, 2005; Heinrich, Bhattacharya & Rayudu, 2007; Jarvinen & Kohonen, 1995; Joyce, 2005; Klenowski, 2002; Seidel, Walters, Kirby, Olf & Powell, 1997). Parboosingh (1996) suggested that a portfolio could influence learner satisfaction and motivation, could help the learner to decide what needs to be learned, and to evaluate the impact of new learning on their practice, all skills and characteristics of the self-directed learner. However, other research suggested that students need to have the skills of a self-directed learner to be able to engage with the portfolio process (Dysthe, 2002; Knowles, 1988; McLaughlin & Vogt, 1996; Timmins, 2008), and this is supported by Linnakyla (2001), who stated that the value of a portfolio is in the processes of conscious selection, self-assessment and reflection, and the evaluation of the portfolio process, the portfolio outcome and learning progression. Kicken, Brand-Gruwel, van Merriënboer & Slot (2009) supported this, stating that a portfolio can only help students to become effective learners when used in combination with regular discussions with a tutor. In medical education, van Schaik, Plant & O'Sullivan (2013) suggested several challenges to trying to *teach* the skills of SDL through using a portfolio. These authors found that students who are used to learning information are reluctant to have to think about the process of learning and compare themselves with themselves, through reflection. Handscombe (2010), also suggested that the best way for students to develop LLL skills is for them to put their knowledge and skills into practice, rather than with a portfolio. Schmidt (2000), stated that even if we could teach students the skills of SDL, these are not visibly transferred into professional practice.

## **2.6 – Conclusion**

CPD is fundamental to effective and continuing practice as a health care professional, with many policy, professional and regulatory drivers indicating its importance. Types of CPD activity and the level of engagement with learning are influenced by many factors, including these policies, but also personal factors. The opportunity of benefits for the self, the organisation and the service and service users, as well as the barriers to engagement and

implementation of learning, will also influence uptake and motivation for CPD. CPD portfolios are a regulatory requirement for many healthcare professionals, and can improve the learning that occurs from CPD.

Pre-registration education of health professionals is regulated, and the regulators and professional bodies provide guidance for education of students about CPD, however this is often vague. While it is recognised that students should be encouraged to develop skills of LLL, specifically to be self-directed learners, how this can be achieved is unclear. Portfolios have been widely used in healthcare education for several decades, and are suggested to have several benefits, including the development of skills required to be independent learners.

There is overlap between adult learning theory, motivation theory and the concepts of SDL and LLL. Research suggests that it is impossible to be a lifelong learner without the skills of self-direction and internal motivation, and that adults are motivated to learn independently, setting their own goals and agendas. How a learning portfolio during pre-registration education fits into this is still unclear, with research suggesting that it can help to develop skills of SDL, or that to use a portfolio effectively, the learner must already possess these skills.

An initial search of the literature revealed that there was no research specifically examining how student portfolios may motivate students and physiotherapists to engage with CPD. On this basis an exploratory approach was taken to investigate the subject and the following objectives were set –

1. To explore the literature on the topics of CPD, LLL and portfolios from the perspectives of both healthcare clinicians and students, considering
  - a. The nature of CPD activity, including the use of portfolios post-graduation
  - b. Health professionals' attitudes and opinions of CPD, LLL and portfolios
  - c. Health students' attitudes and opinions of CPD, LLL and portfolios
2. To explore the motivations of physiotherapists towards CPD, LLL and portfolio use
3. To explore the motivations of student physiotherapists towards CPD, LLL and portfolio use.

## CHAPTER THREE – LITERATURE REVIEW

### **3.1 – Introduction**

Chapter Two has provided the background to CPD in a UK context, including definitions, purposes, processes, drivers, models and types of CPD activity. CPD, LLL and portfolios in the context of undergraduate education for healthcare professionals were discussed, along with adult learning theory, learning styles and the theoretical background for motivation in learning.

This chapter will provide a review of worldwide literature on the research topic, presented in three sections. Firstly, the process of undertaking the literature review is described, including databases and search terms, and inclusion and exclusion criteria (see Section 3.2). The literature is then divided into two groups – health care research related to CPD, LLL and the use of portfolios is described in Section 3.3 and critically evaluated in Section 3.4. The second group of research, that investigating the use of portfolios in pre-registration healthcare education, is described in Section 3.5 and critiqued in Section 3.6. The chapter concludes with two thematic frameworks, summarising the findings from the literature, which will be referred to in later chapters of the thesis.

### **3.2 – Literature Review Process**

The purpose of the literature review was to analyse and evaluate the literature regarding CPD and LLL, the use of portfolios in pre-registration healthcare education and use of CPD portfolios, to consolidate the knowledge on this topic and to formulate objectives for the investigative parts of this thesis. The literature review aimed to specifically explore three research objectives, as outlined at the end of Chapter Two –

- The nature of CPD activity, including the use of portfolios post-graduation
- Health professionals' attitudes and opinions of CPD, LLL and portfolios
- Health students' attitudes and opinions of CPD, LLL and portfolios

Several databases were searched between 10<sup>th</sup> September and 6<sup>th</sup> October 2014, with the same search repeated between 8<sup>th</sup> November and 6<sup>th</sup> December 2018, using a range of key words related to CPD portfolios and their use, student CPD portfolios and their use, health professional attitudes and behaviours to CPD, and student attitudes and perceptions of CPD (see Table 3.1). No date limiter was applied to the search process, as it was thought to be important to find any literature on the topic to ensure a complete review of evidence. Search terms were combined using the Boolean operator “and”, and searches were limited by searching in title, keywords, and abstracts where this facility was available, to limit hits and

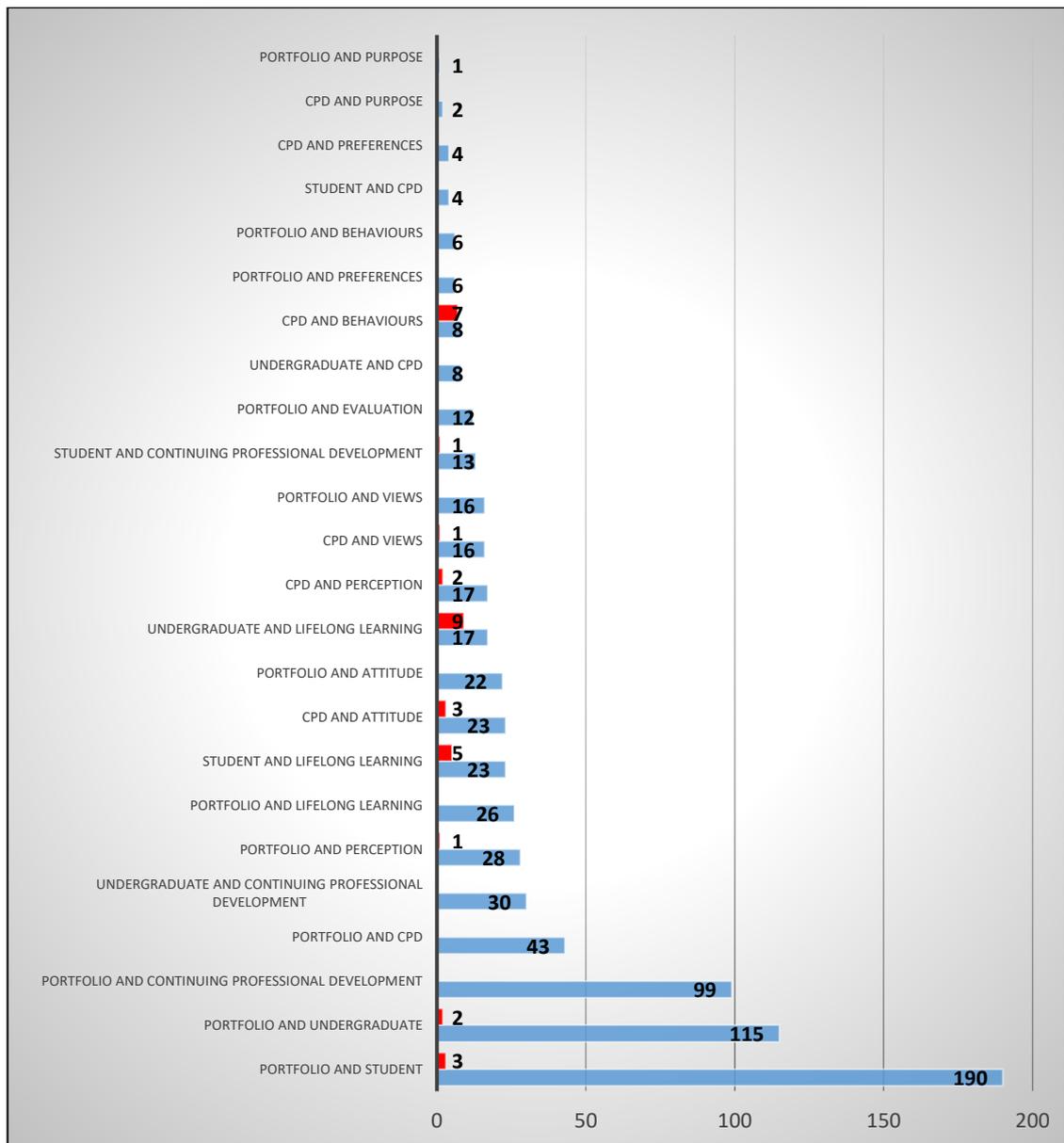
**Table 3.1 – Databases Searched and Search Terms Used.**

<b>DATABASES SEARCHED</b>	<b>SEARCH TERMS USED</b>
Academic Search Complete	Portfolio AND continuing professional development
Amed	Portfolio AND CPD
Biomed Central	Portfolio AND lifelong learning
British Education Index	Portfolio AND perception
Cinahl complete	Portfolio AND attitude
Embase	Portfolio AND preferences
Maternity and Infant Care	Portfolio AND views
Medline	Portfolio AND behaviours
ProQuest Hospital Collection	Portfolio AND evaluation
PsychArticles/PsychInfo	Portfolio AND purpose
Science Direct	Portfolio AND undergraduate
Sports Discus	Portfolio AND student
	CPD AND perception
	CPD AND attitude
	CPD AND preferences
	CPD AND views
	CPD AND behaviours
	CPD AND purpose
	Undergraduate AND continuing professional development
	Undergraduate AND CPD
	Undergraduate AND lifelong learning
	Student AND continuing professional development
	Student AND CPD
	Student AND lifelong learning

improve relevance of results. The number of papers that were deemed relevant, based on the title only, for each of the combined search terms can be seen in Figure 3.1 (2014 results coloured blue, additional results from 2018 coloured red).

The next stage of the literature review process was to read abstracts of the papers and exclude any that were not deemed to be relevant. Papers were included in the literature review if they reported primary research findings on any of the following topics –

- Research related to health professions
- AND
- Health professionals’ perceptions of CPD
- Health professionals’ CPD behaviours or attitudes
- Benefits and/or barriers to CPD
- Health professionals’ use of and/or attitude to a CPD portfolio



**Figure 3.1 – Number of Relevant Papers Found by Search Term**

- Student attitudes to and perceptions of portfolios
- Student attitudes to and perceptions of CPD and LLL

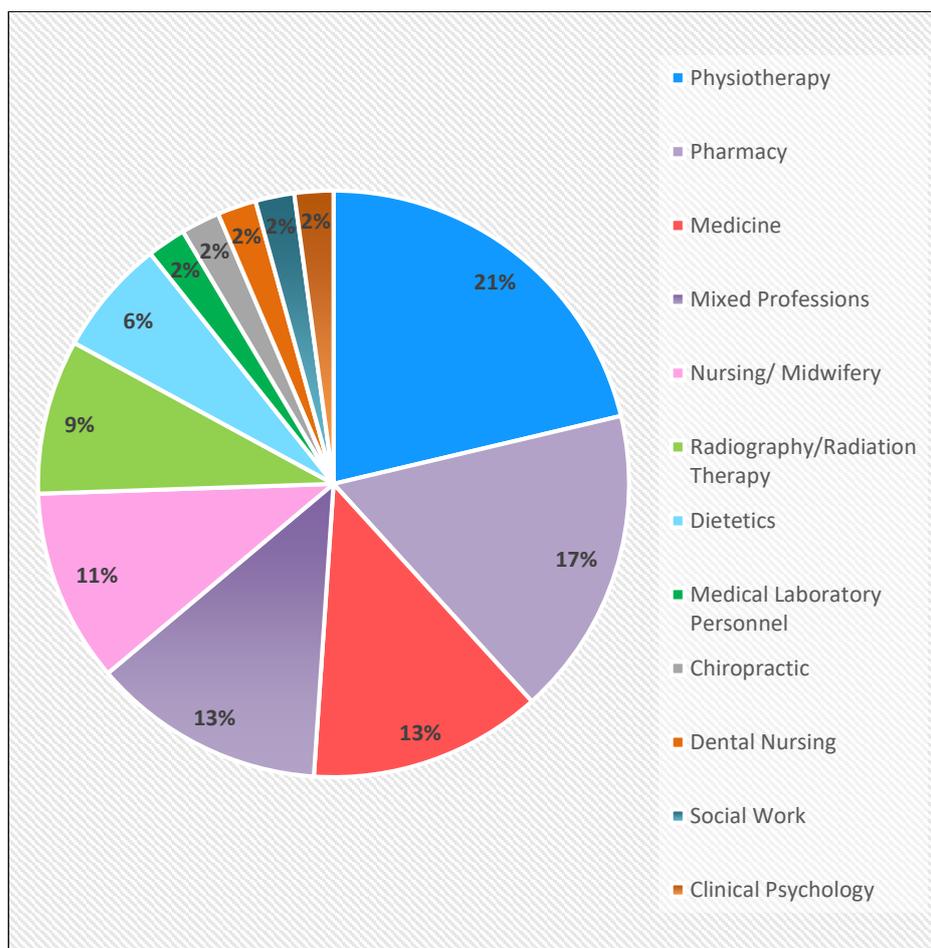
Papers were excluded from the literature review for the following reasons -

- Non-health related studies e.g. teacher education, business
- Opinion piece, literature review
- Focus on the evaluation of a method of recording CPD
- Focus on the student portfolio as a means of assessment
- Studies evaluating the use of e-portfolios, or comparing e-portfolios with other formats

The papers fell clearly into two groups – those investigating various aspects of CPD behaviours and/or attitudes and CPD portfolio use of qualified healthcare professionals, and those relating to student portfolios and student attitudes to CPD, portfolios and LLL. On this basis it was decided to consider the literature in these two separate groups. No specific framework was used to analyse the literature. Over time in academia, and during completion of a systematic review for an MSc dissertation a personal process and framework has been developed and was used in this piece of work.

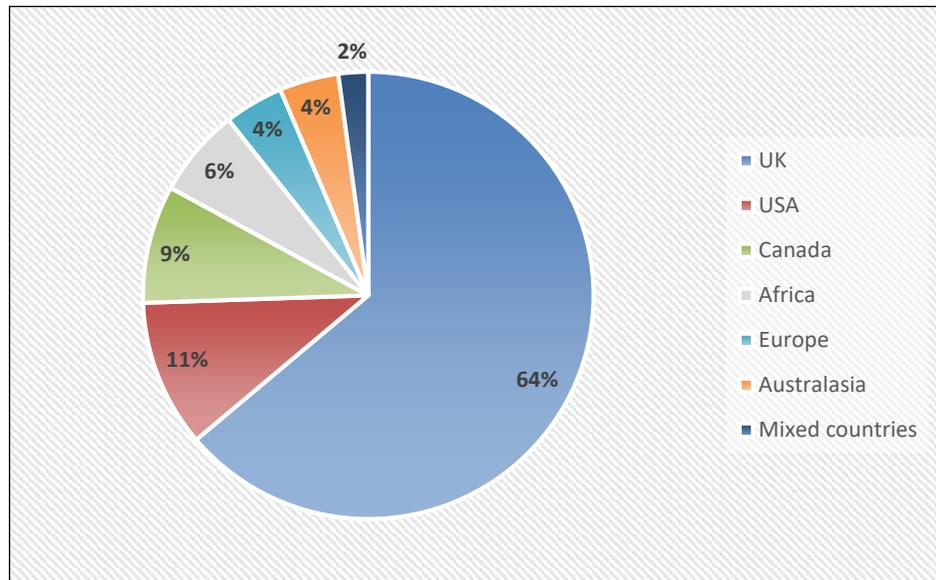
### **3.3 – CPD Literature Review Results**

Following exclusion of irrelevant papers, the remaining primary research (n=47) was allocated into subtopics, to meet the aims of the literature review and allow a logical presentation of the findings from the research. Twenty-four papers described either the amount of CPD or the type of CPD activity undertaken (subtopic one – nature of CPD). Thirty-eight papers provided either quantitative and/or qualitative data regarding health professionals’ attitudes and behaviours towards CPD (subtopic two). Seventeen papers reported health professionals’ attitudes to the use of portfolios (subtopic three).



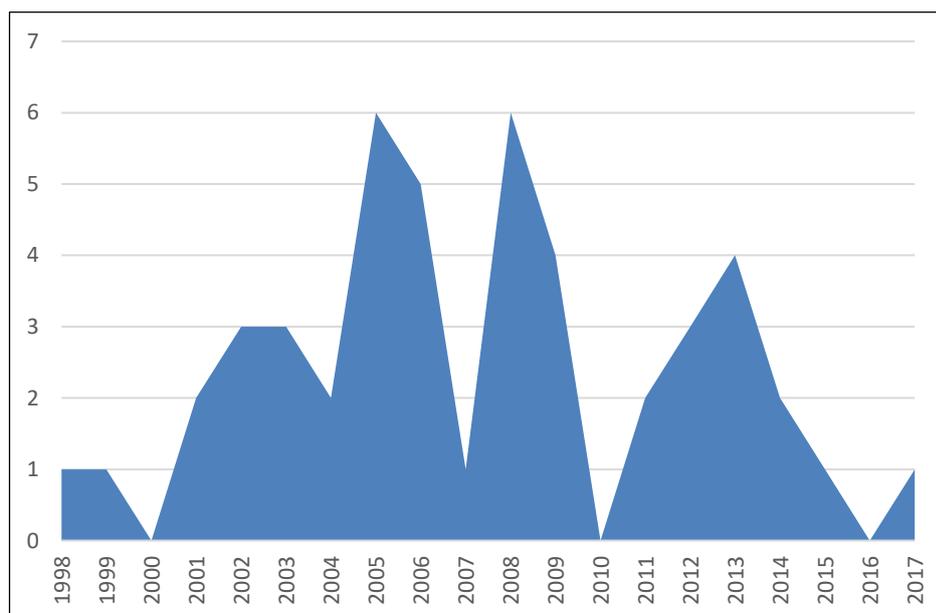
**Figure 3.2 – Distribution of CPD Research from Different Professional Groups**

Research findings were also categorised by professional group, to be able to determine whether there were similarities or differences between different health professionals in terms of their attitudes or behaviours towards CPD (see Figure 3.2). The research was mainly undertaken in the Western world, with only three studies from Africa, and none from Asia (see Figure 3.3).



**Figure 3.3 – Distribution by Percentage of CPD Research from Different Countries.**

In terms of the age of the research, this varied widely, with the earliest study being undertaken in 1998 (Beeston, Rastall & Hoare, 1998) and the most recent being from 2017 (Stevens & Wade, 2017) (see Figure 3.4).



**Figure 3.4 – Number of Studies Published Each Year from 1998.**

### **3.4 – Findings and Discussion**

#### **3.4.1 – Subtopic One - Nature of CPD**

##### *3.4.1.1 – How much CPD do health professionals undertake?*

Fourteen papers, published mainly in the UK, reported on the amount of CPD undertaken by their study populations. Two of these studies was undertaken in a physiotherapy specific population (CSP, 2006; Johnson, 2008) and Stagnitti, Schoo, Reid & Dunbar (2005) did include 18 physiotherapists in their sample of 138 Australian allied health professionals (AHPs). All papers reporting the amount of time spent on CPD activities reported this differently, creating some difficulty in making comparisons across professions or drawing useful conclusions. Some studies reported the number of hours spent on CPD activity in the last month or last 12 months, with others reporting CPD activity as a mean number of hours per year. Other studies reported regularity of attendance at events, or time since the last attendance at a range of different activities. It is difficult to determine from the published research, whether professional body requirements have influenced the amount of CPD that health professionals undertake, since the requirement is often not described in numbers of hours (see Chapter Two, Table 2.2). For example, Pharmacists are required to have 9 CPD entries per year, however achieving this could take very differing amounts of time, depending on the activity undertaken, and how it is recorded.

The most worrying, if not surprising, finding from the research, is the number of authors reporting that some professionals undertake no CPD at all (Austin, Marini & Desroches, 2005a; Bell, Maguire & McGartland, 2002; Bolton, 2002; CSP, 2006; Mottram, Rowe, Gangani & Al-Khamis, 2002; Power, Johnson, Diack, McKellar, Stewart & Hudson, 2008). Considering the rapidly changing nature of health and social care, as well as advances in technology to support workers in these fields, it is foolhardy to believe that higher education qualifications alone can indefinitely maintain efficient and high-quality patient centred care. This links closely with the requirement for evidence of CPD from the majority of professional and/or regulatory bodies, to demonstrate that the registrant is up to date with contemporary practice in their field.

Although Bell et al (2002) report 55% of their respondents had undertaken no CPD in the last year, all of them had undertaken some hours of continuing education (CE). This highlights another anomaly between some of the professions, with medicine, dentistry and pharmacy suggesting a difference between formal education (CE) and CPD, whilst other professional groups such as nursing, midwifery and AHPs consider that any learning activity, be it formal or informal, is part of CPD.

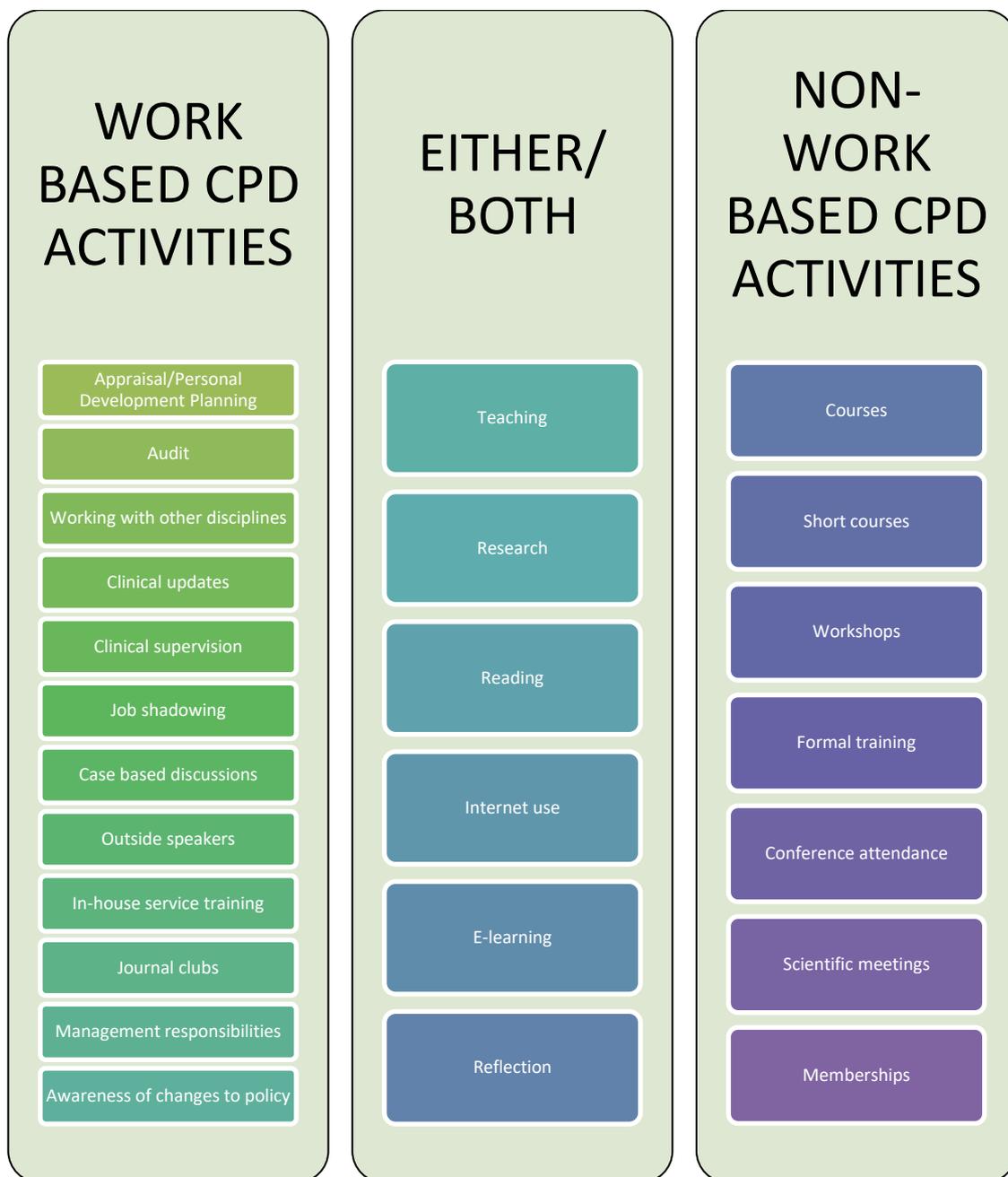
### 3.4.1.2 – Types of CPD activity

Nineteen studies reported on the different types of CPD activity undertaken across the professions. CPD activities have been described in Chapter Two, Section 2.2.2 and illustrated in Figure 2.3. When analysing the research, however, activities did not appear to fit completely within any of these descriptions but appeared to fall into two categories – those taking place within the workplace, and those external to the work environment, with some activities that could fall into either category (see Figure 3.5).

Six studies examined the types of CPD activities undertaken by Physiotherapists, all within the UK and Ireland (Cole, Morris & Scammell, 2008; CSP, 2006; French, 2006; Gunn & Godling, 2009; Johnson, 2008; O'Sullivan, 2003). The CSP survey in 2006, which received 890 valid responses from CSP members, reported the three most common CPD activities as attendance at formal courses (86.4%), reading and evaluating practice related literature (85.2%) and keeping a portfolio of evidence of learning (83.4%), (CSP, 2006). The other papers reported that physiotherapists generally included appraisal or personal development planning, working with others, clinical supervision, and in-house service training within their work based CPD activities, while attendance at short courses, workshops and formal training sessions were among the activities outside of the work environment (classified as attendance by Johnson, 2008). These studies were supplemented by data from a chatroom session (physiotalk, 2015) with UK based physiotherapists, which also included reflection as a CPD activity. O'Sullivan (2003) found that physiotherapists found it easier to justify formal learning activities in terms of devoting time to CPD in the workplace. Interestingly, one study (Cole et al, 2008) suggested management responsibilities as a CPD activity, and this was also supported by a nursing study by Katsikitis, McAllister, Sharman, Raith, Faithful-Byrne & Priaulx (2013).

With regards to the research into other professions' CPD activities, the nursing studies appear to reflect a bias towards work-based activities, such as clinical updates, clinical supervision, job shadowing, in-house service training and reflection (Banning & Stafford, 2008; Katsikitis et al, 2013). Research activities, teaching and membership of professional groups were highlighted as the main external CPD activities within nursing (Katsikitis et al, 2013). In contrast to this, studies undertaken in medicine and pharmacy had a bias towards external CPD activities, such as short courses, workshops, formal education at master's or post graduate level, conference and scientific meeting attendance (Brigley, Johnson, Bird & Young, 2006; Mottram et al, 2002; Power et al, 2008; Swallow, Clarke, Iles & Harden, 2006), with other activities including reading, e-learning and teaching. This may stem from the historical nature of an expectation of attendance at CE events in the medical professions, rather than the more self-governed

process of CPD activity. Two studies undertaken outside the UK in AHPs, including physiotherapists, also seemed to present a bias towards CPD activities outside of the work environment such as conference attendance and short courses (Maharaj, 2013; Stagnitti et al,



**Figure 3.5 – Types of CPD Activity.**

2005), suggesting in this case that there may be a cultural or perhaps financial influence over the types of activities selected. Interestingly, however, the studies undertaken in the UK outside of medicine, dentistry and pharmacy, seem to suggest that experienced health professionals, or those working as lone practitioners, prefer more formal education, such as attendance at conferences and meetings, whereas more newly qualified staff seem to find benefit in informal training in the workplace, as well as taking up more online learning

approaches (Bolton, 2002; Moons, Evans, Lightowlers, Bullock & Barnes, 2012; Stevens & Wade, 2017). The findings outside of the UK may therefore reflect maturity of health professionals targeted in the studies or the nature of their clinical practice, rather than any cultural or international differences.



Figure 3.6 – Benefits of and Reasons for Undertaking CPD.

### 3.4.2 – Subtopic Two - Health Professionals' Attitudes and Behaviours towards CPD

Thirty-eight studies reported either quantitative or qualitative data related to health professionals' attitudes and behaviours towards CPD. This data was divided into four subthemes – benefits or reasons for undertaking CPD, barriers to CPD, responses to mandatory CPD/attitudes to CPD engagement and impact on practice.

#### *3.4.2.1 – Benefits of and reasons for undertaking CPD*

Ten clear reasons for undertaking CPD were highlighted from the literature (see Figure 3.6). The CSP survey of 2006 reported that the two strongest reasons for physiotherapists to undertake CPD were to maintain professional competence (91%) and to improve patient care (87%), (CSP, 2006). The largest number of comments from across the literature suggested that CPD was undertaken to keep up to date and to increase knowledge and skills. Studies from across all professional groups highlighted this as a reason for undertaking CPD. Only four of the studies did not have any comments regarding updating knowledge and skills (Austin, Marini, MacLeod Glover & Croteau, 2005b; French, 2006; Haywood, Pain, Ryan & Adams, 2013; Katsikitis et al, 2013). It may be that the comments relating to solving clinical problems in the studies by Austin et al (2005b) and French (2006) imply a change in knowledge or skills to be able to resolve the clinical issue. Similarly, Katsikitis et al (2013) commented that CPD is an important part of reflection, and this could imply the integration of new knowledge or skills into the reflective process.

What is also clear from the research findings is that health professionals are generally motivated to undertake CPD, find enjoyment in it, and feel a sense of achievement on completion (Banning & Stafford, 2008; Brady, 2014; Hughes, 2005; Katsikitis et al, 2013). The research suggests that individuals find personal satisfaction in learning, as well as improved motivation and job satisfaction (Bell et al, 2002; Bolton, 2002; Gunn & Godling, 2009). This suggests that the health professionals consulted in these studies had a positive attitude to LLL and saw it as an expected part of their professional status (CSP, 2006; Gunn & Godling, 2009). This is encouraging and perhaps gives a more positive slant to the comments which suggested CPD is undertaken because of mandatory requirements or because professionals are made to undertake it (Brady, 2014; CSP, 2006; Hughes, 2005; Ifeoma, Ede, Ojo, Ofojekwu, Essien, Edeh, Adeshiyan & James, 2015).

Interestingly, however, only five studies recognised the relevance of CPD to service delivery and patient care (Bell et al, 2002; CSP, 2006; Hughes, 2005; Johnson, 2008; Stevens & Wade, 2017), although the comments relating to problem solving (Austin et al, 2005b; French, 2006)

and approaching cases from new perspectives (Brady, 2014) could be indirectly linked to change in practice and therefore improvements in care. This will be discussed in more detail in Section 3.4.2.4 – impact of CPD on practice.

Finally, three of the professional groups found that CPD was an effective method of keeping in touch with colleagues and networking (Bolton, 2002; Little & Hayes, 2003; Stewart, Teoh, Pitts, Garden & Rowley, 2008; Ifeoma et al, 2015). Two of these studies were undertaken in medicine, where there is a tradition of doctors networking as part of attendance at conferences or scientific meetings, and this links with the historical requirement for CE, rather than CPD. Bolton (2002), in their research with UK chiropractors, stated that at this time there were approximately 800 registered individuals, and their results suggest that CPD activities are an important opportunity for this small number of practitioners to network.

#### *3.4.2.2 – Barriers to CPD.*

Seven main barriers to undertaking CPD were identified from the research findings (see Figure 3.7). It is clear when examining the comments made by health professionals that time, or the subcomponents of it, forms the greatest barrier to CPD across all disciplines and countries. Several issues related to time were highlighted from this review of literature. All except three studies (Brady, 2014; Moons et al, 2012; Stagnitti et al, 2005) commented generally about lack of time, however Haywood et al (2013), Sturrock and Lennie (2009) and Swallow et al (2006) all specifically commented on protected time during work hours being insufficient to allow effective completion of CPD. Eight studies (Austin & Graber, 2007; Beeston et al, 1998; CSP, 2006; Haywood et al, 2013; Hughes, 2005; Katsikitis et al, 2013; O’Sullivan, 2003; Stevens & Wade, 2017) referred to the conflict between undertaking CPD and out of work activities, particularly the impact on family life, or the challenges of attempting to complete CPD while undertaking shift work. Workload, or staff shortages were also highlighted as barriers to CPD, with respondents to studies indicating that high workload and pressure to undertake clinical work impacted on time available for CPD (Banning & Stafford, 2008; CSP, 2006; Henwood & Flinton, 2012), or the ability to get cover for clinical work to allow time out for learning activities (Beeston et al, 1998; CSP, 2006; Gunn & Godling, 2009; Henwood, Yelder & Flinton, 2004; O’Sullivan, 2003; Stevens & Wade, 2017). Two of these studies (Gunn & Godling, 2009; Henwood et al, 2004), however, had populations where lone working was common, and this may have influenced these responses. Nevertheless, O’Sullivan (2003) described a CPD guilt culture within physiotherapy practice in the UK, finding that patient treatment is always the overriding priority. This is supported in the later study by Cole et al (2008), who raised an interesting point regarding the nature of health care and health care professionals, stating that

patients will always remain the priority until the culture changes and health professionals are required to provide evidence of their CPD activities. This study was undertaken before the changes to re-registration with the HCPC, but the more recent study by Haywood et al (2013), which investigated attitudes and behaviours of AHP's working in musculoskeletal (MSK) out-patient services in the UK, does not seem to suggest a culture shift, with time, workload and cover still being highlighted as issues. This factor, particularly within MSK services may have been affected further by the introduction of competitive tendering and Any Qualified Provider through the Health and Social Care Act (DH, 2012). Several studies, across professional groups, raised the issue of funding for CPD activities (Austin & Graber, 2007; Banning & Stafford, 2008; Beeston et al, 1998; Brady, 2014; Gibbs, 2011; Haywood et al, 2013; Henwood & Flinton, 2012; Ifeoma et al, 2015; Johnson, 2008; Maharaj, 2013; O'Sullivan, 2003; Stevens & Wade, 2017; Stewart et al, 2008). Only three of these studies (Banning & Stafford, 2008; Beeston et al,

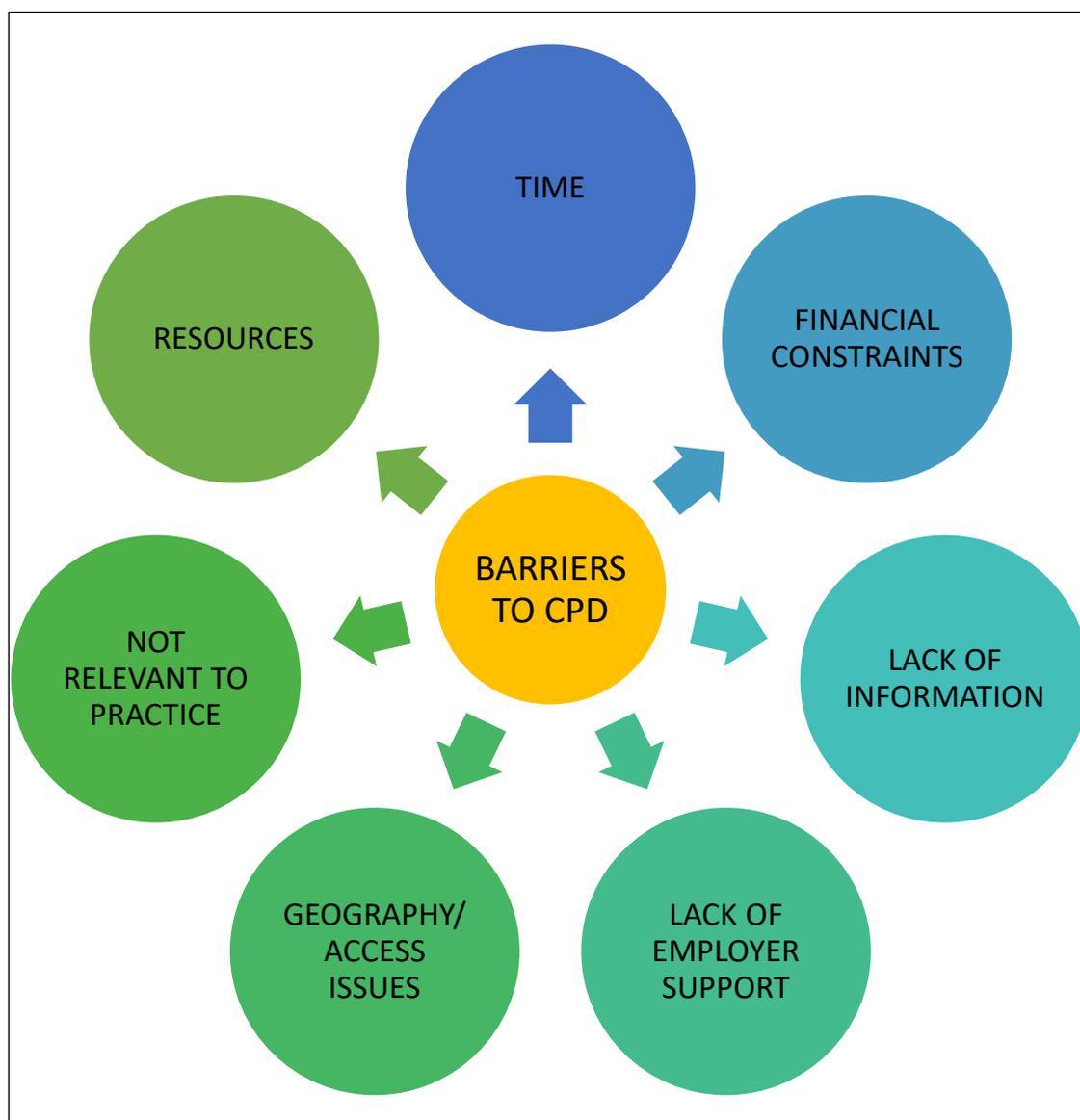


Figure 3.7 – Barriers to CPD.

1998; Maharaj, 2013) however, gave any detail about the types of CPD activities that were undertaken, showing a preference for short courses, and taught post-graduate activities. Beeston et al (1998) specifically raised funding as an issue preventing physiotherapists from undertaking M level study. Haywood et al (2013) found that self-funding of CPD created a two-tier system where those who could not afford to pay were disadvantaged. It may be that participants in these studies do not consider learning in work to have the same value as taught courses, or conference attendance, and this is supported by comments made by other authors (Austin et al, 2005b; Brigley et al, 2006).

Only one study (Bell et al, 2002), commented on a lack of information regarding CPD as a barrier to undertaking it. This is a relatively old study undertaken in Pharmacy in the UK, and this issue was not raised in a more recent study (Kostrzewski, Dhillon, Goodsman & Taylor, 2009a), which may suggest that this is no longer a problem for Pharmacists, potentially due to the increasing use of internet resources to advertise CPD activities. However, the study by Gibbs (2011), highlighted that a lack of communication between HEI's and clinical departments was still a barrier to uptake of CPD activities in a mixed group of AHPs.

Eight studies highlighted the need for employer support to undertake CPD activities (Banning & Stafford, 2008; Gunn & Godling, 2009; Haywood et al, 2013; Henwood et al, 2004; Johnson, 2008; Maharaj, 2013; Manship, 2014; O'Sullivan, 2003). O'Sullivan (2003) found that physiotherapists specifically commented on the attitude within the workplace not being conducive to learning and development, although 60% of the physiotherapists responding to the CSP survey (CSP, 2006) felt that a learning culture existed in their workplace. Johnson (2008), also specifically investigating physiotherapists' attitudes, described inadequate support systems in the workplace (including time, funding and cover for study). This suggested that employer support is linked to financial and time support for CPD, however only two of these studies also recognised financial constraints as an issue (Banning & Stafford, 2008; Maharaj, 2013). Interestingly, in their follow-up study, Henwood and Flinton (2012) found that UK radiographers thought support for CPD had improved, and this could be because of the requirement for CPD to re-register with the HCPC.

Nine studies commented on the lack of access to CPD activities, geographical limitations to their ability to attend CPD events, or lack of access to appropriate facilities in the workplace (Austin & Graber, 2007; Beeston et al, 1998; Bolton, 2002; Cole et al, 2008; Gunn & Godling, 2009; Maharaj, 2013; Moons et al, 2012; O'Sullivan, 2003; Stagnitti et al, 2005). It is to be expected that there may potentially be geographical challenges for those participants in South Africa (Maharaj, 2013) Australia (Stagnitti et al, 2005) or the USA (Austin & Graber, 2007), due

to the size of these countries, but the other six studies were undertaken in the UK. However, two of these studies were undertaken in rural populations in more remote areas in the UK (Gunn & Godling, 2009; Moons et al, 2012) where attendance at conferences or taught courses may be challenging. Bolton (2002) reported responses from Chiropractors, where the small number of registered professionals may mean that any activities are organised at more central locations. This may also be true of respondents in the study by Cole et al (2008), who were specialist amputee physiotherapists, again, where numbers working in this field may make access to relevant CPD activities more difficult. Linking back to the analysis of comments made regarding financial constraints, however, it may be that work-based activities, which do not require travel, are still not recognised as being valuable CPD.

#### *3.4.2.3 – Responses to mandatory CPD and attitudes to CPD engagement.*

Many of the comments made by respondents in the literature related to the requirements for mandatory CPD that are emerging across professions and their attitudes to engagement in CPD activities. Thirteen studies specifically found responses relating to mandatory or required CPD.

There were generally positive comments regarding the introduction of mandatory CPD in professions in the UK, with 89% of respondents in one study feeling that mandatory CPD would be of benefit to them as professionals (Sturrock & Lennie, 2009). These dieticians, who were questioned at the time of the introduction of regular CPD audit, may have felt that this system would result in better support in terms of time or financial remuneration, however there are no follow-up studies in this population to answer this question.

The negative comments relating to mandatory CPD highlighted three key issues. Firstly, three authors questioned whether lack of compliance with the requirements should result in removal from the register; all those responding suggested that this should not be the case (Bell et al, 2002; Moons et al, 2012; Mottram et al, 2002). It could be argued however, that if the requirement for mandatory CPD is not enforced, then there will be less external motivation to complete it. Secondly, Haywood et al (2013) found respondents did not feel there should be a need to continue with CPD activities if there was no potential for career progression. This however, was contradicted by Sturrock and Lennie (2009) whose respondents did not feel that professional competence could be maintained without CPD. Finally, comments from Austin et al (2005b) suggested that making the shift from a structured CE system, to the less formal requirements of CPD can be an uncomfortable change for many professionals. Professions such as those regulated by the HCPC, who have previously not been monitored in any way may

be more accepting of the introduction of mandatory requirements, as it gives recognition for CPD that was undertaken but not acknowledged before the new system was introduced.

Generally, the picture presented by the literature is encouraging in terms of health professionals' attitudes to engagement with CPD, with 12 studies providing positive comments, and only five providing negative comments. Studies reported that it was important or essential that professionals engage with CPD (Bell et al, 2002; CSP, 2006; Mottram et al, 2002; Sturrock & Lennie, 2009), and that generally they were motivated (Bell et al, 2002), enthusiastic (Power et al, 2008) and willing (Bolton, 2002) to undertake their CPD activities. CPD was also reported as being worthwhile (Stewart et al, 2008) and of value (Hughes, 2005).

Contradicting this however, from the same study (Hughes, 2005) nurses found CPD a chore. This incongruity could be that although the respondents recognise the benefit and value of CPD, this is balanced by the frustrations arising from lack of time during working hours, and the difficulty with balancing shift work and family life as also commented on in this study.

Worryingly, the physiotherapists responding in the study by Cole et al (2008) commented that CPD was not integral to their existence. Again, however, this could reflect the fact that health care workers do not enter their professions to continue to learn, but rather to improve the health and well-being of their patients, and links with the other comment from this study regarding patient care remaining the priority. Other negative comments related to the ambiguity around CPD, in that professionals were unsure what constituted CPD (Henwood et al, 2004; Katsikitis et al, 2013), that there was a lack of direction regarding professional development (Hughes, 2005), or that regulatory and professional body requirements were unclear (CSP, 2006; Johnson, 2008).

#### *3.4.2.4 – Impact of CPD on practice.*

One of the key drivers for undertaking CPD is to improve patient care and service delivery (Royal College of Nursing (RCN), 2007), so it is interesting that only 13 of the studies reviewed asked about the link between CPD and practice, and that the health professionals surveyed provided mixed responses regarding the impact of CPD on practice. Eight studies provided positive comments related to CPD and change in their working practices. CPD being focussed on improving patient care came through strongly in the study by Johnson (2008) and the report from the CSP (2006), with many of the interviewees and survey respondents commenting that they undertook CPD for the good of their patients. One study recognised that the changes to practice based on CPD may be intuitive and not recorded or measured (Haywood et al, 2013). Considering the current drivers within health care for professionals to measure the impact of their interventions to justify continued funding (DH, 2010), challenges

arise regarding how changes to practice because of CPD can be measured. This is supported by the negative comment by Hughes (2005) who found that, even before measurement of the effect of change could occur, it was difficult to implement any new ideas generated from CPD into practice. Other negative comments related to the lack of relevance of CPD to practice (Austin & Graber, 2007; Beeston et al, 1998; Bolton, 2002; Hughes, 2005), and that even though practice may have improved, this had little impact on patient specific outcomes (Bolton, 2002). Finally, Kostrzewski et al (2009a) commented that CPD had little impact on practice except to change the way practitioners thought. It could be expected that a change in thought processes regarding practice would influence the way in which clinical tasks are undertaken, and this could represent a lack of awareness of the importance of cognition in learning.

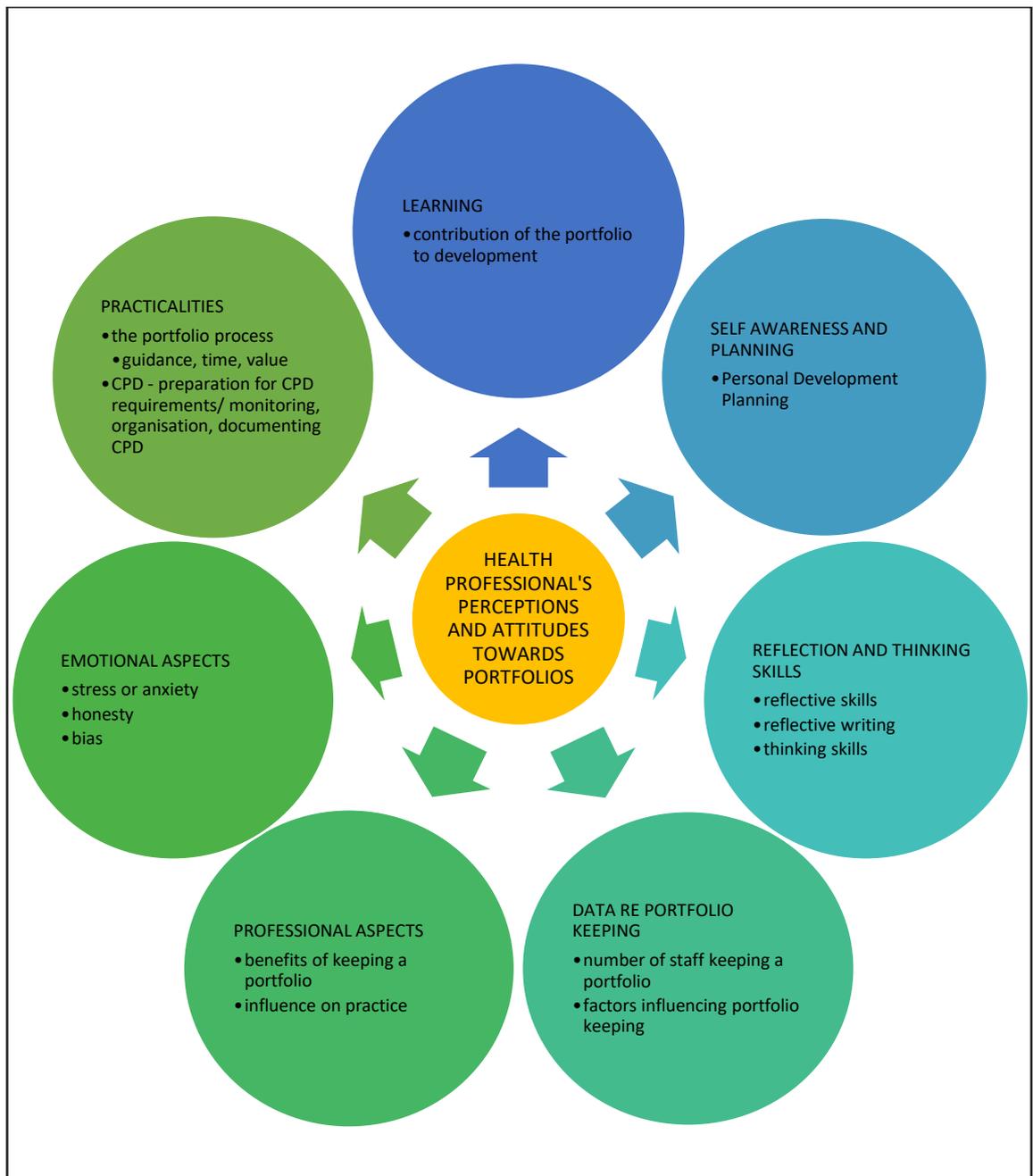
### 3.4.3 – Subtopic Three - Use of Portfolios

Eighteen studies were found discussing health professionals' use of portfolios either as their main topic, or as a subtheme of studies investigating CPD. This literature gives very little information regarding the structure, content, aims or purposes of the portfolios, which makes interpretation of the qualitative and quantitative data related to portfolio use difficult. When reviewing the literature relating to the use of portfolios by qualified health professionals, several themes emerged, including learning, self-awareness and planning, reflection and thinking skills, professional aspects, emotional aspects and practicalities (see Figure 3.8).

No comments were found in the literature specifically relating to the use of a portfolio for skill development, however many studies reported data relating to percentage of staff keeping a portfolio and the factors influencing this (see Figure 3.8). The large CSP survey from 2006 found that 83.4% of its 890 physiotherapy respondents kept a portfolio of evidence of their learning (CSP, 2006).

#### *3.4.3.1 – Learning.*

Seven authors reported how the portfolio contributed to continuing development of the professional. Most of the comments were negative, with perceptions of the contribution the portfolio made to development low (Hrisos, Illing & Burford, 2008; Keim, Gates & Johnson, 2001; Vance, Williamson, Frearson, O'Connor, Davidson, Steele & Burford, 2013) and with health professionals tending to record attendance rather than learning (Swallow et al, 2006). Only two studies reported positively on the impact of the portfolio on learning, stating it helped to provide direction and focus for CPD (O'Sullivan, 2003) and helped to integrate learning (Harris, 2005).



**Figure 3.8 – Themes Emerging from Analysis of Literature Related to Health Professionals' Use of Portfolios.**

*3.4.3.2 – Self-awareness and planning.*

Only one study reported any data regarding planning (Little & Hayes, 2003). This study found that only 30% of their sample of UK GPs (n=698) had a personal development plan, and the respondents' explanation for this was that these are not relevant to clinical practice. Having said this, two other studies, also undertaken in medicine, did refer to objectives, however

comments were also negative, in that the use of the portfolio did not help in achieving these (Hrisos et al, 2008; Vance et al, 2013). Again, this could relate to the assumed purpose of a portfolio in a clinical setting as a tool for recording learning, rather than to aid learning itself.

One study reported that pharmacists were worried about the move from CE to CPD and felt that they lacked skills in self-identification of learning needs (Austin et al, 2005b), demonstrating that the introduction of a CPD portfolio had raised self-awareness, even though this was not specifically measured in the study, or an aim of the portfolio. Some of the data relating to portfolio use, although not specifically commenting on self-awareness, suggests a lack of this in some health professionals, particularly those with more clinical experience. The study by Miller and Tuekam (2011), in specialist neurological physiotherapists in Canada, presented a picture of health professionals who did not feel a portfolio was of benefit to those with more experience, as it could not reflect the full scope of their physiotherapy competencies. This is also supported by Austin et al (2005a) within Canadian pharmacists. Sturrock and Lennie (2009), in a study in UK dieticians, found that newly qualified staff or those in highly specialised roles felt the greatest need for CPD, whilst those on middle grades did not feel they needed to undertake CPD activities. These three studies perhaps reflect complacency on the part of health professionals who have been undertaking their roles for some time, or a lack of motivation, perhaps due to limitations in career progression within these bands, and echoes comments related to undertaking CPD if there is no career progression made by Haywood et al (2013). This could be interpreted as a potential lack of self-awareness of their needs for on-going development to maintain competent and contemporary practice.

#### *3.4.3.3 – Reflection and thinking skills.*

Five studies reported comments relating to reflection and thinking skills, with equal numbers of positive and negative comments. Harris (2005) found that, although nurses in their study found reflective writing challenging, the use of a portfolio did promote this, and this supports the findings of Keim et al (2001) who found that reflection was more common in those who had a portfolio. Similarly, just over half of the doctors surveyed in the study by Pearson and Heywood (2004) reflected on their experiences in a portfolio. It is interesting that the two studies with pharmacist participants (Austin et al, 2005a; Kostrzewski, Dhillon, Goodsmann, Taylor & Weinman, 2009b) found that they did not need a portfolio to stimulate reflection or did not see the need to document their reflections or thoughts on experiences. While it is accepted that, with more experience, we become more able to reflect *in action* (Schon, 1990), evidence suggests there is still a benefit to documenting this (Mann, Gordon & MacLeod,

2007), in terms of being able to review the situation objectively once written and formulate new thoughts regarding the experience.

#### *3.4.3.4 –Portfolio keeping.*

Nine studies reported on portfolio keeping, and the comments were mainly positive. Interestingly, one relatively old study found that although 59% of respondents thought pharmacists should keep a portfolio of evidence of their CPD, only 16% did (Bell et al, 2002). There were varying figures relating to percentages of staff keeping a portfolio, and how often staff recorded learning in their portfolios.

There were only two main themes that emerged relating to influencing factors on keeping a portfolio. Firstly, comments referred to portfolios being of less benefit to those with more experience (Austin et al, 2005a), although whether this is related to the fact that those who qualified less recently have less experience of using a portfolio than those who graduated more recently, is unclear from the literature. Certainly, Haywood et al (2013) suggested that more recent graduates are better at recording their CPD than others, and this may be because of the use of undergraduate portfolios during their studies. Secondly, the study by Gunn and Godling (2009) suggested that physiotherapists' motivation to keep a portfolio was influenced by external factors, particularly more senior colleagues, who showed no interest in looking at their portfolios.

#### *3.4.3.5 – Professional aspects.*

Five studies commented on the portfolio in relation to professional aspects. The comments were mixed, with both positive and negative views expressed. Most of the literature found that respondents thought the portfolio was useful as a repository for information or provided a means of looking back on what had been achieved and using this as evidence of continued learning. Although there is little discussion regarding structure or format of the portfolios in any of the studies, these descriptions seem to suggest a shopping trolley model of portfolio as described by Webb et al (2002) (see Chapter Two, Figure 2.5).

When considering the influence of the portfolio on clinical practice, all responses were negative, in that the portfolio did not lead to changes in practice, did not contribute to professional practice or was somewhat irrelevant (Harris, 2005; Kostrzewski et al, 2009b; Little & Hayes, 2003; Miller & Tuekam, 2011). This is concerning, in that learning recorded in the portfolio should translate to improvements in practice and patient care, however, it may be that health care professionals change practice because of their learning, but do not recognise

the value of having a written record of this, or do not revisit their portfolio evidence to evaluate whether learning has been implemented in practice.

#### *3.4.3.6 – Emotional aspects.*

Five studies reported on the emotional aspects of keeping a portfolio, with both positive and negative comments. The participants in Harris (2005) found the portfolio a psychologically safe place to examine their practice and any problems. These authors also found that their nursing population valued the introspective self-assessing nature of the portfolio, but equally recognised that this self-reporting could allow for the introduction of bias or inaccuracy. This concept of honesty was echoed in the research findings of Austin et al (2005a) and Swallow et al (2006) and is something that may be more of an issue now that portfolios are becoming a requirement for regulation and re-registration.

#### *3.4.3.7 – Practicalities.*

Ten studies commented on the practicalities of using a portfolio. Several sub themes emerged – level of guidance, time issues, the value of the portfolio and its relevance to CPD requirements and monitoring. Overall, comments on these subthemes were negative.

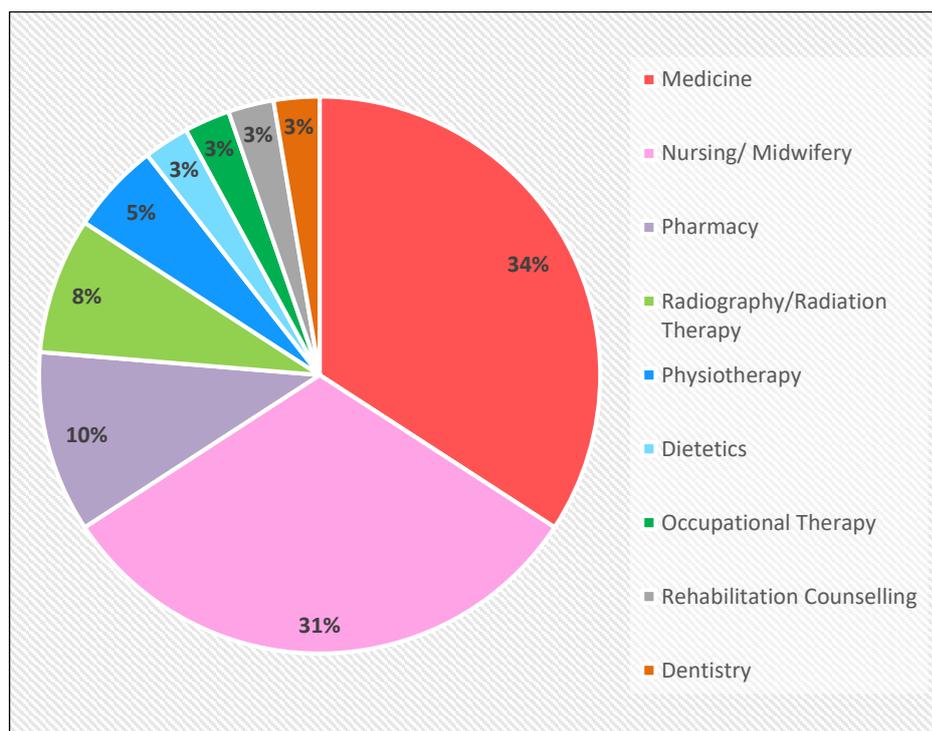
In terms of the level of guidance required, Swallow et al (2006) found that UK pharmacists found the structure of the portfolio to be helpful, however all the other research commenting on this found lack of guidance or understanding of what the requirements were to be a major barrier to portfolio maintenance. This was added to by a lack of understanding from colleagues of the expectations of the portfolio for foundation doctors in the UK in 2004 and 2005 (Hrisos et al, 2008). Interestingly a follow up study by Vance et al (2013) found responses were even more negative from foundation doctors in the same Deanery in 2009, with 80% finding the portfolio too bureaucratic. This change could be reflective of increasing demands on Foundation doctors more recently, with the increasing pressure within the NHS (Tasker, Newbery, Burr & Goddard, 2014). Time issues were raised by many authors, particularly in relation to balancing their workload with completing the portfolio (Austin et al, 2005a; Harris, 2005; Miller & Tuekam, 2011; O’Sullivan, 2003), with one author finding that time was one factor preventing physiotherapists from keeping a portfolio (O’Sullivan, 2003).

The portfolio did not appear to be valued by health professionals, commenting that it is not a credible record of their development (Hrisos et al, 2008) and this links closely with other comments relating to the use of portfolio evidence for the purposes of re-registration or maintenance of licence to practice. Only one study (Keim et al, 2001) in the USA found that participants thought the portfolio would help to maintain registration, but all other studies

thought the portfolio did not or could not reflect their practice in its entirety (Miller & Tuekam, 2011), and respondents were ambivalent as to whether not having a portfolio should result in removal from the register (Sturrock & Lennie, 2009). Comments regarding the inability for a portfolio to demonstrate competence in actual clinical or interpersonal skills were also raised.

### **3.5 – Student Portfolio Literature Review Results**

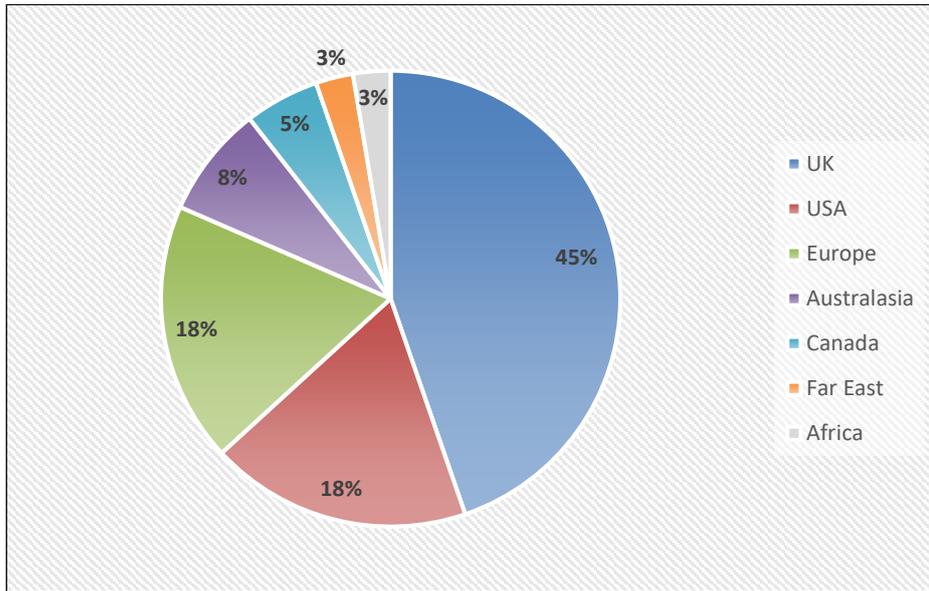
As with the CPD literature, following exclusion of irrelevant papers, the remaining primary research (n=38) was allocated into subtopics, to meet the aims of the literature review and allow a logical presentation of the findings. Nineteen papers described the aims or purpose of their portfolios (subtopic one – aims and purpose). Twenty-one papers commented on the format or structure of their portfolio, with 25 describing the content or evidence included and 13 giving an indication of what the structure of the portfolio was based on (subtopic two – structure and content). Thirty-eight papers provided either quantitative and/or qualitative data regarding students’ perceptions and attitudes to portfolios (subtopic three – students’ perceptions).



**Figure 3.9 – Distribution of Student Portfolio Research from Different Professional Groups**

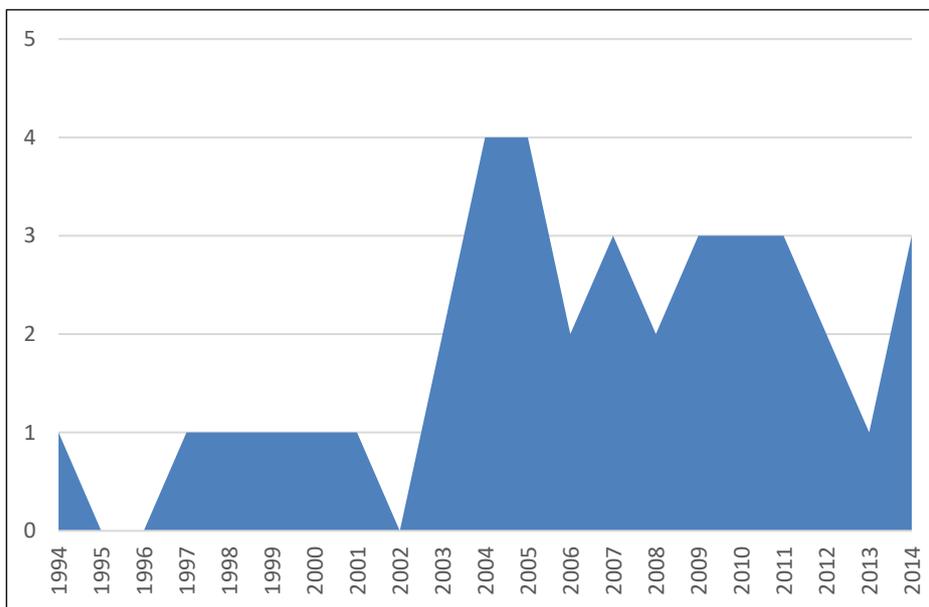
Research findings were categorised by course subject, to be able to determine whether there were similarities or differences between different professions. Only two studies were found examining the use of portfolios within Physiotherapy (Cross, 1997; Heijne, Nordgren, Hagstromer & Friden, 2012), so analysis and discussion is largely based on research from other

fields (Dentistry, Dietetics, Medicine, Nursing/Midwifery, Occupational Therapy, Pharmacy, Radiation therapy/Radiography, Rehabilitation Counselling) (see Figure 3.9).



**Figure 3.10 – Distribution by Percentage of Student Portfolio Research from Different Countries**

The research was mainly undertaken in the Western world, with only one study from Africa, and one study from the Far East (see Figure 3.10).



**Figure 3.11 – Number of Studies Published Each Year from 1994.**

In terms of the age of the research, this varied widely, with the earliest study being undertaken in 1994 (Mitchell, 1994) and the most recent being from 2014 (Advani, Ashworth, Barnett, Miller & Sachdeva, 2014; Belcher, Jones, Smith, Vincent, Naidu, Montgomery, Haq & Gill, 2014;

Bradley & Schofield, 2014). Most of the literature was published between 2003 and 2012 (see Figure 3.11).

### **3.6 – Findings and Discussion**

#### **3.6.1 – Subtopic One – Aims and Purpose of Student Portfolios**

As stated above, 19 papers described the aims or purpose of their student portfolios (see Figure 3.12). It is surprising that more of the studies did not include this, as it would seem appropriate to give some information regarding the nature of the portfolio being used, if writing about or presenting findings regarding the use of portfolios.

Only one of the physiotherapy studies provided any aims for their portfolio (Heijne et al, 2012), and these were vague – to meet the aims of the module. The module in which the portfolio was developed focussed on a physical exercise theme, and had content relating to physiology, psychology and physiotherapy. The portfolio required students to write three assignments, where they were to design an exercise programme for themselves and keep a diary of their achievements of this, to design an exercise programme for a healthy client, and finally to reflect on the concept of physical exercise and why physiotherapists need to have an integrated knowledge of this subject.

When considering the studies in other health professional programmes, one of the aims that was regularly given was that of collecting evidence (Advani et al, 2014; Alvarez & Moxley, 2004; Fung, Walker, Fung, Temple, Lajole, Bellemare & Bryson, 2000; Graham & Megarry, 2005). Interestingly, some researchers not only wanted students to collect evidence, but also incorporated into their aims for students to learn the skills of portfolio building to prepare them for future professional requirements (Alvarez & Moxley, 2004; Austin & Braidman, 2008; Belcher et al, 2014; Dolan, Fairbairn & Harris, 2004). This demonstrates that educators on professional programmes are attempting to embed the theory and practicalities of CPD and LLL into health professionals at an undergraduate level.

Only seven of the studies reported the development of reflective skills to be one of their aims (Advani et al, 2014; Austin & Braidman, 2008; Bradley & Schofield, 2014; Dolan et al, 2004; Fung et al, 2000; Graham & Megarry, 2005; Mubuuke, Kiguli-Malwadde, Kiguli & Businge, 2010). It is interesting that not all the studies were using the portfolio as a reflective tool, since many authors writing about portfolios and their use within professional programmes define reflective development as a key role of a portfolio (Bolton & Humphreys, 1998; Challis, 1999; Coleman, Rogers & King, 2002; Cross, 1997; Harris, Dolan & Fairbairn, 2001; Holland, 2000). Two studies discussed the fact that their portfolios aimed to increase student self-awareness

and being able to identify strengths and weaknesses, as well as helping to develop their professional identity (Alvarez & Moxley, 2004; Murphy, Airey, Bisso & Slack, 2011). Since knowing yourself, being able to identify strengths and weaknesses, and having a professional awareness all require the process of reflection (Tjan, 2015), perhaps it is the terminology of the aims, rather than the lack of desire for the reflective process within the student portfolios, that can be identified here.

Another aim identified was that of the portfolio as a means of self-assessment or evaluation (Fung et al, 2000; Murphy et al, 2011), or assessment of some aspect of the course learning outcomes (Altahawi, Sisk, Poloskey, Hicks & Dannefer, 2012; Alvarez & Moxley, 2004; Dolan et al, 2004; Gordon, 2003; Graham & Megarry, 2005; Heijne et al, 2012). In some cases, the portfolio itself was assessed, while in others, the portfolio was used as a tool to enable students to write a reflective assignment based on their evidence within the portfolio. These



**Figure 3.12 – Aims and Purposes of Student Portfolios as Described by the Literature**

are both assessment of outcome, whilst Gordon (2003) assessed the process of portfolio compilation and the student's engagement with this. This highlights the fact that an assessment tool can mean many different things, and links with other aims related to the portfolio, and its place within the programme of study itself.

Several studies had aims related to how or what the students would learn by the completion of the portfolio, for example, consolidation and synthesis of knowledge, experiences, literature and theoretical concepts (Fung et al, 2000; Graham & Megarry, 2005) or an increase in student autonomy or SDL ability (Dolan et al, 2004; Nairn, O'Brien, Traynor, Williams, Chapple & Johnson, 2006). Again, considering that these students would progress into a world of work that is largely self-regulated and would be autonomous practitioners, the educators appeared to be attempting to instil the skills necessary for this through using a portfolio at undergraduate level, although it is important to remember that using a portfolio may require SDL ability (Knowles, 1988; McLaughlin & Vogt, 1996; Timmins, 2008), as discussed in Chapter Two.

The final aims identified related to communication between students and course tutors, with the portfolio providing a means for discussion and meaningful dialogue (Dolan et al, 2004; Kalet, Sanger, Chase, Keller, Schwartz, Fishman, Garfall & Kitay, 2007; Murphy et al, 2011; Thompson & Farrow, 1999). Another purpose for the communication was for students to provide feedback to tutors on course content and curricular structure (Lonka, Slotte, Halttunen, Kurki, Tiitinen, Vaara & Paavonen, 2001; Murphy et al, 2011). It is unclear, however, whether this was achieved by students directly commenting on these aspects of the course within their portfolios or via evaluation procedures, or by tutor interpretation of the information contained in the student portfolio. It could be questioned whether a student's personal portfolio should be a vehicle for providing curricular feedback. It was unclear whether students were aware that their portfolios would be used for this purpose, potentially biasing portfolio content and the process of its completion, or whether this was an aim of the studies, and portfolios were used for this purpose after their completion (Lonka et al, 2001; Murphy et al, 2011).

In summary, the aims of the portfolios described in the studies were many and varied. This lack of standardisation of aims may have an influence on the student's perceptions and attitudes towards their portfolios.

### 3.6.2 – Subtopic two – Structure, Format and Content of Student Portfolios

Of the 38 papers reviewed, it was generally difficult to determine the overall structure or format of the portfolios being described, with only 25 giving detail of some aspect of either format, structure and or basis for this, or level of standardisation.

#### *3.6.2.1 – Levels of standardisation and structure*

In terms of the structure or standardisation of the portfolios, there was generally a lack of detail provided by the researchers. Even when the portfolio was described as standardised, no clear information about this was given in most cases.

In an early physiotherapy study, Cross (1997) gives a lengthy, if somewhat confusing, description of the structure of their personal development diary. This portfolio included a section of personal information, in which students were asked to detail all the placements they undertook, as well as describing their role on each placement, aiming to give an overview and chronological perspective of the experiences they had in the clinical environment. The second section was described as including learning contracts of objectives on placement, a record of any in-service training attended, reflection on critical incidents and an experiential learning record. The final section included a summary of experiential learning and a personal development plan, which was to be developed in discussion with a facilitator. Structure was provided in terms of proformas for reflection, specific prompt questions, and students were told how much to complete and in what timeframe. The portfolio was poorly received by students due to the constricting nature of its structure.

Contrastingly, in an early study within medical education, Finlay, Maughan & Webster (1998) asked 80 students completing a nine-month oncology placement to produce a portfolio in which they were given the freedom to include anything they wanted, with no formal structure or guidelines. Ten students chose not to undertake the portfolio process, and of those that did 49 chose not to submit it for review at the end of the placement, suggesting a disengagement with the process, which may have been influenced by the lack of guidance and format (Ames, 1992), or by the fact that this was not included in the assessment (Raupach, Brown, Anders, Hasenfuss & Harendza, 2013; Wood, 2009).

These two studies (Cross, 1997; Finlay et al, 1998) may reflect the challenges of early developments in educational portfolios in the health field, with educators starting from opposite ends of the spectrum in terms of level of standardisation and provision of structure and guidance, perhaps due to a lack of published evidence before these dates. More recent studies appear to have reached a semi-standardised compromise (Bradley & Schofield, 2014;

Funk, 2007; Murphy et al, 2011), which may encourage engagement, whilst allowing freedom and individuality.

#### 3.6.2.2 – *Basis for the portfolio's structure and format*

Nine of the studies' portfolios were based on frameworks from professional standards or competencies, or documents produced for qualified members of the profession (Austin & Braidman, 2008; Belcher et al, 2014; Bradley & Schofield, 2014; Driessen, van Tartwijk, Vermunt & van der Vleuten, 2003; Nairn et al, 2006; Stuart, 2004), including the physiotherapy study by Cross (1997). Designing a portfolio around such standards or frameworks has the benefit of allowing students to see the professional relevance of the work they are undertaking, but professional standards can often be vague or use language that, from personal experience, students find difficult to interpret to their own clinical or academic learning, making collection of evidence challenging. Two studies based their portfolio structure on programme learning outcomes or themes (Gordon, 2003; Heijne et al, 2012), for example Gordon's (2003) use of personal development planning (PDP) themes – commitment to compassionate ethical behaviour, ability to work co-operatively, the ability to make decisions in uncertain circumstances based on best evidence, the ability to recognise own personal physical and emotional needs, ongoing commitment to advancement of learning and organisational skills. These are very similar to standards contained in the codes of conduct of several professions and seem appropriate for a developmental portfolio within a professional programme of study.

Two studies based their portfolios around theoretical frameworks of learning, such as the principles of experiential learning as described by Stanton and Grant (1999), (Elango, Jutti & Lee, 2005), and Schon's reflection in action model (Schon, 1990), (Thompson & Farrow, 1999). It is interesting that Thompson and Farrow (1999) should choose reflection *in* action as opposed to reflection *on* action in undergraduate students, as the process of thinking about experiences before or after they occur is felt to produce deeper learning, whilst thinking about experiences as they are occurring relies more on recall and application of knowledge and skills rather than reflection per se (Munby & Russell, 1989).

#### 3.6.2.3 – *Content of the portfolios*

The content of the student portfolios described in the research varied widely. Most studies included more than one type of evidence or reflective focus. The content of the two physiotherapy studies (Cross, 1997; Heijne et al, 2012) has been described in detail above in the context of their aims or structure. Cross (1997) contained elements of reflection,

checklists, patient related information and personal development planning, whilst Heijne et al (2012) contained only academic components.

Many studies included evidence of reflection on patient or client related situations, which is to be expected from health-related undergraduate programmes (Austin & Braidman, 2008; Cross, 1997; Elango et al, 2005; Fung et al, 2000; Gordon, 2003; Graham & Megarry, 2005; Haffling, Beckman, Pahlmblad & Edgren, 2010; Mubuuke et al, 2010; Murphy et al, 2011; Nairn et al, 2006). Some of the medical student portfolios required students to write a number of case reports (Elango et al, 2005; Haffling et al, 2010; Mubuuke et al, 2010), and two specifically asked students to reflect on ethical issues or dilemmas they had encountered during their practice, and to their approaches to resolving these issues (Elango et al, 2005; Gordon, 2003); it is surprising that these subjects were not specifically requested or required by portfolios in other professions, since all health professionals are likely to come across such cases during their working careers, although some do ask for reflection or evidence of critical incidents (Cross, 1997; Dolan et al, 2004; Fung et al, 2000; Haffling et al, 2010; Nairn et al, 2006). Only one portfolio specifically asked students to provide evidence of their development of relationships with patients (Austin & Braidman, 2008), which is surprising, since this is a key role of all health care professionals, however this may have been included through another theme identified – that of working with others (Alexander, Craft, Baldwin, Beers & McDaniel, 2002).

Several studies required students to include academic pieces of work within their portfolio (Alexander et al, 2002; Altahawi et al, 2012; Dolan et al, 2004; Elango et al, 2005; Gordon, 2003; Heijne et al, 2012; Kalet et al, 2007; Lonka et al, 2001). It could be argued that if the portfolio is to be reflective of the student's complete learning throughout a programme of study, then academic representation through assignments, presentations and examination feedback needs to be included. However, academic components alone, as in the case of Heijne et al (2012) do not allow for a clear demonstration of the process of learning or the application of that development to the clinical situation, which is key for those studying on health professional courses (Rauk, 2003).

Many of the portfolios contained checklists or documents, including references or letters of appreciation, curriculum vitae, checklists of competencies and records of absence and summaries of meetings (Alexander et al, 2002; Dolan et al, 2004; Haffling et al, 2010; Lonka et al, 2001). Learning agreements, personal development plans, or strengths-weaknesses-opportunities-threats (SWOT) analyses were included by many authors (Altahawi et al, 2012; Cross, 1997; Driessen et al, 2003; Funk, 2007; Kalet et al, 2007; Thompson & Farrow, 1999),

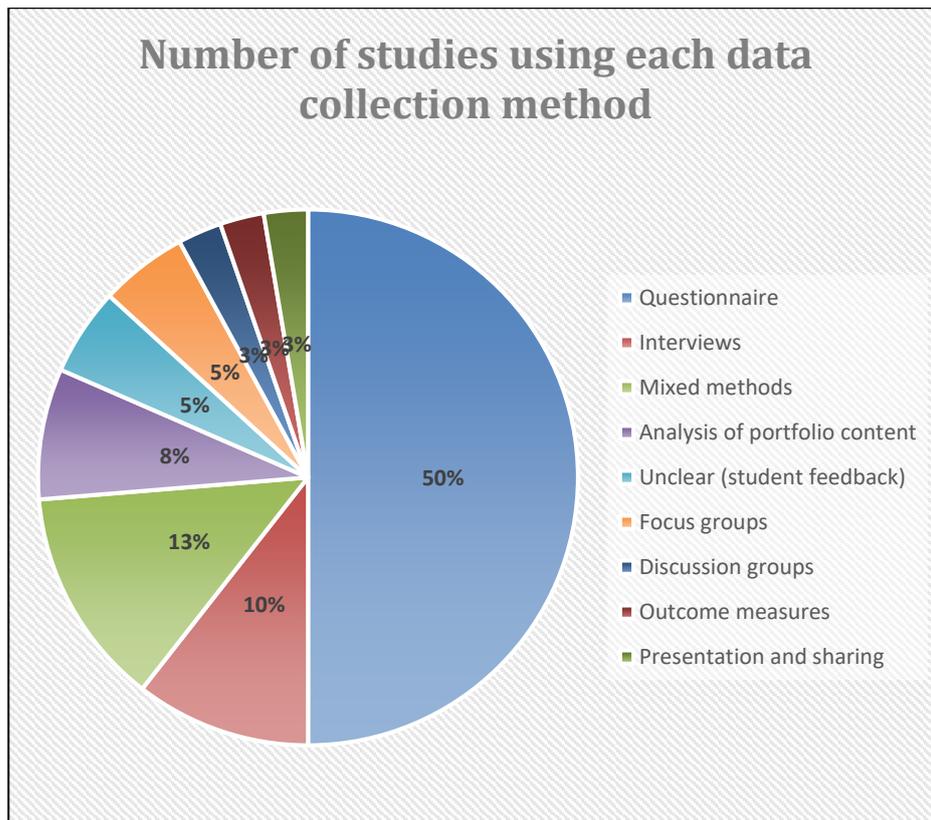
which require the student to have self-awareness to identify their strengths and weaknesses and set goals, promoting a deeper level of learning.

Reflection or reflective writing was a required component in 13 of the portfolios described (Advani et al, 2014; Belcher et al, 2014; Bradley & Schofield, 2014; Cross, 1997; Gordon, 2003; Graham & Megarry, 2005; Haffling et al, 2010; Kalet et al, 2007; Mubuuke et al, 2010; Nairn et al, 2006; Stuart, 2004; Thomson & Farrow, 1999), while it was an option, if students wished to include it, in the portfolio described by Gomez, Ostos, Solano & Salado (2013). Interestingly, three of the seven studies listing reflection as an aim or purpose of the portfolio did not include reflection in the content of their portfolio (Austin & Braidman, 2008; Dolan et al, 2004; Fung et al, 2000), leading the reader to question how the student was expected to achieve this outcome. Topics of reflection were not clearly specified in the research, although there is mention of reflection on learning or learning experiences, weekly learning reflections, and reflection on development. The content related to patient/client experiences, ethical issues, and working with others may have been in the format of a reflection, although this is not explicitly stated.

In summary, the structure and format of many of the portfolios was poorly described in the research, but where these were able to be determined, there are questions raised about levels of standardisation and the balance of this with the flexibility inherent in the philosophy of portfolio building. As expected, many of the portfolios based their structure on professional standards, but this raises challenges for students if these standards are vague or non-specific. The format of most of the portfolios described seemed to fit either the shopping trolley or toast rack models described by Webb et al (2002) (see Chapter Two, Figure 2.5), with content being highly variable and not always linked to the portfolio aims, which could be confusing or demotivating for students.

### 3.6.3 – Subtopic three – Student Perceptions and Attitudes towards Portfolios

As mentioned above, 38 papers provided either quantitative and/or qualitative data regarding students' perceptions and attitudes to portfolios. A range of data collection methods were used to obtain students' perceptions and attitudes towards their portfolios. Some studies used more than one method to collect student views and opinions. There was no professional bias towards any data collection method (see Figure 3.13 for distribution of methods used). Data collection by the two Physiotherapy studies was by differing methods, with Cross (1997) undertaking a discussion session with 37 students, and Heijne et al (2012) using a questionnaire, to which 315 students responded (91% of total numbers).



**Figure 3.13 – Data Collection Methods Used.**

<b>FAMILIARISATION</b>
<ul style="list-style-type: none"> <li>•listing key ideas and recurrent themes</li> <li>•gaining a feel for the material as a whole</li> </ul>
<b>CONSTRUCTING THE THEORETICAL FRAMEWORK</b>
<ul style="list-style-type: none"> <li>•from original research aims</li> <li>•from emergent issues from the data</li> </ul>
<b>INDEXING</b>
<ul style="list-style-type: none"> <li>•highlighting areas of text relating to the framework and coding this in relation to the framework</li> <li>•expansion of framework to include sub themes as these emerge from the data</li> </ul>
<b>CHARTING</b>
<ul style="list-style-type: none"> <li>•lifting the data from the original context and putting it all together with information under the same theme or sub-theme from other sources</li> </ul>
<b>MAPPING AND INTERPRETATION</b>
<ul style="list-style-type: none"> <li>•process of synthesis of findings to make sense of the data</li> <li>•may include - the range and nature of phenomena, associations between themes/sub-themes, include provision of explanations</li> </ul>

**Figure 3.14 – Process of Qualitative Data Analysis (Bryman & Burgess, 1994).**

The quantitative and qualitative data generated from the 38 studies was large in volume and covered many different topics. The data was analysed following a process described by Bryman and Burgess (1994) and depicted in Figure 3.14.

During previous reading and from the initial review process, several broad themes were identified. Based on this general reading and initial overview of the literature, a basic

framework of major subjects (topics) was identified and formulated into the diagram in Figure 3.15. During closer analysis and critical evaluation of the studies, the data was subdivided under these themes into subtopics, and relevant sections of text from the studies was charted, so that similar content was collected together to allow mapping and interpretation of the findings.



**Figure 3.15 – Themes Emerging from Analysis of Qualitative and Quantitative Data.**

In general terms, students chose, or were asked, to collect or to write about many different topics within their portfolios, and these are reflected within the comments made or answers given during the data collection processes. Comments from the two physiotherapy specific papers (Cross, 1997; Heijne et al, 2012) were limited, and no strong conclusions can be drawn

from these with regards to the themes that emerged. Comments made under each theme were from across the professions, and no areas were highlighted as being specifically from one professional group of students. Most studies highlighted both positive and negative findings from students with regards to their portfolios.

### *3.6.3.1 – Learning*

Many of the studies reported on whether students had found the portfolio a useful learning experience. Thirteen studies gave positive results in terms of this, whilst ten studies reported negatively. More specifically, mixed comments were received in terms of the effect of the portfolio on the students' approach to learning. Some studies commented specifically on an adult learning approach and the positive effect of the portfolio on this (Cross, 1997; Elango et al, 2005; Fung et al, 2000; Heijne et al, 2012; McMullan, 2008) and Altahawi et al (2012) reported that students viewed learning as an opportunity rather than a mandate following the use of the portfolio. Contrastingly, several studies reported opposite findings, that the portfolio did not enhance learning or motivate students to learn (Belcher et al, 2014; Bradley & Schofield, 2014; Funk, 2007; Mitchell, 1994). Students in the study by Mitchell (1994) went so far as to report that the portfolio impeded their learning because they had to dedicate so much time to its completion. It is unclear why there is this lack of consensus between the studies. There appears to be no consistency in terms of aims, purpose or structure between those studies finding the portfolio had a positive effect in terms of the development of adult learning skills, with a range of structured and unstructured formats, some being very clinically focussed and completed during placements, with others being purely academic. Equally, it could be argued that the process of submission and formative feedback influenced students in their learning approach, but this was only undertaken in one study, with the others all being summatively assessed. There also seem to be no similarities between the studies finding the portfolio did not enhance learning or motivation which could explain this, with one taking a very unstructured and student led approach, another being very structured and the other being a collection across a full undergraduate programme with reflective summaries. It could be argued that the portfolios may have been developed without a clear understanding of the theoretical underpinning of portfolio learning, resulting in this lack of clarity as to why some portfolios stimulate and motivate students to learn independently using adult learning techniques, and others do not.

There were mixed opinions from students as to whether the portfolio helped them to integrate their learning. Several studies stated that the portfolio encouraged students to use supporting reading or look at theory and evidence (Ashcroft & Hall, 2006b; Clarke, Cortis &

Sowter, 2011; Corcoran & Nicholson, 2004; Mitchell, 1994) although Grant, Vermont, Kinnersley & Houston (2007) found contrasting evidence on this. Several studies also reported students found the portfolio helped to bridge the gap between theory and practice (Clarke et al, 2011; Coffey, 2005; Corcoran & Nicholson, 2004; Thompson & Farrow, 1999; Urish, 2005) but two-thirds of 239 respondents in the study by Taylor, Stewart & Bidewell (2009) found the portfolio did not help with this, and McMullan (2008) reported students found the portfolio made the theory-practice gap wider. Three studies reported that students were more able to see the relevance of new academic learning following completion of portfolios during placements (Bradley & Schofield, 2014; Altahawi et al, 2012; Ashcroft & Hall, 2006b), although this may be more to do with the clinical experience, and having real situations to attach classroom learning to, rather than the actual portfolio activity during the placement.

It is unsurprising that more of the research on the use of portfolios in undergraduate study relates to learning, since student portfolios appear to have a different function to those used in clinical practice. In undergraduate courses, portfolios are often used as tools to aid student learning (Baume, 2003; Grant & Huebner, 1998; Oermann, 2002), whilst for health professionals they are more often used as tools to record learning. Whether this should be the case is a matter for debate, and something that this thesis aims to explore further.

#### *3.6.3.2 – Self-awareness and planning*

Very few studies commented on whether the use of a portfolio improved self-awareness (Grant et al, 2007; Urish, 2005), which is surprising as Jack and Smith (2007) suggest that this is one of the key learning outcomes of reflection and portfolio development, although perhaps this reflects the fact that development of self-awareness was rarely an aim for the portfolios described. Several studies found that the portfolio increased students' ability to identify their strengths and weaknesses (Altahawi et al, 2012; Ashcroft & Hall, 2006a; Bradley & Schofield, 2014; Driessen et al, 2003; Elango et al, 2005; McMullan, 2008), with only one study contradicting this (Mitchell, 1994). Interestingly, none of the studies which identified development of self-awareness or ability to describe strengths and weaknesses as one of their portfolio aims, evaluated whether students perceived this to be something that had been achieved through portfolio use (Alexander et al, 2002; Alvarez & Moxley, 2004; Graham & Megarry, 2005; Kalet et al, 2007; Nairn et al, 2006; Thompson & Farrow, 1999). This is a weakness within the studies, that often their aims at outset were not evaluated through their data collection processes.

Four studies reported that the portfolios helped students to identify their future goals, objectives or learning needs (Driessen et al, 2003; Eggelton, Wright, Parr, Norris & Christou,

2011; Schaffer, Nelson & Litt, 2005; Urish, 2005), with two studies providing contrasting evidence (Elango et al, 2005; Kalet et al, 2007). In a study examining motivation of students to maintain a more extensive portfolio than that required by their programme of study, Deketelaere, Kelchtermans, Druine, Vandermeersch, Struyf & De Leyn (2007) found that students who were able to choose their own goals for their portfolios were more motivated than those who had to achieve goals set by the course, and this may link with the fact that planning can be affected by motivation, self-awareness, values and beliefs. This may also link to the impact of structure and format that will be described later.

### *3.6.3.3 – Reflection and thinking skills*

There were many comments from the students regarding the process of reflection and reflective writing. Students in most of the studies reporting on this found the process of reflection challenging but worthwhile and commented that the portfolio increased their reflective skills (Altahawi et al, 2012; Ashcroft & Hall, 2006b; Bradley & Schofield, 2014; Brennan & Lennie, 2010; Corcoran & Nicholson, 2004; Cross, 1997; Dolan et al, 2004; Eggelton et al, 2011; Elango et al, 2005; Funk, 2007; Gomez et al, 2013; Grant et al, 2007; Lonka et al, 2001; Timmins & Dunne, 2009). Only two studies found that students did not feel that the portfolio had encouraged reflection (Bush & Bissell, 2008; Taylor et al, 2009). Overall this is encouraging, that despite the challenges of reflection, students who did engage with the process found this to be beneficial on several levels.

Comments related to reflective writing were generally less positive. Only two studies reported positive comments from students about reflective writing (Clarke et al, 2011; Haffling et al, 2010). Timmins and Dunne (2009), found that 84% of student reflections were confined to description, while Schaffer et al (2005) found that students did not know how to complete their reflective writing. This was supported by Belcher et al (2014), whose students felt that reflective writing was artificial, and only for the portfolio.

Overall, the portfolios did encourage students to think differently (Cross, 1997), improved critical thinking skills (Bradley & Schofield, 2014; Funk, 2007; Schaffer et al, 2005; Thompson & Farrow, 1999), encouraged lateral thinking (Ashcroft & Hall, 2006b) and increased students' awareness of their decision-making processes (Gordon, 2003). Only one study found that students did not feel the portfolio had changed the way they thought when encountering problems (Elango et al, 2005). One study (Grant et al, 2007), found that students were more stimulated to think if they were able to choose what they reflected on, and this authors' personal experiences suggest that depth of student reflection is greater when they are given freedom to reflect on situations that have led to questions, rather than on topics prescribed by

the portfolio structure. This also links with the findings of Deketelaere et al (2007) above, regarding student choice. Cognitive learning represents the thinking processes that students possess, and the development of these from simple rote learning or memorising, to the ability to synthesise and create new meaning from their knowledge and experiences reflects moving from a tutor-led to SDL style. As such the portfolio, if well designed, should be well placed to enable students to progress from simpler thinking mechanisms to those at a higher level (Jones & Shelton, 2011).

#### *3.6.3.4 – Skill development*

Portfolios are often used as a record of the development of skills or of competence to perform a particular role (Andre & Heartfield, 2011), however the results of only 2 studies supported this (Eggelton et al, 2011; Urish, 2005). Altahawi et al (2012) found that even though competencies formed the structure of the portfolio, students hardly addressed these in their content.

By its nature, the portfolio is not a learning task in which the students develop physical skills involving complex motor patterns or co-ordination. While students commented on their achievement of competencies (Eggelton et al, 2011; Urish, 2005), and inclusion of evidence of this featured highly within the content of the portfolios, this does not suggest that the portfolio is allowing the student to gain these skills, but only to use it as a mechanism for demonstrating development in this area.

It could be argued, however, that competence is not only about the development of psychomotor skills and the ability to perform certain tasks. Clinical competence is defined as “performing within the legal scope of defined practice, following standards or principles that satisfy the demands of the given situation,” (Medical Dictionary for the Health Professions and Nursing, 2012), while professional competence has been defined as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and the community being served” (Epstein & Hundert, 2002). Both definitions suggest that competence involves the development of cognitive, affective and interpersonal skills, alongside gaining knowledge, all of which can be developed using a portfolio. Perhaps, therefore, the issue is that students hear the term competence, and assume this refers to psychomotor skills, rather than competence as defined above.

### 3.6.3.5 – Professional aspects

In terms of the development of professional skills and attributes, the portfolios received mainly negative reviews by students, both in terms of its ability to help them to develop professional skills and attributes (Kalet et al, 2007; Taylor et al, 2009; Urish, 2005), but also as a means of demonstrating these to others (Brennan & Lennie, 2010; Kalet et al, 2007). Comments regarding the use of the portfolio to stimulate students to take responsibility for their own learning were limited, but wholly positive (Bradley & Schofield, 2014; Brennan & Lennie, 2010; Funk, 2007), as were the three studies reporting student comments regarding motivation to learn and desire for LLL (Coffey, 2005; Fung et al, 2000; Funk, 2007). However, when considering the influence of the portfolios on practice, responses were mostly negative (Bradley & Schofield, 2014; Corcoran & Nicholson, 2004; Dolan et al, 2004; Taylor et al, 2009; Timmins & Dunne, 2009). These reflect the comments made by healthcare professionals earlier in this chapter, with portfolios not improving delivery of care, or helping to develop understanding of practice, and some students were unsure of the practical relevance of the portfolio (Timmins & Dunne, 2009).

Many of the findings could relate to the structure and requirements of the individual portfolios, however this does not appear to be the case. Of the five studies providing only positive comments related to professional aspects (Ashcroft & Hall, 2006b; Coffey, 2005; Elango et al, 2005; Fung et al, 2000; Funk, 2007), description of the portfolios is not given by two studies, so comparison is difficult. Two of the studies were, however, undertaken in post-graduate students (Coffey, 2005; Fung et al, 2000), who were studying for at least one-year full time. It could therefore be argued that exposure to the working environment had already increased their awareness of professional skills and attitudes, therefore making them more able to answer favourably in terms of the portfolios' influence on this. This does not explain the positive comments relating to professional aspects from the undergraduate studies, and no similarities can be found between these in terms of aims, purpose or structure of their portfolios, with one being purely clinical, another being academically focussed, and the final study giving no detail. Of the three studies providing both positive and negative data about professional aspects (Bradley & Schofield, 2014; Brennan & Lennie, 2010; Corcoran & Nicholson, 2004), again, little similarity can be found in terms of aims or structure.

Of the studies providing only negative data regarding the professional aspects (Dolan et al, 2004; Kalet et al, 2007; Taylor et al, 2009; Timmins & Dunne, 2009; Urish, 2005), some similarities are apparent. All five studies investigated the use of portfolios in undergraduate programmes, and all except one study (Urish, 2005; n=6) had large numbers of participants (n

=100 to n=230). Four of the five portfolios described were structured in their format with clear description of what students needed to include and the learning outcomes they were trying to achieve through using the portfolio (Dolan et al, 2004; Kalet et al, 2007; Taylor et al, 2009; Urish, 2005), with one study giving no detail on either aims or structure (Timmins & Dunne, 2009). It could be that the structured nature of these portfolios did not allow students to see how their development of the professional aspects of their respective courses could be achieved, although surprisingly, one study's portfolio was designed to specifically support professional growth and development (Kalet et al, 2007).

#### *3.6.3.6 – Emotional aspects*

From an emotional perspective, students reported both benefits and drawbacks to the portfolio process. Positive comments related to development of coping strategies (Gordon, 2003; Nairn et al, 2006), feeling proud of achievements (Taylor et al, 2009; Urish, 2005), and gaining a clearer understanding of their values (Gordon, 2003). Negative comments related to the portfolio making them feel diminished or insulted (Kalet et al, 2007) and did not build their confidence (Brennan & Lennie, 2010). Two papers provided contrasting views on the portfolio's ability to help students deal with ethical issues, (Gordon, 2003; Nairn et al, 2006), and only 30% (n=143) of student in the study by Elango et al (2005) said they liked writing the portfolio.

Two key negative themes emerged from the data in this area. Firstly, students in many of the studies reported feeling stressed or anxious about the portfolio process (Bradley & Schofield, 2014; Elango et al, 2005; McMullan, 2008; Mitchell, 1994; Ross, Maclachlan & Cleland, 2009; Taylor et al, 2009; Timmins & Dunne, 2009; Urish, 2005). It is difficult to determine why this was the case, although later discussion relating to the level of support and guidance may be linked to this. Equally, many of the portfolios were assessed, and this alone could have created increased anxiety, as with any form of assessment for a student (Chamberlain, Daly & Spalding, 2011). The second area highlighted by many of the studies, and again potentially linked to the fact that the portfolios were assessed, was that of honesty. Many students commented that they did not feel they could write honestly within their reflections, as they did not want to be judged by those reading them (Heijne et al, 2012; Mitchell, 1994), or they felt that the assessment process had limited the developmental benefit of reflection because they did not do this as critically or as honestly (Belcher et al, 2014; McMullan, 2008; Ross et al, 2009; Timmins & Dunne, 2009). One author found that students wrote what they thought the tutor wanted to read (Schaffer et al, 2005); this demonstrates that students are eliciting social desirability bias. Social desirability bias suggests that respondents to surveys will give the

answer that they think is most acceptable, rather than an honest answer, if this may show them in a bad light (van de Mortel, 2008; Nederhof, 1985). However, although the comments from Schaffer et al (2005) suggest that students wished to produce reflections that would be acceptable to the tutor, there appears to be no research suggesting that assessment processes produce social desirability bias in student submissions.

These comments clearly demonstrate the vulnerability felt by students because of the process of judgement or assessment, and again, is something to consider in terms of the support and guidance provided as part of the portfolio process. It was also something to take into consideration when undertaking the investigative part of this thesis, as students from the author's own institution or colleagues from a previous clinical work place, may have been influenced by social desirability bias. On this basis, these two sites were used as pilot sites and not included in the data collection process.

#### *3.6.3.7 – Practicalities*

The process of compiling a portfolio raised many comments from students in all the studies. These linked quite closely to the structure of the portfolio and often reflected the level of guidance and support provided by tutors for the portfolio process. Students in several studies reported the need for clearer guidance and more information about how to construct their portfolios (Ashcroft & Hall, 2006a, 2006b; Bradley & Schofield, 2014; Brennan & Lennie, 2010; Coffey, 2005; Elango et al, 2005; Haffling et al, 2010; McMullan, 2008; Nairn et al, 2006; Taylor et al, 2009; Timmins & Dunne, 2009), although three studies reported that students criticised the guidelines provided as being too prescriptive and structured, leaving no freedom to be original and creative (Cross, 1997; Heijne et al, 2012; Urish, 2005). Only one study's portfolio seemed to hit the right balance between providing a clear picture of what was expected but being given the freedom to do this in a personal way (Driessen et al, 2003).

Many studies commented on the time taken to complete the work, and the volume of paperwork required for the portfolio, with the majority of these being negative (Altahawi et al, 2012; Brennan & Lennie, 2010; Coffey, 2005; Corcoran & Nicholson, 2004; Cross, 1997; Grant et al, 2007; Haffling et al, 2010; Heijne et al, 2012; Lonka et al, 2001; McMullan, 2008; Mitchell, 1994; Murphy et al, 2011; Ross et al, 2009; Schaffer et al, 2005; Taylor et al, 2009; Timmins & Dunne, 2009) . This was an issue with both studies investigating portfolio use in Physiotherapy education, with Cross (1997) reporting students found the portfolio poorly designed, demanding too much input and work which was demotivating, and Heijne et al (2012) finding a high workload during the semester in which the portfolio was completed. These comments relate back to the fact that the portfolio of Cross (1997) was not designed for undergraduate

students, and that of Heijne et al (2012) being a collection of three assignments, as described previously. Murphy et al (2011) found that the time spent on the portfolio did not correlate with the overall perceived benefit of the process. Only one study found that students were happy with the amount of paperwork (Ashcroft & Hall, 2006a).

Students questioned the value of the portfolios in several studies (Belcher et al, 2014; Bradley & Schofield, 2014; Corcoran & Nicholson, 2004; Gomez et al, 2013; Grant et al, 2007; Taylor et al, 2009; Urish, 2005) and gave it a low priority in comparison with other work to be completed (Cross, 1997; Dolan et al, 2004). One study found that the students thought the portfolio was uninteresting (McMullan, 2008). Lonka et al (2001) found students lost interest in the portfolio as the course progressed, and Nairn et al (2006) also found students were less positive about the merits of the portfolio if they were nearer to the end of their studies. This is interesting, as it could be assumed that students would become more focussed on completing their portfolios to use these during interviews for employment. However, perhaps this also reflects the students' perceptions of the lack of clinical relevance of the portfolios as previously discussed. This may be supported by the findings of Belcher et al (2014), whose students reported that a lack of engagement with portfolio development by qualified clinical staff devalued the portfolio process for them, reflecting comments in the study by Gunn and Godling (2009) in qualified physiotherapists, where lack of interest from colleagues resulted in demotivation. Cross (1997) found that students thought that a large proportion of the portfolio was irrelevant, but again this could link back to its design for use with qualified physiotherapists and not students. Students in two studies, however, did value the portfolio as they felt that constructing it and documenting their learning over time helped them to realise the progress they had made (Coffey, 2005; Funk, 2007).

Student comments from some studies reflected their feelings that the portfolios should not be assessed (Brennan & Lennie, 2010; Coffey, 2005). This was partly because they missed the reinforcement of getting grades to identify whether they were learning enough (Altahawi et al, 2012), but also because they questioned the validity of the assessment process, as they could not see how the assessors could be consistent when each portfolio was unique (Eggelton et al, 2011; Ross et al, 2009). This was supported by tutor comments in two studies (Corcoran & Nicholson, 2004; Eggelton et al, 2011). Several of the portfolios described in the literature were assessed but not graded, students achieving a pass/fail mark for their work, and this could contribute to devaluing the portfolio as a means of assessment, as well as stimulating negative comments relating to the balance of the volume of work, when it carries no grade.

Many studies however, found that students did like the portfolio as a means of assessment, and found it preferable to another form of assessment such as an examination or traditional essay. Students in some studies (Bradley & Schofield, 2014; Gordon, 2003) also commented positively on the flexibility and creativity a portfolio assessment allowed, although Mitchell (1994) found that students did not take advantage of the freedom that should be inherent in the philosophy of portfolio development. Heijne et al (2012) found that their Physiotherapy students liked the portfolio as a means of assessment, but this may be because it was a collection of assignments and therefore they were comfortable with this type of work.

It is reassuring that overall students thought the use of the portfolios had prepared them for future CPD requirements and encouraged them to develop organisational skills (Advani et al, 2014; Ashcroft & Hall, 2006a, 2006b; Belcher et al, 2014; Brennan & Lennie, 2010; Dolan et al, 2004; Eggelton et al, 2011; Funk, 2007; Ross et al, 2009; Urish, 2005). Unfortunately, none of the studies investigated whether there was carry over of this to the working professional environment, and this is one of the key research questions of this thesis. Only one study found that students did not feel the portfolio had helped in terms of organisational skills (Ashcroft & Hall, 2006b), and only one study showed that students did not link the use of the portfolio for their course as a tool to be used for their CPD (Corcoran & Nicholson, 2004). This is particularly surprising since this study was conducted in post-graduate nurses returning to study a specialist area for one year, who should have greater awareness of the need for continuous recording of CPD activities and the requirement for demonstrating this as part of on-going professional practice. Belcher et al (2014) found that students using a portfolio that mirrored one used by qualified doctors had allowed the students to become embedded in the culture of the profession, however this was mainly through sharing frustrations over the portfolio process with colleagues.

### **3.7 – Conclusion**

In conclusion, it is difficult to determine how much CPD is undertaken by health professionals, due to differences in how CPD is measured and the confusion between CE and CPD between professions, although staff in middle grades are less likely to undertake CPD than either newly qualified staff or those in specialist roles. It is worrying that some health professionals report no CPD activity.

The CPD that is undertaken varies widely but can be described broadly as either work-based activities, non-work-based activities or activities that could take place either in or out of the workplace. Generally, more experienced health professionals or lone workers tend to prefer external formal learning experiences, while newly qualified staff see the benefit of work-based

learning opportunities. Physiotherapists' CPD tends to be influenced by geography and level of experience, while nurses favour work-based CPD and doctors and pharmacists prefer formal learning experiences such as conferences and post-graduate study.

Ten clear perceived benefits of CPD have been identified by health professionals from the literature, with improving knowledge and skills and keeping up to date the most commonly stated. Seven barriers to engaging with CPD emerged from the studies, with the most prominent of these being the impact of lack of time for CPD both within work hours and outside of work. Attitudes towards CPD seem to change depending on whether there is scope for career progression. It appears that despite the move to mandatory CPD for many professions as part of registration, there is yet to be a culture shift to support this in the workplace, coupled with ever-increasing pressures to maintain efficiency.

It appears that mandatory CPD, which was generally well supported by the literature, falls into the sanctions model of CPD as described by Jones and Jenkins (2006) (see Chapter Two, Figure 2.4). However, health professionals within the studies were less supportive of the application of sanctions, such as withdrawal of membership, if the required CPD was not achieved. There is evidence in the literature to suggest that health professionals adopt an obligatory model of CPD (Jones & Jenkins, 2006), where they feel that part of being a professional is to be committed to undertake CPD, and that they would engage with this without the requirements for sanctions to be applied. However, DH drivers are pushing health care workers to be able to evidence their effectiveness through an output-based model (Jones & Jenkins, 2006) and so the challenge to provide evidence of the impact of CPD on the service and service user remains.

In terms of health professionals' use of portfolios, some conclusions can be drawn. Portfolios seem to be used more as repositories of evidence, using the shopping trolley model described by Webb et al, (2002), (Chapter Two, Figure 2.5), rather than as tools for learning. The lack of guidance provided by many regulatory and professional bodies was a major demotivating factor for using a portfolio across the professions, alongside a lack of time for completing portfolio entries. Some studies found that using a portfolio encouraged reflection in users, but others felt they could reflect without the need for writing this down. Most recent graduates appear to be better at recording CPD than those who have been qualified for longer periods of time. The portfolio did not appear to be valued by health professionals, as they felt it could not represent the totality of them as a professional, did not demonstrate their competence in the skills required in their role and did not lead to a change in their practice.

In terms of the student portfolios, it can be concluded that the aims of these portfolios were varied and not always appropriate for a learning portfolio, while structure and format were difficult to determine in many cases. The content of the student portfolios varied widely and was not always linked to the aims of the portfolio, for example, reflection as an aim but reflection not a required component of the portfolio. There were variations seen in the literature for the basis of the portfolios described, including programme or module learning outcomes and professional standards.

The purpose of the portfolio, and its structure seem to emerge as being a key influence over the learning that occurs through using a portfolio and student attitudes towards it as a learning tool (Driessen et al, 2003). Lack of structure or too much structure both seem to pose problems for students and hinder the learning process, while the nature of learning outcomes or aims seemed to reduce motivation, create large volumes of work for students to complete, or limit their ability to see the potential for deep learning using the portfolio. There also seems to be conflict arising between the need for academic processes to be rigorous and transparent, while the portfolio needs to maintain the inherent flexibility and freedom intended by this learning method.

When summarising the findings related to student's views of portfolios, these are very variable, with some areas receiving generally positive comments, and others receiving generally negative comments. Strongly positive comments related to identification of strengths and weaknesses and identifying goals, development of reflective and thinking skills, taking responsibility for own development and developing the skills required for future CPD and LLL. Strongly negative comments related to reflective writing, development of competence and professional skills and attributes, the limited influence of the portfolio on practice, difficulties with stress, anxiety and the ability to be honest in portfolios, as well as levels of guidance, the time required to complete the portfolio and overall limited perceived value of the portfolio. Subjects receiving mixed views from students included the portfolio as a learning and assessment tool and the ability to learn from practice or link theory to practice through portfolio use.

Because there was no literature that evaluated the impact of a student portfolio on health professionals' motivation to engage with CPD, the literature review has not directly helped to answer the research question.

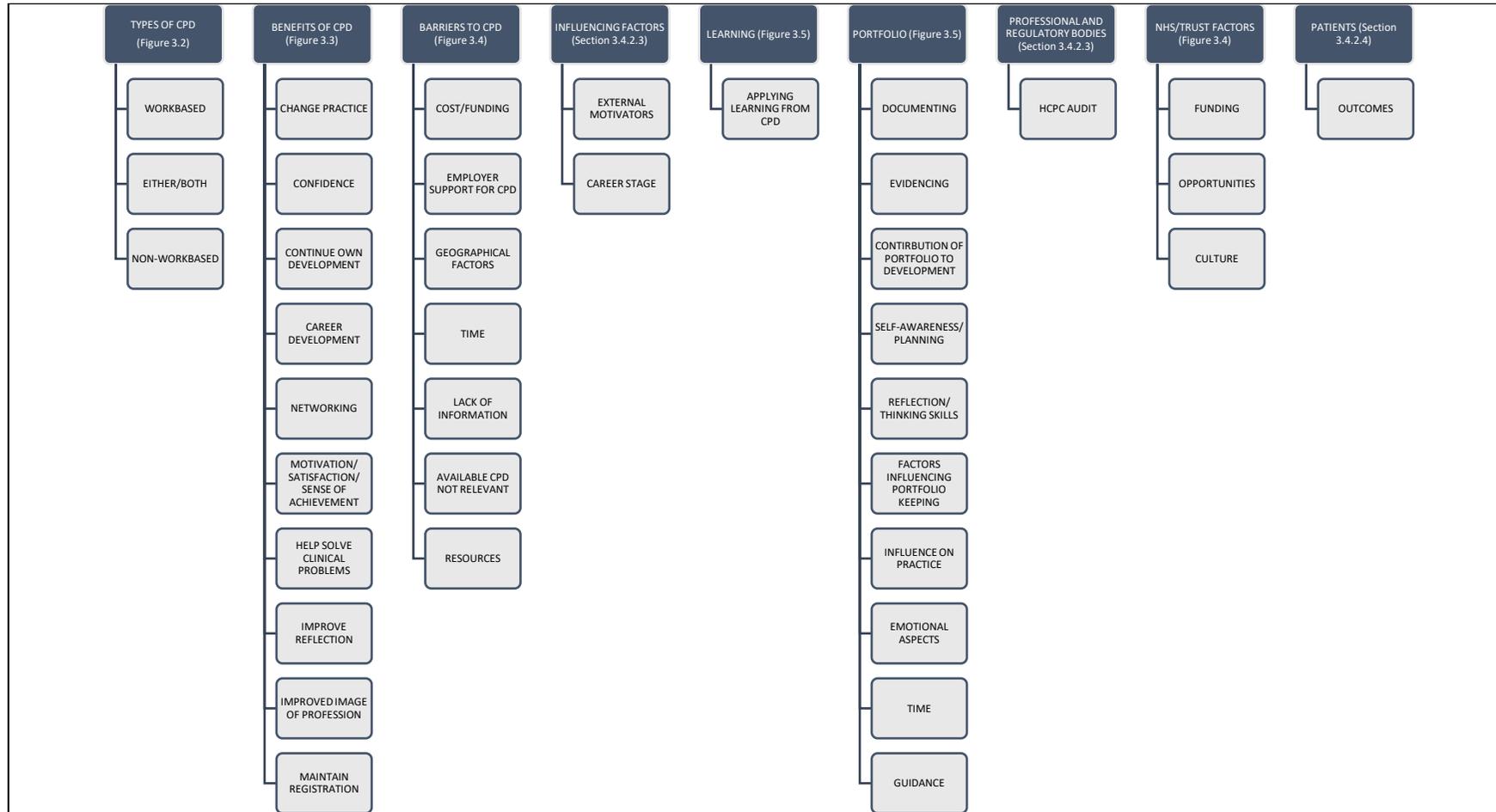
Two thematic frameworks have been created from the literature review, focussing on the attitudes and perceptions of the participants in the studies reviewed to using portfolios, CPD and LLL. Thematic framework HP (health professional data) summarises types of CPD activities,

benefits of and barriers to CPD, as well as the factors influencing engagement with and motivation for CPD and LLL. Thematic framework S1 (student data) has a greater focus on attitudes to portfolios, as the student literature did not specifically ask questions about attitudes to LLL. These frameworks will be used as part of the analysis process in the investigative phase of this research (see Figures 3.16 & 3.17).

From the literature review, research objectives 2 and 3 (set at the end of Chapter Two), have been broken down to make the research objectives for the investigative part of this thesis more specific –

2. To explore the motivations of physiotherapists towards CPD, LLL and portfolio use
  - a. What are the influences of completing a student portfolio, and the structure of the student portfolio on physiotherapists' motivation towards CPD, LLL and using a portfolio?
  - b. What other factors influence physiotherapists' motivations towards CPD, LLL and using a portfolio?
3. To explore the motivations of student physiotherapists towards CPD, LLL and portfolio use
  - a. How does a student CPD portfolio influence students' motivation towards CPD, LLL and portfolios?
  - b. What other factors influence students' motivation towards CPD, LLL and portfolios?

These objectives will be investigated using the methodology which will be described in Chapter Four, and through the processes described in Chapter Five.



**Figure 3.16 – Thematic Framework HP – Health Professionals’ Attitudes to and Perceptions of Portfolios, CPD and LLL – Summary of Findings from the Literature**

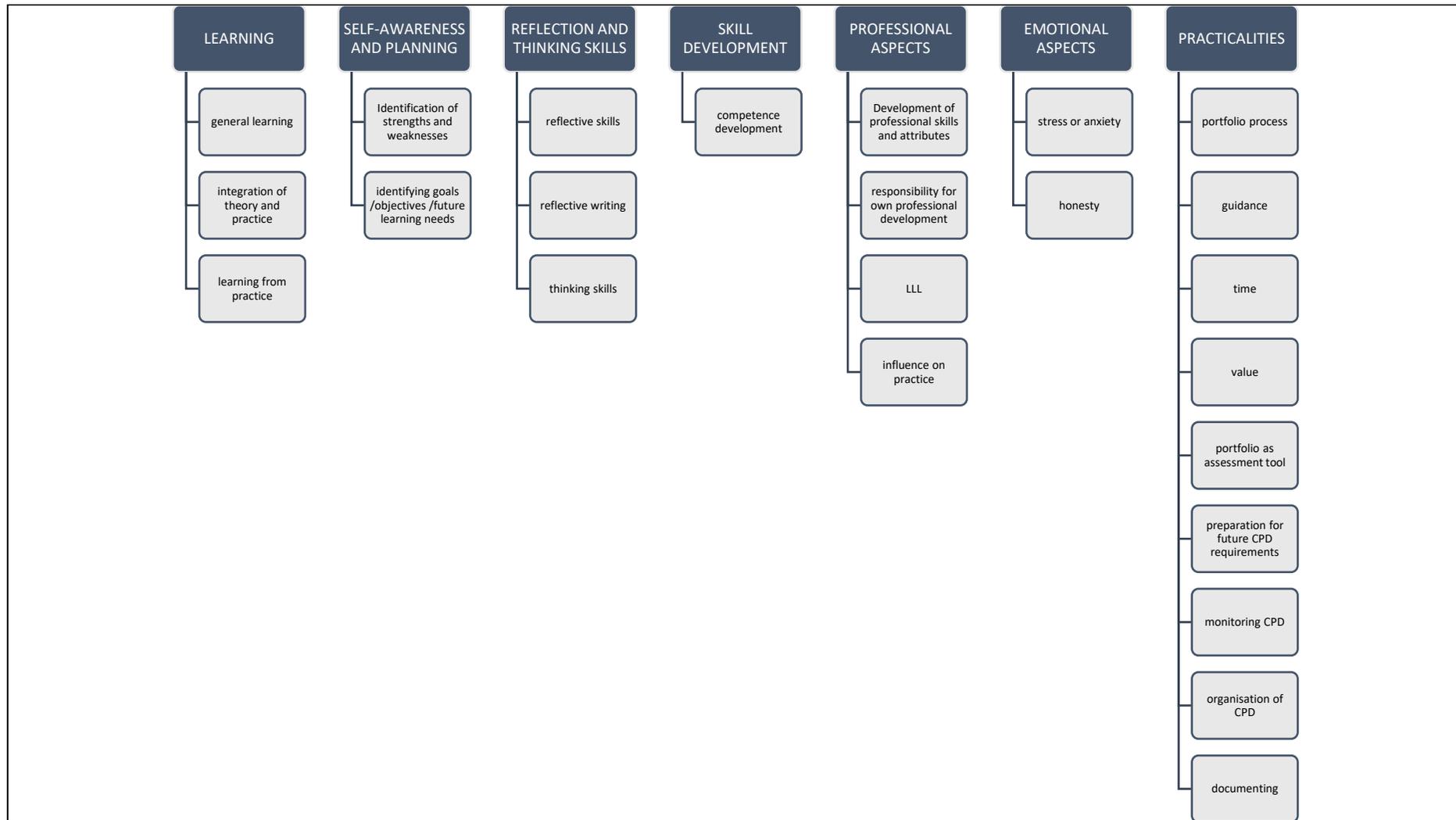


Figure 3.17 – Thematic Framework S1 – Student Attitudes to and Perceptions of Portfolios, CPD and LLL - Summary of Findings from the Literature



## CHAPTER FOUR – METHODOLOGY

### **4.1 – Introduction**

In Chapter Two the reader was introduced to CPD, portfolios, skills for LLL, and the underpinning theories for adult learning, learning styles and motivation. Chapter Three critically reviewed the literature relating to healthcare professionals' activity and attitudes and motivation towards CPD and portfolios, and the research regarding pre-registration health professionals' use and attitudes towards student portfolios. This chapter will theoretically explain the concepts of ontology, epistemology and research design (methodology and methods) and then discuss these in the context of the research question and objectives, justifying the choices that were made from a philosophical perspective, as well as explaining why other methods of enquiry were not chosen.

It is crucial to understand the underpinning philosophical assumptions and positionality of the researcher when making methodological decisions about how to answer a research question. The nature of the question will guide the researcher's position, and help to determine the philosophical approaches, including the ontology, epistemology and research paradigm, adopted. In return, clarification of the underpinning philosophy allows decisions to be made about the methodology and methods that are appropriate for the aims and objectives of the research study (Jackson, 2013). Patton (2012) suggested that methodological appropriateness is about ensuring that the design matches the situation and the context, but also takes into consideration the costs and benefits of alternative designs, ethical considerations and utility.

### **4.2 – Ontology, Epistemology, and Research Paradigms**

Ontology is the philosophical study of the nature of reality, and there are two basic ontological positions – objectivism and constructivism. Objectivists believe that there is a single reality, that exists outside of or independent from those who exist in it, while constructivists believe that there are multiple realities, which are created and given meaning by those who exist in them (Bryman, 2008; Jackson, 2013).

Epistemology is the philosophical study of knowledge and how we come to know things, or “the grounds on which we believe something to be true” (Oliver, 2010, p35). There are two basic epistemological positions – positivism and interpretivism. Positivists take a scientific approach to finding knowledge, try to be as objective and neutral as possible, testing hypotheses, manipulating and measuring variables and draw conclusions based on this research (Thomas, 2009). Fundamentally, those with an objectivist ontology, believe that knowledge can be obtained from objective observation – a positivist epistemology. On the

other hand, interpretivists believe that knowledge is produced by understanding how the social world is created and by exploring people's meanings and interpretations of their world (Ritchie, Lewis, McNaughton Nicholls & Ormston, 2014). Fundamentally, those with a constructivist ontology, believe that knowledge is created and interpreted individually – a interpretivist epistemology.

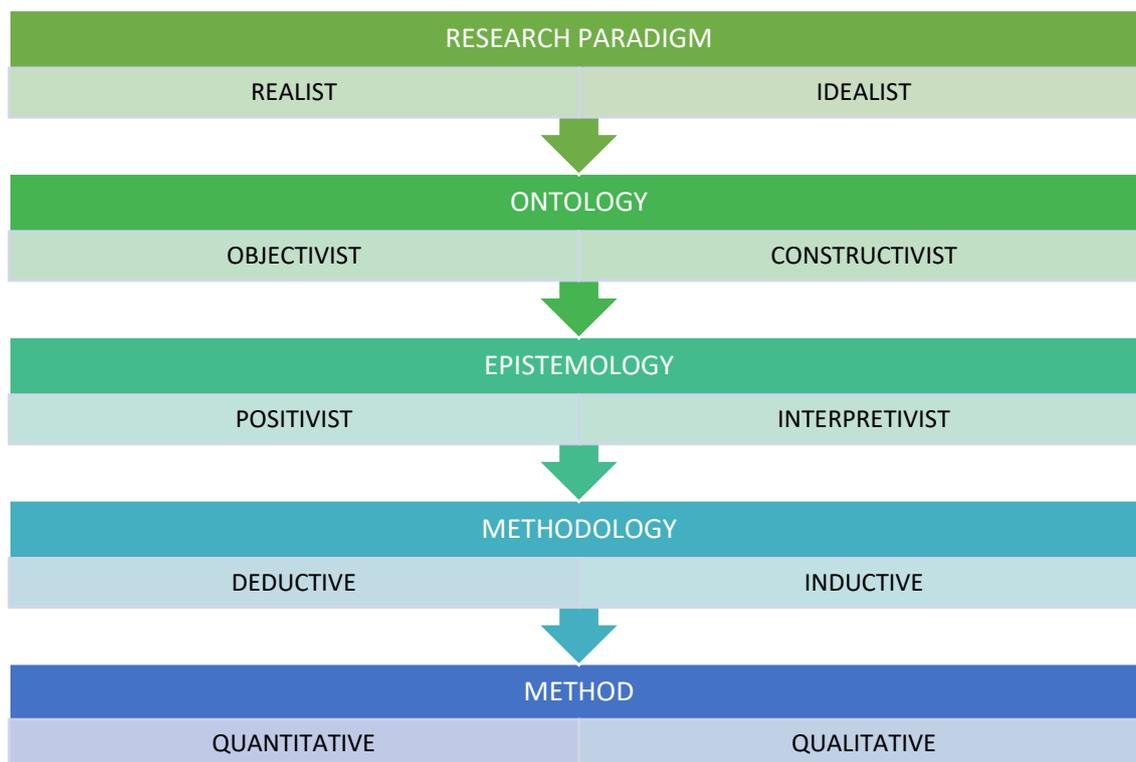
A research paradigm is a theory or belief system that guides the way things are done within the research process, and so it establishes a set of practices. Some authors (Creswell & Plano Clark, 2006; Denscombe, 2014; Ritchie et al, 2014) refer to the research paradigm as being a combination of the ontology and epistemology, with those who have an objectivist ontology and positivist epistemology sitting within the realist research paradigm, and those who have a constructivist ontology and an interpretivist epistemology sitting within the idealist research paradigm. Biesta (2015) however, argues that referring to oneself as a realist or an idealist may lead the researcher to believe they can ignore their ontological and epistemological positions, and they will therefore fail to justify and discuss the assumptions that underpin their research in sufficient depth.

#### **4.3 – Methodology and Methods.**

Methodology describes the approach taken to the research design in relation to the research question being addressed (Jackson, 2013). There are two basic methodological approaches – deductive and inductive. A deductive approach works from the general to the more specific or a “top-down” approach. It usually starts with a theory which is narrowed to a hypothesis that can be tested objectively, to decide whether the hypothesis is supported and to confirm (or not) the original theory. Deductive research is generally narrower and is concerned with testing or confirming the hypothesis. An inductive approach works from specific observations and measures, through detecting patterns and regularities to broader generalisations, taking a “bottom-up” approach. Inductive research is generally more open-ended and exploratory.

Methods are the specific techniques and procedures used to collect and analyse the data to provide answers to the research question(s) (Jackson, 2013). There are two basic groups of methods that can be used, although these are not exclusive, and many researchers are adopting a mixed methods approach to research, combining both qualitative and quantitative approaches to investigate different aspects of the same topic. Quantitative methods are associated with numbers and tend to be concerned with measuring things. Qualitative methods are concerned with words, thoughts and images to show things that are not easily quantifiable. Quantitative research methods tend to be associated with a deductive approach, while qualitative research methods tend to be associated with an inductive approach. Figure

4.1 demonstrates the accepted relationships between research paradigm, ontology, epistemology, methodology and methods in a simplified form.



**Figure 4.1 – Accepted Relationships between Research Paradigms, Ontology, Epistemology, Methodology and Methods.**

**4.4 – Application of Philosophy and Methodology to this Research Study.**

The overarching research question for this project is “Motivation and engagement of physiotherapists as lifelong learners through the use of a student continuing professional development (CPD) portfolio”. The research question was broken down into the following objectives, at the end of Chapter Two, prior to undertaking the literature review –

1. To explore the literature on the topics of CPD, LLL and portfolios from the perspectives of both healthcare clinicians and students, considering
  - a. The nature of CPD activity, including the use of portfolios post-graduation
  - b. Health professionals’ attitudes and opinions of CPD, LLL and portfolios
  - c. Health students’ attitudes and opinions of CPD, LLL and portfolios
2. To explore the motivations of physiotherapists towards CPD, LLL and portfolio use
3. To explore the motivations of student physiotherapists towards CPD, LLL and portfolio use.

Following the literature review, at the end of Chapter Three, objectives 2 and 3 were made more specific in terms of the investigative phase of the project –

2. To explore the motivations of physiotherapists towards CPD, LLL and portfolio use
  - a. What are the influences of completing a student portfolio and the structure of the student portfolio on physiotherapists' motivation towards CPD, LLL and using a portfolio?
  - b. What other factors influence physiotherapists' motivation towards CPD, LLL and using a portfolio?
3. To explore the motivations of student physiotherapists towards CPD, LLL and portfolio use.
  - a. How does a student CPD portfolio influence students' motivation towards CPD, LLL and portfolios?
  - b. What other factors influence students' motivation towards CPD, LLL and portfolios?

As presented in Chapter Two, motivation is a complex issue, influenced by internal and external factors, suggesting that the truth of this matter is subjective and multifaceted. The literature review in Chapter Three demonstrated that CPD is a complex topic, with different understandings and manifestations, and student portfolios are varied in terms of their aims, objectives, uses, structure and design. Physiotherapists are bound within the social context not only of their own professional knowledge, behaviours, values and attitudes, but also within the wider contexts of the health and care society that they work in. As such, their attitudes and beliefs about the use of portfolios, CPD and LLL, are influenced by not only their own personal preferences, previous experiences and discipline orientations, but also by the attitudes, beliefs and behaviours of those around them. Students are equally bound within their own social context, both within the university setting, but also in the clinical environment. On top of this, students are learning to be professionals, and are still developing their own professional knowledge, attitudes and values. On this basis, their attitudes and beliefs about CPD, LLL and portfolios are open to influence by many external factors, as well as their own personal set of circumstances and self-perceptions. Accordingly, researching these topics required an idealistic research paradigm, taking a constructivist ontology and interpretivist epistemology (Grbich, 2012).

The paucity of literature specifically investigating the influence of student portfolios on motivation towards CPD and LLL, and use of portfolios by physiotherapists and physiotherapy students, meant that there were little or no specific theories to base the research upon. This meant that the research methodology needed to be inductive, exploring the way physiotherapists and student physiotherapists interpreted and made sense of their

experiences of CPD, LLL and portfolios (both student and current in the case of the physiotherapists), and how their context within the worlds of study or work have impacted on their constructed meanings of these phenomena (Grbich, 2012). However, with some knowledge of elements of the phenomena from the literature review (although nothing examining both student portfolios and motivations towards CPD, LLL and portfolios simultaneously), there was also the opportunity to examine whether the separate themes from the literature were represented by the participants in this study, making the selection of a methodology more complex.

There are several different inductive methodologies that could potentially be used to explore this topic. Ethnography is the study of subjects in their own environments, and involves the researcher embedding themselves in the field and context of the research to observe behaviours. Because one of the aims of this research was to gather data from a broad selection of participants across the UK, and because CPD behaviours would be difficult to observe, this approach was not appropriate.

Action research is a research method associated with investigation of change. It is a continuous process of research and learning that takes place during the researcher's long-term relationship with a problem (Cunningham, 1993). The researcher institutes a process of change and draws conclusions based on this change. Because this study did not involve an implementation of change, action research was not an appropriate methodology to select.

Discourse analysis is the study of how language is used, in both written and spoken formats. Discourse analysis will also analyse nonverbal cues, such as body language, or images and symbols within a text. The context, social and cultural framework of the discourse is also important (van Dijk, 1997). Discourse analysis is often used to explore inequality in society, political rhetoric and communication between Drs and patients, as examples. The purpose of this study was not to explore how the language of the participants was used to convey their thoughts about CPD, LLL and portfolios, and therefore discourse analysis was not selected as the methodological approach.

One potential option was to undertake a longitudinal study, introducing students to a portfolio, and then examining their thoughts, feelings and attitudes towards this at several points in time, both while they were students, but also following them through their working careers. There were several challenges with this approach which made it inappropriate. Firstly, this approach would have required the research to be undertaken at the researcher's own institution, which creates ethical issues, as students may feel a power imbalance and feel unable to decline participation in a study conducted by a researcher on whom they are

dependent (Putten & Nolen, 2007). This would also limit the sample to those using one design of portfolio and therefore give limited insight into the influences of different types of portfolios. Secondly, one of the disadvantages of this type of longitudinal research, is that collection of data at multiple points during the process will influence the behaviour and responses of participants, and even though data is collected multiple times, it is still unable to account for the attitudes or opinions of participants in between these points (Cohen, Manion & Morrison, 2007). Thirdly, there is the risk of losing participants over time, as the graduates move away from the area and do not update contact details with the researcher, which would diminish the sample size. Finally, in this case, the time frame for completing the study did not allow sufficient time to follow students from introduction to the portfolio (most likely in their first year) through graduation and into their careers.

Grounded theory focusses on participants' perspectives on issues that are important to them, giving opportunity for them to articulate their thoughts and reflect, and then provides a conceptual overview of the phenomena under study (Glaser, 1998). While this may sound appropriate for this study, (which aimed to explore the phenomena of CPD, LLL and portfolios from the perspectives of physiotherapists and physiotherapy students), traditional grounded theory (Glaser & Strauss, 1967) requires the researcher to apply a prescribed set of procedures for analysing the data, including descriptive and analytical categorisation, coding, constant comparative analysis and negative case analysis, memo-writing and returning to collect further data once the categories and codes have emerged, until theoretical saturation occurs.

Grounded theory also requires that data is analysed without the use of a theoretical framework from previous literature, as this would be viewed as a constraining exercise, rather than a guiding one (Ramalho, Adams, Huggards & Hoare, 2015), hence making it not appropriate for this study.

In phenomenology, the focus is on how phenomena are given to us in consciousness (van Manen, 2017); how a participant experiences an event or activity and how they feel about this experience. Since this current study was focussed on the motivations and attitudes of physiotherapists and physiotherapy students towards CPD, LLL and portfolio use, it could be said that it was interested in how they feel about these phenomena, and phenomenology may have been an appropriate research methodology to choose. However, this study aimed to interpret the data, to do more than just describe the findings. Because of the different sets of data that were anticipated (physiotherapists and student physiotherapists), it was felt that repackaging the data to look for overarching themes between these groups was important, to get a true understanding of the phenomena. Phenomenology is focussed on the description of the experience as it is lived by the participant, to increase understanding of the phenomenon,

and is not primarily concerned with the causes of the phenomena, nor does it repackage the data through analysis or interpretation of the experiences of participants (Denscombe, 2014) or aim to generalise to theories or models (Field & Morse, 1985). This fundamental difference made this approach inappropriate for this study.

**Table 4.1 – Fundamental Elements of Case Study Research (taken from Harrison, Birks, Franklin & Mills, 2017)**

Element	Description
The case	Object of the case study identified as the entity of interest or unit of analysis Programme, individual, group, social situation, organisation, event, phenomena or process
A bounded system	Bounded by time, space and activity Encompasses a system of connections Bounding applies frames to manage contextual variables Boundaries between the case and context can be blurred
Studied in context	Studied in its real life setting or natural environment Context is significant to understanding the case Contextual variables include political, economic, social, cultural, historical, and/or organisational factors
In-depth study	Chosen for intensive analysis of an issue Fieldwork is intrinsic to the process of enquiry Subjectivity a consistent thread – varies in depth and engagement depending on the philosophical orientation of the research, purpose and methods Reflexive techniques pivotal to credibility and research process
Selecting the case	Based on the purpose and conditions of the study Involved decisions about people, settings, events, phenomena, social processes Scope: single, within case and multiple case sampling Broad: capture ordinary, unique, varied and/or accessible aspects Methods: specified criteria, methodological and purposive, replication logic (theoretical or literal)
Multiple sources of evidence	Multiple sources of evidence for comprehensive depth and breadth of inquiry Methods of data collection: interviews, observations, focus groups, artefact and document review, questionnaires and/or surveys Methods of analysis: vary and depend on data collection methods and cases; needs to be systematic and rigorous
Case study design	Descriptive, exploratory, explanatory, illustrative, evaluative Single or multiple cases Embedded or holistic Particularistic, heuristic, descriptive Intrinsic, instrumental and collective

Case study research is a versatile form of qualitative inquiry most suitable for a comprehensive, holistic and in-depth investigation of a complex issue, in context, where the boundary between the context and the issue is unclear and contains many variables. The essential requisite for using case study stems from one's motivation to illuminate understanding of complex phenomena (Merriam, 2009; Stake, 2006; Yin, 2014). Primarily exploratory and explanatory in nature, case study is used to gain an understanding of the issues in real life settings and recommended to answer *how* and *why* research questions

(Flyvberg, 2011; Simons, 2009). Fundamental elements of case study research are shown in Table 4.1. Theoretical frameworks or research questions are used and drawn from the literature or discipline (Merriam 1998) and cases are selected based on the research purpose and question and for what they can reveal about the phenomenon or topic of interest, in relation to the theoretical propositions about the topic. Cases can be selected to either produce anticipated contrasting findings (theoretical replication) or similar findings (literal replication (Yin, 2014). Merriam (2009) acknowledges that case study research can use both quantitative and qualitative methods, however when working on qualitative case studies, methods aimed at generating inductive reasoning and interpretation take priority. Processes such as descriptive, thematic and content analysis are significant in ensuring the quality of the study, therefore methods of data collection and analysis need to be organised and systematised through a chain of evidence.

Although there was no intention to collect data “in the field”, because observing CPD behaviour and use of portfolios by student physiotherapists and physiotherapists would not inform the researcher about how they felt about these topics, this methodology was chosen for several other reasons. Firstly, the primary research question was interested in *how* student portfolios may influence motivation towards CPD, LLL and use of portfolios for physiotherapists and physiotherapy students. The phenomena are both complex and subjective and it is unclear how the context of student physiotherapists’ and physiotherapists’ motivation and the issue of CPD and portfolios interact and overlap; case study research is designed to explore these types of phenomena. Secondly, because there was a literature base related separately to CPD and use of portfolios within healthcare professionals, and to use of portfolios by students, it was appropriate to build frameworks and use these to structure the processes of data collection and analysis, something that is allowed within a case study methodology, but not in other methods such as phenomenology or grounded theory. Thirdly, this study required data to be collected from multiple sources and needed to use purposive sampling of participants for the second stage of the study (interview stage) to generate comprehensive breadth and depth of inquiry on the topic, making it appropriate to take a case study approach. Finally, although the researcher generally holds a constructivist view of reality, the ability to use multiple methods of data analysis, including statistical analysis where appropriate, held appeal, in terms of building a thorough picture of the findings from the data.

#### **4.5 – Methods for Data Generation.**

Having arrived at an appropriate methodology, decisions needed to be made in terms of the methods of data collection that would be used in the study. Because of the nature of the topic, being subjective and influenced by many factors, a qualitative, exploratory approach was taken

within the research. Qualitative research methods are particularly good at exploring values, opinions, behaviours and contexts and seek to understand a problem from the perspective of the population experiencing it (Mack, Woodson, MacQueen, Guest & Namey, 2005), and this was what was needed to answer the research question in this study. However, although the topic under study is subjective and open to influence from both the participants and external factors, there is still the belief that the information shared by participants in this qualitative study is a true picture of their interpretation of their reality, and the research will detect actual attitudes or real motives (Sandelowski, 2010; Ten Have, 2004). The desire for both breadth (from a large sample) and depth (from a small sample) suggested that a mixed methods approach was most appropriate (Mason, 2006).

#### 4.5.1 – Mixed Methods.

A mixed methods approach is often associated with those who prefer viewing a problem from a variety of perspectives, where the approach is problem-driven (Denscombe, 2014). The value of using more than one method of data collection is that it can enrich the understanding of multifaceted phenomena, in this case CPD, LLL and portfolios (Gilbert, 2008). Another benefit of mixed methods is that the strengths of one method can be used to offset the weaknesses of the other, for example, the small sample size often used with interviews can be offset by the larger sample size of a survey or questionnaire, but the interviews provide the opportunity to explore in more depth topics answered superficially within a survey (Tashakkori & Teddlie, 2016).

Because of the desire to involve participants from across the UK, to be able to gain breadth of data from students and physiotherapists who use/used different types of student portfolios, focus groups were dismissed as a possible method of data collection, because of the difficulties of getting groups of participants together.

#### 4.5.2 – Questionnaires

In terms of collecting breadth of data from physiotherapists and final year students, it was decided to use online questionnaires as the first method of data collection. Questionnaires are frequently used to collect data on peoples' attitudes and opinions (Mathers, Fox & Hunn, 2007). A cross-sectional, explanatory questionnaire design was chosen, collecting data at one point in time for each group, with the aim of using the data to demonstrate causal effects of the student portfolio on motivation towards CPD, LLL and using portfolios. There are several benefits to using a questionnaire. Firstly, it should produce a sample which is representative of the population under study, as there are few inclusion and exclusion criteria applied to participants. Secondly, they are cost-effective and can cover a wide geographical spread,

particularly when online questionnaires are used. Finally, they are easily combined with other methods to provide richer data, overcoming one of their disadvantages – a limited ability to explore the *why* of a phenomenon. Other disadvantages of questionnaires in general are that response rates are generally low, and questions may be misinterpreted by respondents. Misinterpretation is somewhat reduced through piloting a questionnaire with a small sample prior to sending it to the full sample. There is also the risk that the participants may not be truthful in their responses, as well as a level of research imposition, in that during the design of the questionnaire, the researcher is making decisions about what is important, and may miss something relevant. This can be overcome by building the questionnaire following a thorough review of previous literature. Another disadvantage of questionnaires as a data collection method is that of self-selection bias, in that those who are more interested in the topic are more likely to respond (Stanton, 1998). While it is impossible for the research to avoid this, it should be considered when analysing the findings from the questionnaire.

Online questionnaires were chosen over postal questionnaires due to accessing the sample populations (Wright, 2005). While postal questionnaires could have been sent *en masse* to physiotherapy programme course leaders and physiotherapy departments in the UK, distribution of these questionnaires to staff and students in each location, as well as the task of them being returned to the researcher, was a risk in terms of response rates. This method would also have been costly, and potentially limiting in terms of targeting physiotherapists working outside of the NHS. While an email containing details of the online questionnaire still needs to be distributed to the potential participants by managers and course leaders, it was considered that this was less time-consuming for them, and therefore more likely to reach a wider population. Completing the questionnaire electronically online meant there was no requirement for participants to physically return completed questionnaires to the researcher. There would also be no costs involved in this method. Although some researchers have found response rates to online questionnaires to be similar to those for traditional postal questionnaires (Thompson, Surface, Martin & Sanders, 2003), and there is evidence to suggest that responses are likely to be better, when an email is received from a known source (Michaelidou & Dibb, 2006), it is difficult to track non-responders when the overall population size receiving the questionnaire link is unknown (Andrews, Nonnecke & Preece, 2003), and therefore response rates are hard to calculate; this was a disadvantage of this method.

Bowling (2005) investigated the influence of different types of questionnaire administration on the quality of data retrieved, comparing face-to-face or telephone administration, and postal or electronic self-administration. Her findings suggested that data quality of online questionnaire responses was less likely to be affected by social desirability bias and question

order effects, participants were more willing to disclose sensitive information and the “slow” nature of computer self-administration was more likely to yield accurate responses (Tourangeau, Rips & Rasinski, 2000). However, Bowling (2005) found that online questionnaires carried a high cognitive burden, poor completion and response rates and high recall bias. Considering the nature of the phenomena being explored in this study, that opinions were being sought and the sample population, it was decided that the cognitive burden should not be overpowering, and that recall bias should not be an influencing factor on data quality. It was accepted that response rates were likely to be low, and that other means of generating higher response rates (e.g. face-to-face or telephone administration) were not possible for this population.

#### 4.5.3 – Interviews

The second data collection method was telephone interviews. Telephone interviews are an efficient and economical way of collecting data, particularly where the participants are geographically widely distributed (Mathers et al, 2007). Interviews focus on asking open-ended questions so that participants can talk about their own experiences, perceptions and understanding of the phenomena and what these mean for them personally (Ritchie et al, 2014). Qualitative interviews are particularly suitable for examining in-depth perceptions and feelings.

Although a constructivist ontology and qualitative research fosters a collaborative approach between the researcher and the participant (O’Connor & O’Neill, 2004), one challenge involved in any interviewer-interviewee interaction is that of power asymmetry. Due to the prescribed roles of those involved in the interview, there is a disguised discourse asymmetry, with the interviewer seeming to have power over the interviewee (Haworth, 2006). This is because the interviewer controls the order of and initiates the questions and sets the scene for the interview (Brinkman & Kvale, 2005). This is not to say that the interviewee has no power, as they control what and how they answer the questions. They are also in control of their level of co-operation, as well as the progression and quality and quantity of information shared with the interviewer (Anyan, 2013). Building rapport, trust and a sympathetic relationship with the interviewee are likely to assist in overcoming feelings of a power struggle between interviewer and interviewee (Karnieli-Miller, Strier & Pessach, 2009). Many authors have commented on how the relationship between the interviewer and interviewee can change based on the type of research and its goals, the interviewer’s personality, background, professional discipline, and their perceptions of the interviewee in the research process (Berg & Smith, 1985; Clifford & Marcus, 1986; Ely, Anzul, Friedman, Garner & Steinmetz, 1991; Woods, 1986).

Face-to-face interviews have many advantages, such as the ability to see non-verbal communication from the interviewee, and the ability to standardise the ambiance of the interview environment (Opdenakker, 2006). However, the disadvantages of face-to-face interviews are the issues of travel time and costs, if participants are geographically diversely located, and the possibility that the interviewer may lead or distract the interviewee with their own body language or gestures. One of the advantages of telephone interviews is that it allows wide geographical access to participants. Participants may also feel more able to talk freely in a telephone interview as they are not being observed by the interviewer (Mann & Stewart, 2000), and are in an environment of their choice (McCoyd & Kerson, 2006). Disadvantages are potential language difficulties, loss of some social cues, including feedback cues (Henson, Cannell & Roth, 1978) and that the interviewer has no control over the environment in which the interviewee is located, which may allow for distractions for the interviewee (Glogowska, Young & Lockyer, 2011). Burke and Miller (2001) also suggested that it may be more difficult to build a rapport with the interviewee during a telephone interview, and that prior contact can minimise this.

Despite the disadvantages raised, this study needed to interview participants from across the UK, making face-to-face interviews impossible within the time and budget frame. As all participants were either studying or working in the UK, it was felt that there should not be any language difficulties of telephone interviews. In terms of building rapport, interviewees had already completed the online questionnaire, and were contacted at least twice by email prior to the interview (once to invite them to take part, and secondly to arrange a date and time for the interview), and so it was possible to make contact and develop a rapport before the interviews commenced. The researcher was cognisant of the potential for a power imbalance, particularly with the student interviewees, as they were aware of the researcher's role within an academic institution from email contact, however she was also confident that many years of academic work with physiotherapy students had enabled her to develop skills to make them feel comfortable in conversation. The fact that the researcher was genuinely interested in what the participants had to say and began the interviews by stating that the participants could talk about anything related to the topic that they wanted to, helped to lessen the power asymmetry and develop rapport.

#### **4.6 – Methods for Data Analysis**

With any data analysis in qualitative research, it is important to remember that the researcher is integral to the process and the result, and it is not possible to separate or remove them from this (Galdas, 2017). There are several frames which will affect the researchers' interpretation of the data (McLachlan & Reid, 1994). These frames represent the researchers accumulated

knowledge, how the researcher views the world, which may be influenced by their discipline, their age, sex, race, class, and how they view the context of the research and data analysis. It is also important to remember that the creative mind of the researcher is involved in the analysis and presentation of results (Vaismoradi, Turunen & Bondas, 2013). Polit and Beck (2014) stated that although these points are acceptable, the researcher must be transparent and self-reflective about their preconceptions, the dynamics involved in data collection and their analytic focus, to improve the quality of the research.

#### 4.6.1 – Questionnaire Analysis

The questionnaires were analysed using both descriptive and inferential statistics where appropriate. Descriptive statistics are useful when presenting participants' responses to a questionnaire, as they describe the trends and patterns within the collected data, summarising to give the reader an overall picture of the responses of the participants (Fisher & Marshall, 2009). Because this study wanted to examine the influence of factors on physiotherapists' and physiotherapy students' motivation towards CPD, LLL and using portfolios, it was important to examine the questionnaire data to see whether factors such as using a portfolio as a student had influenced responses. On this basis inferential statistics were appropriate to use, to look for any differences between subgroups in the two populations.

#### 4.6.2 – Content Analysis of Interview Data

In general, qualitative research does not seek to quantify data, however sometimes the use of simple counts, as in content analysis, can be useful to provide a summary and overview of the data (Pope, Ziebland & Mays, 2000). Although some researchers suggested that content analysis is still a qualitative analysis of data (Elo & Kyngas, 2008; Vaismoradi et al, 2013, Green & Thorogood, 2004), Grbich (2012), Downe-Wamboldt (1992) and Morgan (1993) all suggested that content analysis allows the data from interviews to be analysed quantitatively, in terms of frequencies. Because thematic frameworks had been built from the literature reviewed in Chapter Three, it was appropriate to use content analysis to consider whether the data from this study represented that found in previous research.

#### 4.6.3 – Thematic Analysis of Interview Data

Thematic analysis is a generic method for identifying, analysing and reporting patterns or themes within qualitative data, which involves familiarisation with the data, building of codes and themes, and application of these to the research question (Boyzatis, 1998; Braun & Clarke, 2006). In some cases, thematic analysis goes further than organising and presenting the data and can involve interpretation of the data. Thematic analysis is widely used, but there is no

clear consensus about what it is or how it should be applied (Attride-Stirling, 2001; Tuckett, 2005). It is a poorly labelled method, and some claim it is not an approach in its own right (Ryan & Bernard, 2000), however Meehan, Vermeer & Windsor (2000) stated that a lot of analysis is essentially “thematic” but is called something else (e.g. discourse analysis). Braun and Wilkinson (2003) believed that the advantage of thematic analysis over methods such as interpretive phenomenological analysis and grounded theory is that it does not need detailed theoretical and technical knowledge and is therefore a more accessible form of analysis, particularly for the novice researcher.

The block and file approach to thematic analysis involves identifying repeated words and phrases and is like the process involved in content analysis (Grbich, 2012), although frequencies are not seen as important. Alternatively, larger sections of texts can be considered, taking a conceptual mapping approach (Gibbs, 2007), where not only is the content of the text examined, but also the attitude of the speaker towards the message (Grbich, 2012). It is also important to note whether the content represents the individual (i.e. it is personal to them) or relates to their perception of a group shared message, and whether it represents a real lived experience or a hypothetical situation (Grbich, 2012). These are more easily done through a conceptual mapping approach and lead more effectively to interpretation of the data. This study used a combination of block and file and conceptual mapping approaches, initially being guided by the themes identified from the literature review and content analysis, but also identifying more general issues, not highlighted by small sections of text.

#### **4.7 – Conclusion**

To conclude, choosing the correct philosophical underpinning for a research study is vital, to ensure that the approaches taken are appropriate to answer the research question. This chapter has explained the concepts of ontology, epistemology, research paradigms, methodology and methods, and justified why an idealistic research paradigm, constructivist ontology and interpretivist epistemology were adopted for this study. Because the study was investigating a poorly researched subject area, an inductive methodology, and a case study approach were taken, with mixed methods data collection through two online questionnaires and two sets of telephone interviews. Finally, data analysis methods have been described for each of the data collection methods.

The following chapter will describe the specific procedures that were undertaken to collect and analyse the data, including development of the questionnaire and interview instruments,

recruitment of participants and sampling, explaining to the reader how the theoretical methodological principles discussed in this chapter were applied in the study.



## CHAPTER FIVE – METHODS

### **5.1 Introduction**

Chapter Four has provided the reader with a theoretical underpinning to the research approaches that were taken in this study. This chapter will describe the specific procedures that were undertaken to collect and analyse the data within the study. The chapter begins with a brief description of the design of the study, followed by information about ethical approval. The reader is then informed how the two online questionnaires were developed, and how interview questions were designed. Recruitment and procedures are explained, along with details of the purposive sampling for the telephone interviews, from the questionnaire respondents. Processes of data analysis are explained, initially for each individual set of data, but then showing how the data was brought together to answer the research question.

### **5.2 Design**

Following the literature review, a mixed methods approach was selected to investigate the topic further, based on the premises explained in Chapter Four. The method included two large sample online questionnaires, one aimed at final year Physiotherapy students in the UK, the other at Physiotherapists working in the UK. These were followed by selective semi-structured interviews.

The findings of the online questionnaires provided a large volume of information relating to student attitudes to and perceptions of portfolios, CPD and LLL, and physiotherapist's motivations towards CPD, LLL and CPD portfolios. The semi-structured in-depth interviews allowed further exploration of these topics with a smaller sample, to generate insight into student and physiotherapist views and feelings on these topics.

### **5.3 Ethics**

The STEMH Ethics Committee, University of Central Lancashire, granted ethical approval in March 2017 (see Appendix 1, document 1a). A review of guidelines provided by the Health Research Authority in 2017 clarified that NHS Ethical approval was not needed, since physiotherapists would be asked to complete the questionnaire or be interviewed in their own time. Due to timing of ethical approval, it was decided to undertake the physiotherapist components of this project between May and December of 2017, prior to commencing the student components of the study in October 2017, allowing a full academic year to receive student responses to the questionnaire and undertake interviews prior to students completing their course of study.

An amendment to the ethical application was submitted on 30<sup>th</sup> November 2017, and approved on 4<sup>th</sup> December 2017 (see Appendix 1, document 1b), to allow wider circulation of the link to the student questionnaire to try to improve recruitment.

#### **5.4 – Questionnaire Development**

The questionnaires were designed using Snap 11 Professional online questionnaire software (SnapSurveys, 2019) under licence from the University. Following discussions with research colleagues about various options for developing online questionnaires, this one seemed to give the greatest flexibility in terms of question and response structure, while still being simple to use. Several training sessions were required to allow the researcher to be familiar with the software and to iron out formatting and response issues.

To develop the questionnaires, relevant surveys from the literature were reviewed, and questions created based on those used in previous research as well as items specifically relevant to this study. The types of questions used in the research were also considered when designing the questions for this study.

When considering how the studies used Likert scales, it was noted that most of studies used either a five- or seven-point Likert scale, providing a mid-point or neutral response. Odd numbered Likert scales can be appealing to the responder as they can opt out of making a choice, and it is suggested that these scales should be used if the topic being researched is highly sensitive (Losby & Wetmore, 2012). However, it is also possible that odd point scales encourage responders to be less discriminating in their responses, and to inaccurately read the choices (Hyman & Sierra, 2010), and there is some evidence that even if the mid-point is labelled, it is not always interpreted correctly, leading to collection of inaccurate information (Raaijmakers, Hoof, Hart, Verbogt & Wollebergh, 2000). Removal of the mid-point by using an even numbered scale means that responders must decide and cannot “sit on the fence” with their response. This means that responders may be more discriminating and thoughtful, and it removes the possibility of misinterpretation of the mid-point (Losby & Wetmore, 2012). However, responders may become frustrated and opt out of the questionnaire because of feeling that they are being forced to make a choice. It may also be the case that responses may be inaccurate, as responders must choose, when their real response may be neutral (Hyman & Sierra, 2010). Following this analysis, even-numbered likert scales were chosen, to avoid participants being able to sit on the fence, which can potentially lead to collection of inaccurate information (Raaijmakers et al, 2000).

Another discrepancy that was noted when reviewing the literature, was that the 5-point Likert scale used by Advani et al (2014) appeared biased towards a positive response, with only one

of the 5 options being negative. It could be argued that the researchers anticipated that responses would be skewed to the positive, and an unbalanced scale was therefore used to determine the differences between these positive responses (Hyman & Sierra, 2010). However, according to Burns and Burns (2008), a well-designed Likert scale will have equal numbers of positive and negative response options. In response to this when designing the questionnaires, 4- or 6-point scales were used, to try to determine strength of opinion as well as direction of it (Burns & Burns, 2008, p.245). Scales were also evenly balanced between positive and negative responses, to minimise the bias that was seen in the literature reviewed (Advani et al, 2014; Bush & Bissell, 2008; Mubuke et al, 2010; Timmins & Dunne, 2009).

It is interesting that all the studies used a forced scale, with no option to give a “no opinion” answer. When responding to a questionnaire or survey optimally, the responder needs to undertake a 4-step process, involving interpretation of the question, searching memory for relevant information, integrating information into a summary judgement and reporting that judgement within the confines of the questionnaire answers (Tourangeau & Rasinski, 1988). A respondents’ ability to undertake this task will be dependent on their cognitive level in relation to the subject and their motivation to give an optimal response, which itself is influenced, amongst other things, by the importance of the topic to them and the number of prior questions (Krosnick, 2000). If given the option to opt out of answering, those struggling with the process are likely to choose this, even if their opinion could have been valuable to the researcher. This process is known as satisficing (Krosnick, 1991). The evidence on this topic suggests that when using a survey to determine attitudes or perceptions, it is better to remove the don’t know choice, so that respondents must think about their answer, rather than opting out of the cognitive processes involved with completing the questionnaire (Dobronie, 2014). This supports the choices made by the researchers in the literature review, and was the approach adopted in the questionnaires in this study.

Finally, the questionnaires of Bush and Bissell (2008), Mubuke et al (2010) and Timmins and Dunne (2009) were biased towards positive statements, whilst those used by Grant et al (2007), Kalet et al (2007), Nairn et al (2006) and Taylor et al (2009) only contained positive statements, risking acquiescence bias (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Different sections of the questionnaires used in this study had a mixture of positively and negatively framed statements, although these tended to be biased towards the positive. In some cases, it was difficult to predict the bias of the statement, as they were exploratory and were considered not to have a right or wrong answer (for example the questions about assessment in the student questionnaire). Also, although having more positive than negative

statements risked acquiescence bias, attempting to word the questions in a negative way made them sound forced or false.

The initial physiotherapist questionnaire was piloted with two physiotherapists, and the final version was adjusted according to their feedback. These adjustments were minor, in terms of spelling errors, or slight changes of phrasing to questions. No questions were added or removed. In total, the questionnaire included 31 items, and was divided into the following sections: demographic data, current employment, CPD questions, student portfolio questions, and current CPD portfolio questions (see Table 5.1). The student questionnaire was piloted with three physiotherapy students, and the final version adjusted according to their feedback. The adjustments here were more detailed, perhaps reflecting the fact that designing a questionnaire for physiotherapists to complete, as a physiotherapist, is easier than designing a questionnaire for students to complete. The changes made were as follows –

- Several questions had examples added to improve clarity of the question, so that student knew what was being asked
- Two questions were changed from a single choice answer, to a multiple-choice answer – student feedback was that they wanted to be able to select more than one, as more than one applied
- Graphical sliding scale using smiley faces was removed, as students found it difficult to distinguish between a very smiley and a relatively smiley face
- The number of questions about support for portfolio development were reduced – students felt that these were repetitive and risked loss of interest and non-completion of the questionnaire by participants
- Questions about feedback were added – students felt this was an area that was not explored in the questionnaire.

This questionnaire was divided into 29 items, including demographic data, student portfolio, knowledge about CPD and opinions about CPD, reflection and portfolios (see Table 5.1). The full versions of both questionnaires can be found in Appendix 2.

The questionnaires used a range of different question types, including multiple choice (single answer and multiple answer options), open-ended questions allowing text answers, 4-point and 6-point likert scale questions, and 4-point sliding scales. Different types of questions were used to keep the participants engaged with the questionnaire and reduce the number who failed to complete.

It was estimated that both questionnaires should take no longer than 20 minutes to complete, based on the experiences of those who piloted them.

**Table 5.1 – Summary of Physiotherapist and Student Questionnaires.**

<b>PHYSIOTHERAPIST QUESTIONNAIRE</b>	<b>STUDENT QUESTIONNAIRE</b>
<b>SECTION 1 – GENERAL INFORMATION ABOUT YOU AND YOUR PHYSIOTHERAPY EDUCATION</b>	<b>SECTION 1 – GENERAL INFORMATION ABOUT YOU, YOUR COURSE AND YOUR PLACE OF STUDY</b>
Gender (M/F/prefer not to say)	Gender (M/F/prefer not to say)
Age (9 bandings offered)	Age (6 bandings offered)
How long have you been qualified as a physiotherapist? (5 bandings offered)	What type of physiotherapy course are you studying? (FT BSc/PT BSc/FT MSC/PT MSc)
What qualification did you achieve to gain registration as a physiotherapist? (UK Grad Dip Phys/UK FT BSc/UK PT BSc/UK FT MSc/UK PT MSc/other)	What is the previous highest qualification you hold? (given range of options to select from)
What is your highest level of physiotherapy related qualification? (given range of options to select from)	Which geographical area are you studying in? (selected on map)
<b>SECTION 2 – INFORMATION ABOUT YOUR CURRENT ROLE</b>	<b>SECTION 2 – YOUR STUDENT PORTFOLIO</b>
Which geographical area do you currently work in? (selected on map)	Are you required to keep a portfolio as part of your course? (Y/N)
Please select the option which best describes your primary employment (given range of options to select from)	<b>SECTION 2.1 – PORTFOLIO ASSESSMENT</b>
How many other physiotherapists do you work with on a daily basis? (given range of options to select from)	Is your portfolio assessed as part of your course? (Y/N)
How many other AHPs do you work with on a daily basis? (given range of options to select from)	How is your portfolio assessed? (given range of options to select from)
What is your current job banding? (given range of options to select from)	How is your portfolio graded? (given range of options to select from)
Considering your full working week (include all of your jobs if you have more than one when considering this question), please indicate below the percentage of your role spent undertaking the following activities. (options are clinical, managerial, education, research)	How often is your portfolio assessed? (Given range of options to select from)

<p><b>SECTION 3 – YOUR UNDERSTANDING OF CPD AND THE TYPES OF CPD THAT YOU UNDERTAKE, AND YOUR ATTITUDES TOWARDS CPD</b></p>	<p>When is your portfolio assessed over the duration of your course? E.G at the end of each placement, at the end of each year, at the end of the course. Please give as much detail as possible (open answer)</p>
<p>How much CPD have you undertaken in the last month? (given range of options to select from)</p>	<p>Are your choices of what to put in your portfolio influenced by the assessment of the portfolio? Please select the response which best applies (given range of options to select from, can choose more than one).</p>
<p>Which of the following do you consider to be CPD activities? (provided with list)</p>	<p>The following 10 statements relate to the portfolio as a means of assessment. Please select the response that best fits how you feel about each statement (6-point likert scale).</p>
<p>Of the list given above, please list up to 5 activities that you undertake most frequently for your own CPD. (open answer)</p>	<p><b>SECTION 2.2 – PORTFOLIO FORMAT AND STRUCTURE</b></p>
<p>If there is anything else that you do, that you consider to be CPD, please give information here. (open answer)</p>	<p>What format is your portfolio? (given range of options to select from)</p>
<p>Below are listed ten benefits of undertaking CPD as reported in current research. Please indicate whether these benefits are important to <u>you</u> at the present time. (Y/N)</p>	<p>How structured is your portfolio? With this question, we want to find out how much control YOU have over the way your portfolio is created and built, and how much is controlled by your course team. (given range of options to select from)</p>
<p>Similarly, below are listed ten barriers to CPD as reported in current research. Please indicate whether these are barriers to <u>you</u> undertaking CPD at the present time. (Y/N)</p>	<p>What types of documents/evidence do you collect in your portfolio? We are interested in what you <i>actually</i> collect, not what you <i>think you should</i> collect. Select as many responses as apply to you. (provided with list)</p>
<p>We are now interested in finding out more about your current opinions of CPD, what you think about it, and how you feel about it. (6-point likert scale)</p>	<p>Do you include anything else in your portfolio? (open answer)</p>
<p><b>SECTION 4 – YOUR STUDENT PORTFOLIO</b></p>	<p>Are your choices of what to put in your portfolio influenced by the structure/design of the portfolio? You may select as many responses as you think apply to you (given range of options to select from, can choose more than one)</p>

Did you complete a portfolio as part of your pre-registration studies? (Y/N/can't remember)	<b>SECTION 2.3 – TUTOR SUPPORT AND FEEDBACK</b>
Was this a compulsory part of your course? (Y/N/can't remember)	How is your portfolio learning supported by the course team? Please choose the response that best fits how you feel about each statement. (4-point likert scale)
What was the format of your portfolio? (given a range of options to select from)	Are you provided with feedback on your portfolio by the course team? (Y/N/Don't know)
How structured was your portfolio? (given a range of options to select from)	Do you find the feedback you receive helpful in terms of the on-going development of your portfolio? (Y/N/Don't know)
What types of documents/evidence did you collect in your student portfolio? We are interested in what you <i>actually</i> collected. Select as many responses as apply to you. (provided with list)	Does the feedback you receive influence the value you place on developing and using a portfolio (given range of options to select from)
Did you include anything else in your portfolio? (open answer)	<b>SECTION 3 – OPINIONS ON USING STUDENT PORTFOLIO</b>
Were your choices of what to put in your portfolio influenced by the structure/design of the portfolio? Please select the response that best applies. (given a list of options to select from)	For each of the 20 statements below, please respond with the answer that best fits how you felt about using a portfolio (6-point likert scale)
<b>SECTION 5 – YOUR CURRENT CPD PORTFOLIO</b>	<b>SECTION 4 – YOUR KNOWLEDGE ABOUT CPD</b>
Do you currently keep a portfolio? (Y/N)	Are you taught about CPD as part of your course? (Y/N/Don't know)
How would you best describe how you do this? (given a range of options to select from)	For each of the 10 descriptions given below, please identify to what degree you think these are descriptors of CPD (4-point likert scale)
Have you kept a portfolio in the past? (if answered "no" to current portfolio) (Y/N)	<b>SECTION 5 – OPINIONS ABOUT CPD, REFLECTION AND PORTFOLIOS</b>

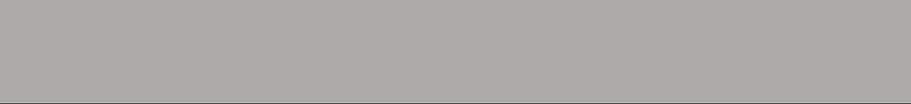
What factors influenced your decision to stop keeping a portfolio? Please give as much information as you like.  
(open answer)

For each of the 15 statements below, please answer with the response that best reflects how you feel about the statement  
(6-point likert scale)

What have you used your portfolio for in the last 6 months? Select as many answers as apply to you.  
(given a range of options to select from)



For each of the statements below, please respond with the answer that best fits how you currently feel about using a portfolio.  
(6-point likert scale)



## **5.5 – Development of Interview Questions**

A semi-structured interview format was chosen for both sets of interviews, to allow flexibility in questioning and to be able to draw out detail from the interviewees about the topics being discussed. To develop the interview questions, those used in previous research were reviewed, and adapted to be specifically relevant to this study. An initial analysis of responses to the two questionnaires also highlighted specific areas to explore in more depth in the interviews. The physiotherapist interview contained a total of five questions, and the student interview six questions, with follow-up questions used as required (see Table 5.2).

**Table 5.2 – Physiotherapist and Student Interview Structures**

<b>PHYSIOTHERAPIST QUESTIONS</b>	<b>STUDENT QUESTIONS</b>
Tell me what you think about CPD <ul style="list-style-type: none"> <li>• What do you think influences this?</li> </ul>	Tell me about your student CPD portfolio, in particular, how it is structured <ul style="list-style-type: none"> <li>• In what ways do you think this may have influenced your learning?</li> </ul>
Talk to me about the CPD that you do <ul style="list-style-type: none"> <li>• What do you think influences this?</li> </ul>	How do you think using the portfolio influenced your motivation to learn? <ul style="list-style-type: none"> <li>• Personal drivers?</li> <li>• External influences from others e.g. social desirability bias?</li> </ul>
In your experience, do you find some CPD activities more beneficial than others? <ul style="list-style-type: none"> <li>• Can you expand on this – why?</li> <li>• Do you think external factors influence this?</li> </ul>	Which aspect of using a portfolio did you feel was most beneficial, if any? <ul style="list-style-type: none"> <li>• Prompt to discuss evidence collection, reflection and collaboration</li> </ul>
Tell me about your CPD portfolio, if you have one <ul style="list-style-type: none"> <li>• What influences you to keep and use a portfolio?</li> <li>• How does using your portfolio make you feel?</li> <li>• What factors led you to decide not to keep a portfolio?</li> </ul>	Tell me about how your portfolio is assessed How did the assessment process make you feel about using the portfolio?
Is there anything else you would like to add?	How do you think your student portfolio has influenced you moving forwards and thinking about your future CPD? <ul style="list-style-type: none"> <li>• Do you think it has influenced your motivation to undertake CPD in the future?</li> </ul> What specifically motivates you to do this?
	Is there anything else you would like to add?

## **5.6 – Physiotherapist Recruitment and Procedure**

Participants for the physiotherapist CPD questionnaire were recruited from Physiotherapists in the UK between 2<sup>nd</sup> May and 7<sup>th</sup> July 2017. The aim was to recruit from across Physiotherapy employment in the UK, to gain as diverse a population of responders as possible.

NHS Physiotherapy service manager's names and contact details were retrieved from Oscar Research, via the UCLan Marketing Department. This data was incomplete, with some email addresses missing. After contacting the Trusts directly to try to obtain missing data, 158 Trust Physiotherapy managers were contacted by email, but it was not possible to gain contact email addresses for 36 managers. Emails were sent to all identified managers, asking them to circulate the email, including the link to the survey, to their staff (see Appendix 3a). The email included as an attachment, an information sheet about the study (see Appendix 4a), which included contact details for the primary researcher if participants had any questions about the survey before completing it. Since it is impossible to know how many of the managers distributed the email to their staff, the number of actual recipients of the link to the questionnaire is uncertain.

Private providers across the UK were identified via PhysioFirst Website (<http://www.physiofirst.org.uk/>); this website contains contact details for all Physiotherapists practising privately in the UK who are members of the CSP. All contacts (n=1910) retrieved from the Physio First website were emailed directly, asking them to participate in the online questionnaire (see Appendix 3a). Of these 1910, one physiotherapist emailed to say that she had retired and was no longer working at her practice, 11 emails were returned as undeliverable, and 2 were returned with automatic replies for maternity leave. Due to lack of quality control over the email addresses obtained it is unclear how many of the remaining 1896 emails were received by potential participants.

Physiotherapists who respond to the survey were deemed to have given consent for their anonymised responses to be included in the study.

The questionnaire was activated in SnapWebHost on 2<sup>nd</sup> May 2017 and closed on 7<sup>th</sup> July 2017. Data was downloaded from SnapWebHost on 7<sup>th</sup> July 2017 and imported into an Excel spreadsheet.

Responders to the online CPD questionnaire were asked to leave their email address at the end of the questionnaire, if they wished to be considered for the second phase of the study – the physiotherapist CPD interviews. Thirty-eight responders left their contact details. Of these, seven responders had answered, "I can't remember" to the question asking if they had a

student portfolio and were excluded from the selection process, since their data would not aid in answering the research question. Two responders were excluded because they were known personally to the researcher (one of whom had also answered, “I can’t remember”), leaving 30 potential interviewees for selection.

Using data from the online questionnaire, potential interviewees were divided into two groups – those who had completed a student portfolio, and those who had not. Questionnaire data was divided into three sections – demographics, responses to CPD related questions, responses to current portfolio questions – and then ranked in order of importance for selection of interview participants to generate variety in the qualitative data collected from the interviews (see Table 5.3).

**Table 5.3 – Ranking of Physiotherapist Questionnaire Data to aid Selection of Potential Variety of Interviewees**

RANKING OF IMPORTANCE	DEMOGRAPHICS	RESPONSES TO CPD RELATED QUESTIONS	RESPONSES TO CURRENT PORTFOLIO QUESTIONS
	Age – range of ages important	Responses to the CPD likert scale questions relating to beliefs about CPD and attitudes towards CPD – those giving strongly positive and/or negative answers prioritised over mild answers	Responses to the current portfolio likert scale questions relating to beliefs about portfolio use and attitudes towards using a portfolio – those giving strongly positive and/or negative answers prioritised over mild answers
	Length of time qualified (if independent from age)		
	Nature of work (e.g. NHS, Private practice) – variety important		
	Gender – variety important	Reported current levels of CPD activity – range important	Reported current levels of portfolio use – range important
	Geographical place of work – variety important		
	Grade Banding (low on ranking as appeared to correlate closely with age)	Broadmindedness in terms of what could be considered as a CPD activity – range important	Having or not having a current portfolio – variety important
	Number of Physiotherapists/AHPs worked with daily (low on ranking as appeared to correlate closely with nature of work)		

Following the process described, 9 interviewees were selected for interview (see Table 5.4).

**Table 5.4 – Physiotherapist Interviewees Selected.**

RESPONDER NUMBER	STUDENT PORTFOLIO Y/N	AGE	TIME QUALIFIED	NATURE OF WORK	GENDER	GEOGRAPHICAL LOCATION	RESPONSES TO CPD LIKERT QUESTIONS	CURRENT LEVELS OF CPD	BENEFITS AND BARRIERS	BORADMINDEDNES S TOWARDS CPD ACTIVITIES	RESPONSES TO CUREWENT PORTFOLIO LIKERT QUESTIONS	CURRENT LEVELS OF PORTFOLIO ACTIVITY	YES/NO TO CURRENT PORTFOLIO	FIRST OR SECOND SELECTION PERIOD
3 (PILOT)	YES	22-25	<5 YEARS	NHS	FEMALE	SOUTH EAST	GENERALLY POSITIVE	LOW	LOTS OF BENEFIT BUT LOTS OF BARRIERS		SPREAD	LOW	YES	1 <sup>ST</sup>
13	YES	36-40	11-20 YEARS	NHS	MALE	EAST ANGLIA	STRONGLY POSITIVE	HIGH		BROAD MINDED	GENERALLY NEGATIVE	MEDIUM	YES	1 <sup>ST</sup>
7	YES	26-30	<5 YEARS	NHS	MALE	SOUTH WEST	STRONGLY POSITIVE	LOW	LOTS OF BENEFITS	BROAD MINDED	STRONGLY NEGATIVE	LOW	YES	1 <sup>ST</sup>
10	YES	46-50	21-30 YEARS	NHS	MALE	SOUTH WEST	STRONGLY POSITIVE	LOW	LOTS OF BENEFITS	BROAD MINDED	STRONGLY POSITIVE	HIGH	YES	1 <sup>ST</sup>
15	YES	55+	>30 YEARS	PP	FEMALE	SOUTH EAST	GENERALLY POSITIVE	LOW	LOTS OF BENEFITS	NARROW MINDED	GENERALLY POSITIVE	LOW	YES	1 <sup>ST</sup>
22	YES	41-45	<5 YEARS	NHS	FEMALE	NORTH WEST	GENERALLY POSITIVE	MEDIUM	LOTS OF BENEFITS BUT LOTS OF BARRIERS	BROAD MINDED	GENERALLY POSITIVE	HIGH	YES	1 <sup>ST</sup>
25	NO	31-35	11-20 YEARS	NHS	FEMALE	EAST ANGLIA	STRONGLY POSITIVE	NONE	LOTS OF BENEFITS BUT LOTS OF BARRIERS	BROAD MINDED	SPREAD	HIGH	YES	1 <sup>ST</sup>
29	NO	36-40	11-20 YEARS	NHS	MALE	WALES	EITHER STRONGLY POSITIVE OR STRONGLY NEGATIVE, NO MIDDLE GROUND	LOW	VERY FEW BENEFITS	BROAD MINDED	EITHER STRONGLY POSITIVE OR STRONGLY NEGATIVE, NO MIDDLE GROUND	LOW	YES	1 <sup>ST</sup>
24	NO	55+	>30 YEARS	PP	FEMALE	SOUTH EAST	STRONGLY POSITIVE	HIGH		BROAD MINDED	NO CURRENT PORTFOLIO	NONE	NO	1 <sup>ST</sup>
28	NO	26-30	5-10 YEARS	NHS	FEMALE	SOUTH EAST	STRONGLY POSITIVE	MEDIUM	LOTS OF BENEFITS, SOME BARRIERS	MODERATELY BORADMINDED	MILDLY POSITIVE	MEDIUM	YES	2 <sup>ND</sup>
30	NO	55+	>30 YEARS	PP	FEMALE	SOUTH EAST	MILDLY POSITIVE	MEDIUM	SOME BENEFITS, SDOME BARRIERS	MODERATELY BORADMINDED	NO CURRENT PORTFOLIO	NONE	NO	2 <sup>ND</sup>

## **5.7 – Student Recruitment and Procedure**

Participants for the student portfolio questionnaire were recruited from UK Universities between 13<sup>th</sup> October and 20<sup>th</sup> December 2017. The aim was to recruit from across final year student populations in the UK, to gain as diverse a population of responders as possible. Limited research on this topic has been carried out in this population previously (Cross, 1997).

The student participants were recruited from UK Universities running BSc or MSc pre-registration Physiotherapy programmes. These Universities were identified by using the HCPC list of registered programmes within the UK, and University websites to identify programme leaders at each institution. Emails were sent to all programme leaders, asking them to circulate the email, including the link to the survey, to their final year students (see Appendix 3a). The email included as an attachment, an information sheet about the study (see Appendix 4b), which included contact details for the primary researcher if participants had any questions about the survey before completing it.

Following a poor response to the questionnaire by mid November 2017 (n=27), it was decided to put in an amendment to the ethics application, to widen the recruitment methods. Ethical approval to recruit via Twitter, and the iCSP student forum was approved on 4<sup>th</sup> December 2017. These alternative methods of recruitment, increased the number of responders to 53.

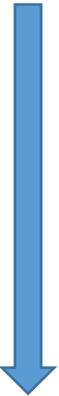
Since it is impossible to know how many of the course leaders distributed the email to their final year students, how many students saw the iCSP post or the Twitter link, the number of actual recipients of the link to the questionnaire is uncertain. Students who responded to the survey were deemed to have given consent for their anonymised responses to be included in the study. The questionnaire was activated in SnapWebHost on 13<sup>th</sup> October 2017 and closed on 20<sup>th</sup> December 2017. Data was downloaded from SnapWebHost on 20<sup>th</sup> December 2017 and imported into an Excel spreadsheet.

Responders to the online student portfolio questionnaire were asked to leave their email address at the end of the questionnaire, if they wished to be considered for the second phase of the study – the student portfolio interviews. Eighteen responders left their contact details. All of these responded either yes or no to the student portfolio question, and none were known personally to the researcher, therefore all eighteen were eligible to be considered for interview.

Using data from the online questionnaire, potential interviewees were divided into three groups – those for whom the student portfolio was required and assessed, those for whom it was required but not assessed and those for whom it was neither required nor assessed. It was

important to select interviewees from across this range to be able to determine any impact of requirement or assessment of the student portfolio on student’s attitudes to portfolios, CPD and LLL. Questionnaire data was divided into four sections – demographics, opinions about student portfolio, perceived preparedness for CPD moving forwards into their careers and perceived levels of support and feedback for their portfolios – and then ranked in order of importance for selection of interview participants to generate variety in the qualitative data collected from the interviews (see Table 5.5).

**Table 5.5 – Ranking of Student Questionnaire Data to aid Selection of Potential Variety of Interviewees**

RANKING OF IMPORTANCE	DEMOGRAPHICS	OPINIONS ABOUT STUDENT PORTFOLIO	PERCEIVED PREPAREDNESS FOR CPD MOVING FORWARDS INTO CAREERS	PERCEIVED LEVELS OF SUPPORT AND FEEDBACK ON PORTFOLIO PROCESS
	Age – range of ages important Type of course studying – aiming for a variety of types Gender – variety important Geographical place of study – variety important	Responses to the portfolio likert questions in the questionnaire were rated in terms of strongly positive, strongly negative or mild answers. Potential interviewees with strongly positive or negative answers selected over those with mild answers	Responses to the CPD likert questions in the questionnaire were rated in terms of strongly positive, strongly negative or mild answers. Potential interviewees with strongly positive or negative answers selected over those with mild answers	Responses to the questions about support, guidance and feedback were rated in terms of strongly positive, strongly negative or mild answers. Potential interviewees with strongly positive or negative answers selected over those with mild answers

Following the process described, nine interviewees were selected for interview (see Table 5.6).

**Table 5.6 – Student Interviewees Selected**

RESPONDER NUMBER	AGE	TYPE OF COURSE STUDIED	GENDER	GEOGRAPHICAL PLACE OF STUDY	IS YOUR PORTFOLIO REQUIRED?	IS YOUR PORTFOLIO ASSESSED?	WHAT IS THE STRUCTURE OF THE PORTFOLIO?	RESPONSES TO PORTFOLIO QUESTIONS	RESPONSES TO CPD AND PORTFOLIO USE FOLLOWING GRADUATION QUESTIONS	RESPONSES TO QUESTIONS ABOUT SUPPORT AND FEEDBACK	FIRST OR SECOND SELECTION PERIOD
15	26-30	MSc	FEMALE	SOUTH EAST	YES	YES	STRUCTURED	MILD	STRONGLY POSITIVE	NEGATIVE	1 <sup>ST</sup>
20	26-30	MSc	MALE	EAST ANGLIA	YES	YES	SEMI-STRUCTURED	STRONGLY POSITIVE	STRONGLY NEGATIVE	STRONGLY POSITIVE	1 <sup>ST</sup>
23	20-21	BSc	FEMALE	WEST MIDLANDS	YES	YES	STRUCTURED	NEGATIVE	MIXED POSITIVE AND NEGATIVE	MIXED POSITIVE AND NEGATIVE	1 <sup>ST</sup>
44	20-21	BSc	FEMALE	SOUTH WEST	YES	YES	SEMI-STRUCTURED	POSITIVE	STRONGLY POSITIVE	STRONGLY POSITIVE AND NEGATIVE	1 <sup>ST</sup>
16	22-25	MSc	FEMALE	EAST ANGLIA	YES	YES	STRUCTURED	POSITIVE	STRONGLY POSITIVE	MIXED POSITIVE AND NEGATIVE	2 <sup>ND</sup>
33	20-21	BSc	FEMALE	SOUTH WEST	YES	YES	STRUCTURED	MILD	MAINLY POSITIVE	POSITIVE	2 <sup>ND</sup>
6	20-21	BSc	FEMALE	NORTH WEST	YES	NO	UNSTRUCTURED	STRONGLY POSITIVE	STRONGLY POSITIVE	POSITIVE	1 <sup>ST</sup>
35	22-25	BSc	MALE	SOUTH EAST	YES	NO	UNSTRUCTURED	MILD	POSITIVE	STRONGLY NEGATIVE	1 <sup>ST</sup>
49	40+	BSc	FEMALE	SOUTH EAST	YES	NO	SEMI-STRUCTURED	MILD	STRONGLY POSITIVE	STRONGLY NEGATIVE	1 <sup>ST</sup>
13	26-30	MSc	FEMALE	SCOTLAND	NO	NO	SEMI-STRUCTURED	POSITIVE	STRONGLY POSITIVE	POSITIVE	1 <sup>ST</sup>
50	20-21	BSc	FEMALE	SOUTH WEST	NO	NO	SEMI-STRUCTURED	NEGATIVE	STRONGLY POSITIVE	STRONGLY NEGATIVE	1 <sup>ST</sup>

## **5.8 – Interview Process**

### **5.8.1 – Pilot Interview**

Because the physiotherapist interviews took place before the student interviews, due to timing of receiving ethical approval and student holidays, the pilot interview was done with one of the physiotherapist interviewees. The interviewee selected for the pilot interview was emailed on 31<sup>st</sup> July 2017, asking them whether they would still like to take part in the interview phase of the study (see Appendix 3b). The email contained a participant information sheet (see Appendix 4c) and participant consent form (see Appendix 4d). The interviewee was asked to complete the consent form and return it by email to the primary researcher, at which point they would be contacted to arrange a date and time for the telephone interview to take place.

The pilot interview took place on 23<sup>rd</sup> August 2017, via telephone and lasted 33 minutes. The interview was undertaken using the office telephone on speaker and was voice-recorded using two voice-recorders.

The interview began with a statement being read to the participant, describing the interview process and asking them to confirm their consent for the interview to take place. The interview then progressed using the interview questions outlined above, and at the end of the interview a final statement was read to the participant, asking them to confirm that they were happy for the data collected to be used in the study.

Once the interview was finished, the recordings were saved to a password-protected area on the University network, labelled by participant number for anonymity. The pilot interview was transcribed verbatim by the researcher and discussed with the supervisory team. No changes were made to the interview questions following the pilot interview.

### **5.8.2 – Other Physiotherapist Interviews**

The other eight participants were emailed between 25<sup>th</sup> August 2017 and 13<sup>th</sup> October 2017, asking them whether they would still like to take part in the interview phase of the study. Reminder emails were sent as per ethical approval (see Appendix 3b), if no response had been received within two weeks of the first email. If participants failed to respond to the second email, it was considered that they no longer wished to take part in this phase of the study.

Four further participants agreed to be interviewed and completed consent forms. These participants were interviewed by telephone, following the procedure outlined above, between the 18<sup>th</sup> September 2017 and 16<sup>th</sup> November 2017. The five participants who were interviewed are highlighted in Table 5.4 above.

Following transcription of the interviews, it was noted that although one of those who was interviewed had answered “no” regarding keeping a student portfolio (participant 29), in the interview, this participant had completed a student portfolio. On this basis, two further participants (participants 28 & 30), who had responded “no” to the student portfolio question in the questionnaire, were emailed on 5<sup>th</sup> February 2018 to try to maximise the breadth of those interviewed (see Table 5.4 for selection period). Neither of these participants responded to the email requesting participation in an interview, so the total number of interview participants was five.

### 5.8.3 – Student Interviews

The nine potential interviewees were emailed between 7<sup>th</sup> January and 9<sup>th</sup> February 2018 (selection period 1) asking them whether they would still like to take part in the interview phase of the study (see Appendix 3b). The email contained a participant information sheet (see Appendix 3e) and participant consent form (see Appendix 4f). The interviewee was asked to complete the consent form and return it by email to the primary researcher, at which point they would be contacted to arrange a date and time for the telephone interview to take place.

Reminder emails were sent as per ethical approval (see Appendix 3b), if no response had been received within two weeks of the first email. If participants failed to respond to the second email, it was considered that they no longer wished to take part in this phase of the study.

Only one response was received, from participant 49, who was interviewed by telephone on 2<sup>nd</sup> February 2018, following the same procedure described above.

No further responses were received from those selected for interview, and so it was decided to email the other nine students who had left their emails at the end of the questionnaire. These students were emailed on 1<sup>st</sup> and 19<sup>th</sup> February 2018 (selection period 2). Two further responses were received, and participants 16 and 33 were interviewed by telephone following the procedure described above. The three participants who were interviewed are highlighted in Table 5.6.

## **5.9 – Data Analysis Process**

The quantitative data from the online questionnaires was analysed using both descriptive and inferential statistics, as appropriate.

### 5.9.1 – Physiotherapist Questionnaire Data Analysis Process

Firstly, several sections of the questionnaire were analysed using descriptive statistics.

Demographic data were presented as a percentage of the full sample and compared with data

from the CSP and HCPC to give an indication of whether the sample was representative of the physiotherapy population in the UK. Employment data were also presented as percentages and compared with data from the CSP. Levels and types of CPD activity, broadmindedness about CPD, student portfolio information and current portfolio activity were reported as percentages of the full sample, while benefits of and barriers to CPD were reported as percentages of the sample, but also with means, medians and ranges to give the overall picture of physiotherapists' responses.

In the literature review, several of the studies using a five- or seven-point Likert scale combined some of their choices when reporting the results (Brennan & Lennie, 2010; Elango et al, 2005; Gordon, 2003; Kalet et al, 2007; Mubuuke et al, 2010; Timmins & Dunne, 2009). These studies reported only in terms of positive or negative responses, rather than providing the full range of data. One of the benefits of using a Likert scale is that it defines the responder's degree of opinion (Burns & Burns, 2008, pg. 245), for example strongly disagree/disagree, rather than just a positive or negative response. On this basis, by combining results, authors are not giving the true picture of the strength of opinion retrieved from the questionnaire. All likert scales in this study were analysed descriptively initially for the full sample, reporting the percentage of the sample giving each response, and then a total of the positive and negative responses so that the reader can see the overall picture but also the detail of responses (see Chapter Six, tables 6.1-6.8 for presentation of results).

#### 5.9.2 – Student Questionnaire Data Analysis Process.

As with the physiotherapist questionnaire, several sections of the student questionnaire were analysed using descriptive statistics. Demographic data for the final year students completing the questionnaire were presented as a percentage of the full sample and compared with first year student data from the CSP where possible to give an indication of whether the sample is representative of the student physiotherapy population in the UK. Student portfolio and feedback information was also presented as a percentage of the full sample.

Similarly to the physiotherapist questionnaire, all likert scales were analysed descriptively initially for the full sample, reporting the percentage of the sample giving each response, and then a total of the positive and negative responses so that the reader can see the overall picture but also the detail of responses (see Chapter Seven, tables 7.1-7.10 for presentation of results).

### 5.9.3 – Interview Data Analysis Process

Qualitative data from the two sets of interview transcripts was analysed using the same method, firstly a content analysis approach, followed by a thematic analysis approach.

Initial thematic frameworks (see Chapter Three, Figures 3.16 and 3.17, thematic frameworks HP & S1) were created from the literature reviews, developing “a priori” themes (Ritchie et al, 2014). These themes were applied to the data, taking a content analysis approach, using NVivo software (NVivo, 2019), under licence from the University. The number of times each theme was mentioned was recorded, as well as the number of interviewees who used the theme within the interview. As the data was analysed, new themes and subthemes emerged from the data, which had not been identified from the literature reviews, and these were added to the thematic frameworks, while themes and subthemes not supported by the data were removed (see Chapter Six, Figure 6.4 Thematic Framework P, and Chapter Seven, Figure 7.2, Thematic Framework S2). The frequency of the appearance of themes, both within and between participants, were recorded, using an enumerative approach (Grbich, 2012).

Secondly, thematic analysis was undertaken on the interview transcripts, where they were examined with an “open mind”, looking at bigger sections of text, rather than individual words or phrases, to capture conceptual, rather than descriptive themes (Gibbs, 2007). This was guided by the themes developed from the literature review and the content analysis and done manually by the primary researcher. The interview transcripts were analysed, making notes of what was said, and grouping these comments by interviewees within the themes and subthemes. Using a process of cross-case analysis, the data produced for each case was considered in relation to the others (Khan & Van Wynsberghe, 2008), allowing the identification of similarities or differences of views or experiences across the data set, while still allowing the uniqueness of specific individuals to be represented (see Chapter Six, Section 6.3.3 & Chapter Seven, Section 7.3.3).

The use of content analysis in the first instance, based on the “a priori” themes from the literature review provided a “numbers orientated” or positivist picture of the data, representing the frequency with which each theme was mentioned within all interviews and the number of interviews in which it was discussed. This provided a framework for the thematic analysis but did not provide detail or give context to the data. The addition of thematic analysis and an interpretivist perspective allowed the detail to be added, within the context of physiotherapy practice and education.

#### 5.9.4 – Integration of Questionnaire and Interview Datasets in Relation to the Research

##### Objectives.

Returning to the research objectives which were set at the end of Chapter Three, the likert data from the questionnaires was analysed in several subsets, to measure the influence of different factors on motivation of physiotherapists and physiotherapy students towards CPD, LLL and portfolios. Appropriate non-parametric statistical tests were applied, depending on the number of groups, with post-hoc tests applied where required. Non-parametric tests were used as the data from the likert scales was ordinal in nature, and in some cases the number of participants in each subset was small. The thematic analyses from the interviews was also analysed to identify themes related to the research objectives and integrated with the questionnaire findings to give an overall picture of the responses in relation to each objective. The subsets for the physiotherapist questionnaire can be seen in Figure 5.1; these results can be found in Chapter Six, Section 6.4. The subsets for the student questionnaire can be seen in Figure 5.2; these results can be found in Chapter Seven, Section 7.4.

This process of combining research results is called triangulation (Denzin, 1978; Kimchi, Polivka & Stevenson, 1991). The aims of triangulation are to improve the credibility of a study and to facilitate a deeper understanding of the phenomena under investigation, enriching the findings and adding value by explaining the phenomena from multiple viewpoints (Carvalho & White, 1997; Erzerberger & Prein, 1997; Johnson & Christensen, 2012; Mays & Pope, 2000). However, triangulation is generally associated with a positivist research paradigm, and is therefore not wholly applicable to this study. Lincoln and Guba (1985) stated that credibility within qualitative research comes from ensuring that the multiple realities of the phenomena presented by the participants are represented accurately and tested within various groups of similar participants. Sandelowski (1986), suggested that a qualitative study is more credible when other people who share experience of the phenomena would recognise the descriptions and interpretations that are presented. Combining the research findings from the questionnaires and interviews in this study allowed the findings from each to be compared with the other for trustworthiness and credibility.

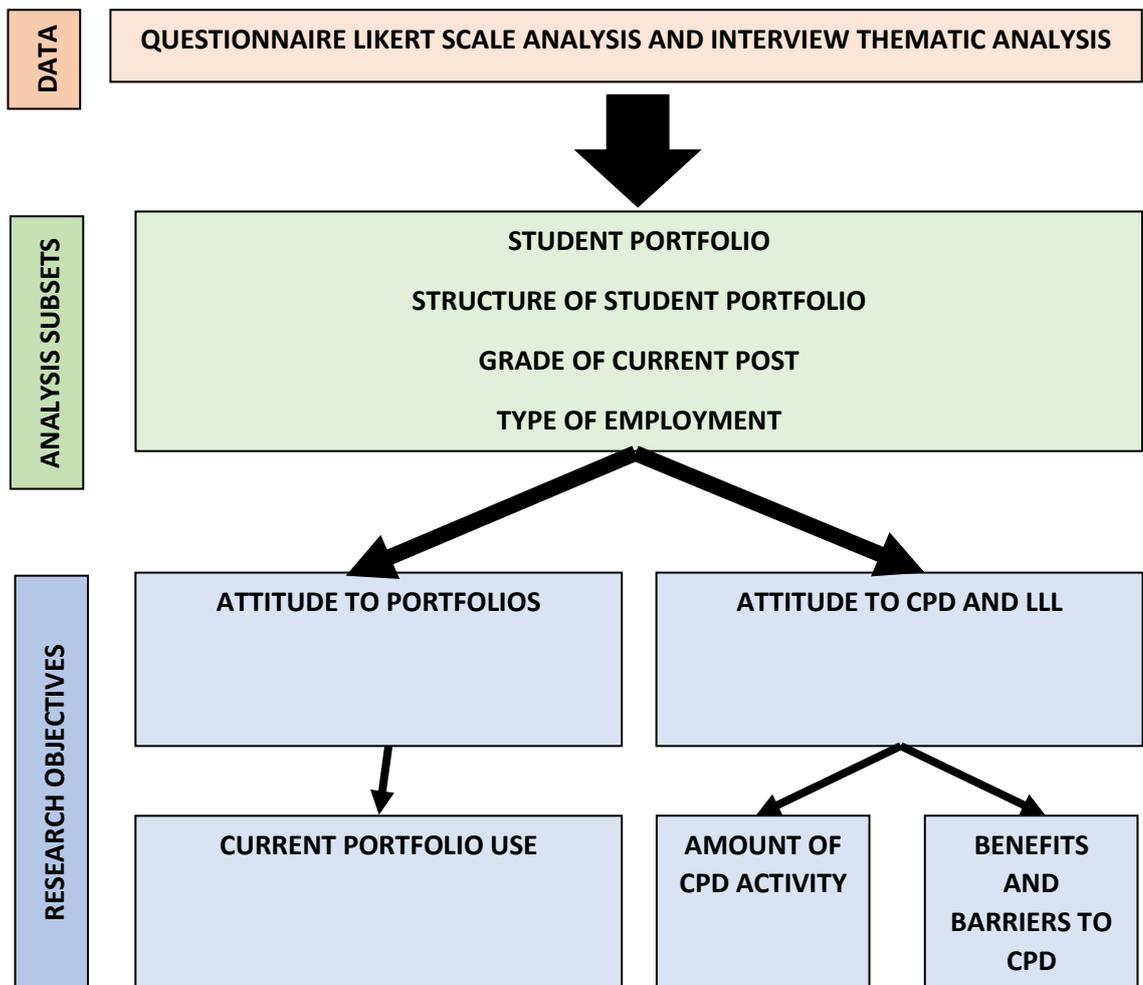
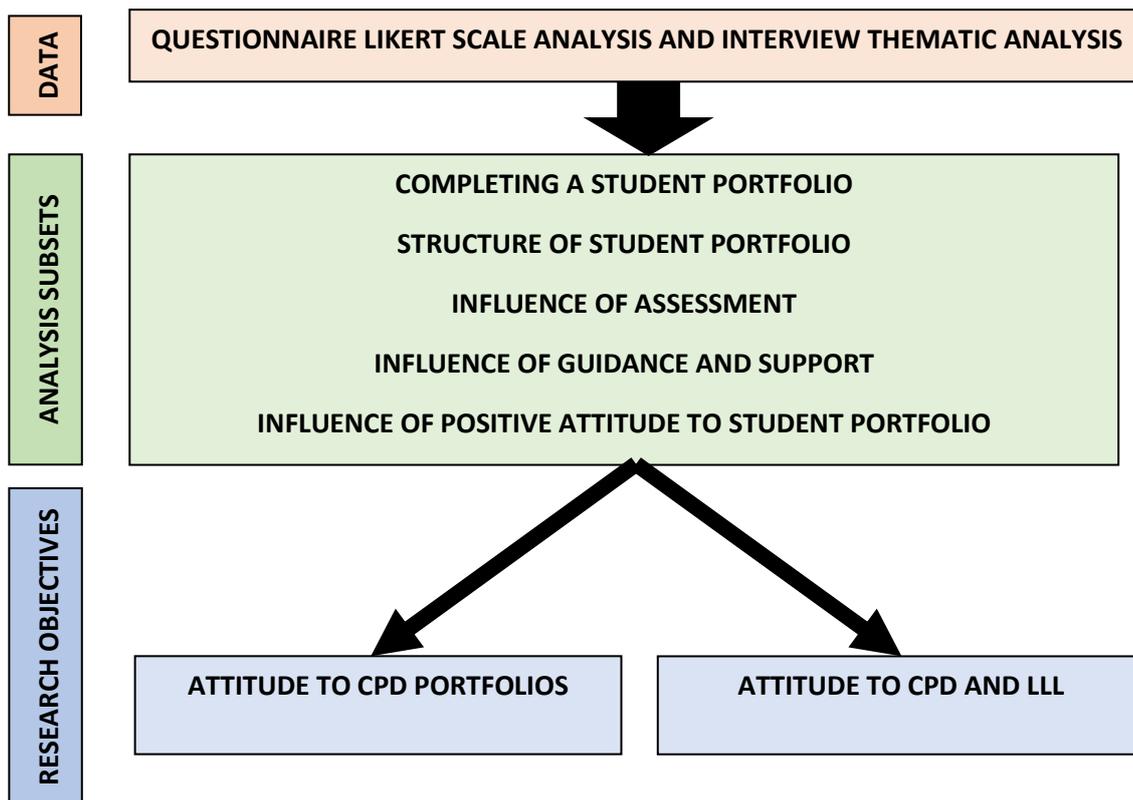


Figure 5.1 – Subsets of Data from Physiotherapist Questionnaire Analysed using Statistical Testing.



**Figure 5.2 – Subsets of Data from Student Questionnaire Analysed using Statistical Testing.**

### **5.10 – Conclusion**

In summary, the research took a mixed methods approach, using two online questionnaires and two groups of semi-structured telephone interviews. Questionnaire design attempted to avoid some of the pitfalls noticed within published literature, particularly when choosing the number of points on a likert-scale and ensuring that these were equally balanced between positive and negative response options. Interview questions were exploratory in nature to allow interviewees to provide depth in their answers, with flexibility for follow-up questions as appropriate.

The recruitment and selection processes described show transparency of the processes involved in the study, and attempts were made to overcome limitations in these methods. While it was not possible to select the ideal interview candidates, either from the physiotherapy or student questionnaire respondents, adaptations were made to ensure sufficient data collection occurred from both groups. The use of triangulation of results strengthened the trustworthiness and credibility of findings from the study.

Chapters Six and Seven will now present the results from the study, initially as separate datasets (questionnaire and interviews), followed by analysis of the data in combination to answer the research questions. Chapter Six presents the results from the physiotherapist

questionnaire and interviews, and Chapter Seven from the student questionnaire and interviews.



## **CHAPTER SIX – PHYSIOTHERAPIST QUESTIONNAIRE AND INTERVIEW RESULTS**

### **6.1 – Introduction**

In Chapter Four, the reader was introduced to the philosophical underpinning for the study, including the ontological, epistemological and research paradigm that influenced the approach to methodology and methods. Chapter Five explained the processes and procedures of the study, including design of the data collection instruments, recruitment and selection of participants and the processes of data analysis.

In this chapter, the results of the physiotherapist questionnaire and interviews will be described. Firstly, the questionnaire findings will be presented, giving the demographic and employment data for the participants, and comparing this to available national figures, in order for the reader to determine whether the sample is representative of the full population of physiotherapists in the UK. Results will then be presented for levels of CPD activity, types of CPD activity, and perceived benefits and barriers to CPD, followed by the participants' opinions on CPD. Information is then given about the physiotherapists' student portfolios, current portfolio activity, and their attitudes towards using a portfolio.

The interview data is presented in terms of content analysis, comparing the themes from the literature (see Chapter Three, Figure 3.16) with those emerging from the interviews, and merging these into a new thematic framework. Thematic analysis of the interviews is presented in terms of opinions about CPD and opinions about CPD portfolios and summarised in Figures 6.5 and 6.6.

The final section of this chapter presents the results of both the questionnaire and interviews in relation to research objective 2 –

2. To explore the motivations of physiotherapists towards CPD, LLL and portfolio use
  - a. What are the influences of completing a student portfolio, and the structure of the student portfolio on physiotherapists' motivation towards CPD, LLL and using a portfolio?
  - b. What other factors influence physiotherapists' motivations towards CPD, LLL and using a portfolio?

Only statistically significant findings are presented in table form in this section of the chapter (Section 6.4); for full details of statements in each section, please refer to Section 6.2. These findings are summarised in Figures 6.7 – 6.9.

## 6.2 – Physiotherapist Questionnaire Results

### 6.2.1 – Demographic Data

There were 205 responses to the physiotherapist questionnaire. Demographic data for the sample is shown in Table 6.1, with corresponding HCPC and CSP data shown in green and red respectively.

Fifty-two percent of the sample were aged between 22 and 35, compared with the average age of all HCPC registered physiotherapists being 39 (HCPC, 2016). The CSP reported data (see Appendix 5a) for age distribution of its membership in 2017 (the year of data collection of this

**Table 6.1 – Physiotherapist Demographic Data.**

AGE	22-25	26-30	31-35	36-40	41-45	46-50	51-55	55+
% of sample	16	21	15	13	7	11	8	9
CSP data (% of members)	21-30 = 24		31-40 = 32		41-50 = 20		51-60 = 16 Over 61 = 6	
GENDER	MALE	FEMALE						
(% of sample)	15	85						
CSP data (% of members)	24	76						
HCPC data (% of registrants)	22	78						
QUALIFYING QUALIFICATION	BSc Full time	BSc Part time	MSc pre-registration	Graduate Diploma in Physiotherapy	International BSc	International MSc	International other	Not recorded
(% of sample)	68	0.5	6	19	5	1		
CSP data (% of members)	45	2	5	0.1	1	0.3	0.2	46
HOW LONG QUALIFIED	< 5 YEARS	5-10 YEARS	11-20 YEARS	21-30 YEARS	> 30 YEARS			
(% of sample)	27	20	24	16	13			
HIGHEST PHYSIOTHERAPY RELATED QUALIFICATION	Diploma	BSc	MSc pre-registration	Post-qualifying Masters Level Qualification	Doctoral Level Qualification	Not recorded		
(% of sample)	16	60	21		2			
CSP data (% of members)	3	42	2	12	1	48		
CSP data (% of those for whom data held)	5	69	4	20	2			

study) can be seen in red in Table 6.1. This shows that the study sample were generally younger than both HCPC registrants and CSP members.

The sample was biased towards female participants, with 85% of the sample being female, compared with 78% of HCPC registered physiotherapists (HCPC, 2016) and 76% of CSP membership (see Appendix 5b).

The majority of the sample had qualified as physiotherapists through a BSc full time programme (68%). The data from the CSP is incomplete (see Appendix 5c), with 46% of members' qualifying qualification not recorded, as this data has only been requested more

recently as physiotherapists graduate. However, the largest group of Physiotherapists still qualified through a BSc full time programme (see data in red in Table 6.1).

For 60% of the sample, their highest level of Physiotherapy qualification was a BSc. It is difficult to tell whether this is comparable with the full population of physiotherapists in the UK, as data from the CSP is incomplete, only recording highest level of qualification for 52% of members (see Appendix 5d), however of the data held, BSc, MSc and doctoral qualification percentages were relatively similar to that of the study sample. The study sample did have a higher percentage of physiotherapists with a graduate diploma as their highest qualification (16% vs. 5%), which is interesting considering the study sample were generally younger than CSP membership, but possibly explained by the missing CPD data.

## 6.2.2 – Employment Data

Information about the respondents' employment data can be found in Table 6.2.

**Table 6.2 – Physiotherapist Employment Data.**

GEOGRAPHICAL LOCATION OF EMPLOYMENT	SE	SW	EM	EA	NW	WM	YH	W	S	NI	
(% of sample)	33	16	4	5	23	7	2	7	2	0.5	
<b>CSP data</b>	England = 83%							4%	9%	3%	
<b>PRIMARY EMPLOYMENT</b>	NHS Trust	Private Practice	Private Hospital	University	Other	Unknown					
(% of sample)	83	14	1	0.5	2						
<b>CSP data</b>	48	9	4	2	10	27					
<b>JOB BANDING</b>	Band 5	Band 6	Band 7	Band 8A	Band 8B	Self-employed					
(% of sample)	16	36	23	10	4	11					
% of sample at each band (not including self-employed, n=182)	18	41	26	11	4						
<b>CSP reported NHS Health Department Data</b>	20	43	31	7	Band 8b and above = 1.5	Not included in the report					
<b>DIVISION OF JOB HOURS</b>	Clinical	Managerial	Education	Research							
Mean (%)	69.8	15.41	13.21	5.26							
Median (%)	80	10	10	0							
Range (%)	0-100	0-100	0-70	0-70							
<b>HOW MANY PHYSIOTHERAPISTS DO YOU WORK WITH ON A DAILY BASIS</b>	None	One	Two	Three	> Three						
(% of sample)	10	8	11	8	63						
<b>HOW MANY AHP'S DO YOU WORK WITH ON A DAILY BASIS?</b>	None	One	Two	Three	> Three						
(% of sample)	20	6	9	6	59						

Coding of geographical locations – SE = South East, SW = South West, W = Wales, EA = East Anglia, NW = North West, WM = West Midlands, YH = Yorkshire and Humber, NI = Northern Ireland, S = Scotland, EM = East Midlands

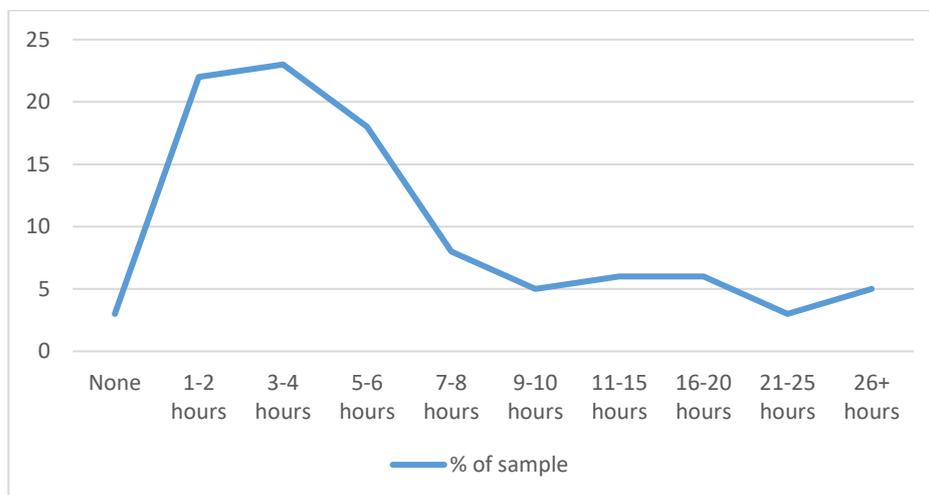
The sample is slightly skewed towards participants from England, with 90% of respondents working in England as opposed to CSP data recording 83% of the physiotherapy membership working in England. Scotland and Northern Ireland are under-represented in the sample, with Wales being over represented (see CSP data, Appendix 5e).

Eighty-three percent of physiotherapist respondents were employed in the NHS, compared with CSP membership data recording 48%. While this appears significantly different, the CSP report 27% of its membership’s employment status is unknown, suggesting NHS employment could be higher than they report (see Appendix 5f). This level of employment in the NHS is also reflected in the number of other physiotherapists and AHP’s the sample work alongside. Sixty-three percent worked with more than three other physiotherapists daily and 59% of the sample worked with more than three other AHP’s daily, reflecting large multiprofessional team working. Physiotherapists working in private practice are also over-represented in the sample, in comparison with the data provided by the CSP, although this could be due to their lack of data for 27% of the membership.

While the sample is reasonably representative of the workforce in terms of career level, the band 8 grades are over-represented in relation to the full population as reported by the CSP (see Appendix 5g).

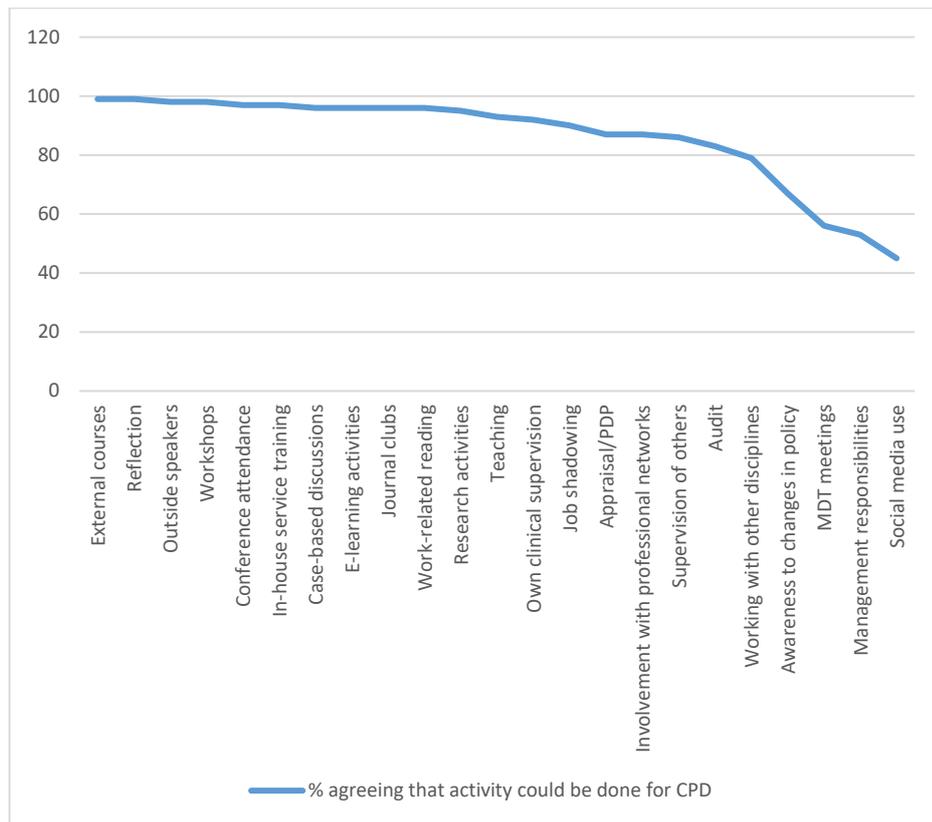
### 6.2.3 – Physiotherapists’ CPD Activities

In the questionnaire, physiotherapists were asked to give details about the CPD that they had done in the last month, and were also given a list of 24 activities and asked whether they considered that these could be undertaken for CPD.



**Figure 6.1 – Number of Hours of CPD Completed in Last Month**

Sixty-three percent of physiotherapists had completed between 1 and 6 hours of CPD in the last month, 3% had completed no CPD, and 8% had undertaken more than 20 hours of CPD (see Figure 6.1).



**Figure 6.2 – Percentage of Sample Considering Each Activity to be Appropriate for CPD.**

Physiotherapists were generally broadminded about what could be considered as a CPD activity (see Figure 6.2). Of the 24 activities given in the questionnaire, the mean number of activities considered appropriate for CPD was 20.78, with a median of 22 and a range from 7-24. It is interesting that, apart from reflection, the most supported activities could all be considered those where the participant is gaining knowledge from another person – external courses, outside speakers, workshops, conference attendance, in-house service training. Activities that were ranked lowest, apart from social media use, tended to be those that would be done as part of day-to-day work activities – management responsibilities, MDT meetings, awareness of change to policy, working with other disciplines, audit. This suggests that although physiotherapists were broadminded, they still seem to view more formal learning opportunities as more valuable for the CPD than work-related activities.

#### 6.2.4 – Physiotherapists’ Perceived Benefits of and Barriers to CPD

Physiotherapists were asked to consider a list of ten benefits and ten barriers to CPD, as reported by the literature, and report whether they thought these were benefits or barriers to them personally. The results for these can be seen in Table 6.3. Generally, the sample reported more benefits of CPD than they did barriers to it (mean benefits = 7.84, mean barriers = 4.74).

Keeping up to date with knowledge and maintaining registration were identified as benefits by the highest percentage of participants (96% and 93% respectively), with networking and external approval identified by the lowest percentages (57% and 46% respectively).

The greatest barrier to CPD was the prioritisation of patient care over CPD (73%), however personal and employer financial constraints (71% and 60% respectively) as well as lack of cover (61%) also appeared high on the list of barriers. The smallest barrier was of being an isolated worker (16%). Given the nature of the sample, with 83% working in the NHS, in large multiprofessional teams, these figures are not surprising.

**Table 6.3 – Physiotherapists’ Opinions about Benefits of and Barriers to CPD.**

<b>WHAT ARE THE BENEFITS OF UNDERTAKING CPD?</b>	<b>Keeping up to date with knowledge</b>	<b>Maintains registration</b>	<b>Helps to solve work related problems, or view situations differently</b>	<b>Motivation/satisfaction</b>	<b>Improved confidence</b>	<b>Improves reflection</b>	<b>Promotion/career trajectory</b>	<b>Improved image of the profession</b>	<b>Networking</b>	<b>External approval</b>	
(% of sample)	96	93	92	90	86	86	70	66	57	46	Mean benefits identified = 7.84 Median benefits identified = 8 Range of benefits identified = 3-10
<b>WHAT ARE THE BARRIERS TO CPD?</b>	<b>Patient care is prioritised over CPD</b>	<b>Personal financial constraints</b>	<b>Lack of cover for time out of work to attend CPD activities</b>	<b>Employer financial constraints</b>	<b>No protected time during work hours</b>	<b>Geography/access issues to attend CPD activities</b>	<b>Lack of information about CPD opportunities</b>	<b>Lack of employer support for CPD</b>	<b>Available CPD is not relevant to my practice</b>	<b>Isolated worker, no-one to undertake CPD activities with</b>	
(% of sample)	73	71	61	60	59	58	29	28	18	16	Mean barriers identified = 4.74 Median barriers identified = 5 Range of barriers identified = 0-10

### 6.2.5 – Physiotherapists’ Opinions towards CPD

In the next section of the questionnaire, physiotherapists were asked to respond to 20 likert style questions in relation to their opinions about CPD (see Table 6.4). Thirteen questions were positively framed, with seven negatively framed (shown in red).

**Table 6.4 – Physiotherapists’ Responses to Opinions of CPD (% of sample)**

	SA	A	MA	MD	D	SD	% POSITIVE ANSWER	% NEGATIVE ANSWER
I am unsure what constitutes CPD	2	3	8	11	44	32	13	87
I am motivated to undertake CPD activities	35	41	17	2	3	2	93	7
I get enjoyment from undertaking CPD	21	46	22	7	1	3	89	11
CPD is worthwhile	48	41	7	1	1	2	96	4
CPD is a chore	4	8	31	20	25	12	43	57
I feel a sense of achievement when I have completed some CPD	30	43	20	2	4	1	93	7
Undertaking CPD gives me job satisfaction	27	37	25	6	3	2	89	11
There is value in undertaking CPD	37	45	10	1	2	5	92	8
The culture of physiotherapy as a profession does not recognise the value of CPD	1	5	10	16	37	31	16	84
I do not need external prompting to undertake CPD	24	32	24	11	7	2	80	20
Lifelong learning is an expected part of my professional status	63	35	1	0	1	0	99	1
I cannot maintain my professional status unless I undertake CPD activities	27	43	16	8	4	2	86	14
CPD is only relevant for those still developing in their professional careers	2	2	4	4	34	54	8	92
I should only have to undertake CPD if there is opportunity for career progression for me	1	2	12	36	48	1	15	85
I do not need to undertake CPD to maintain my professional competence	1	1	4	9	28	57	6	94
Undertaking CPD has helped to improve client/patient outcomes	22	52	20	4	1	1	94	6
It is difficult to implement changes generated from CPD into practice	3	15	25	26	24	7	43	57
I have started undertaking more CPD since the introduction of HCPC CPD audit	13	20	21	18	21	7	54	46
I undertake CPD because I might be asked to submit for HCPC CPD audit	5	28	26	15	17	9	59	41
Employer support (financial/time/cover) for CPD has improved since the introduction of HCPC CPD audit	2	11	21	24	27	15	34	66

Coding of responses – SA = Strongly agree, A = Agree, MA = Mildly agree, MD = Mildly disagree, D = Disagree, SD = Strongly disagree.

Generally, physiotherapists were clear on what constituted CPD. They also thought that CPD was worthwhile, were motivated to undertake CPD activities, got a sense of achievement when they completed some CPD, felt there was value in doing CPD, and got enjoyment and job satisfaction from it. Despite this, 43% still felt that CPD was a chore.

CPD seemed to form a part of a physiotherapists’ idea of professionalism, with high percentages of the sample responding that LLL is an expected part of their professional status, and that this cannot be maintained without undertaking CPD activities. They also felt that the culture of physiotherapy recognised the value of CPD and that they did not need external

prompting to undertake CPD. It was also clear that physiotherapists felt that CPD was relevant to them throughout their careers, and not just for those starting out in their professional roles, or just something that is done if there is the opportunity for promotion.

In relation to their clinical practice, physiotherapists strongly agreed that professional competence could not be maintained without undertaking CPD and that patient outcomes had improved because of CPD. However almost half of the sample felt that it was difficult to implement changes generated from CPD into practice.

The introduction of HCPC CPD audit seemed to have some influence on the CPD that was done by these physiotherapists, with 59% saying they undertake CPD because they may be audited and 54% saying that they do more CPD since the introduction of the audit process. However, only 34% felt that employer support for CPD had improved since the CPD audit began.

**Table 6.5 – information about Physiotherapists’ Student Portfolios.**

<b>DID YOU COMPLETE A PORTFOLIO AS PART OF YOUR PRE-REGISTRATION COURSE?</b>	<b>YES</b>	<b>NO</b>	<b>CAN'T REMEMBER</b>		
(% of sample)	49	40	11		
<b>WAS THIS A COMPULSORY PART OF YOUR COURSE?</b>	<b>YES</b>	<b>NO</b>	<b>CAN'T REMEMBER</b>	<b>DID NOT ANSWER</b>	
(% of sample)	56	29	11	4	
<b>HOW STRUCTURED WAS YOUR STUDENT PORTFOLIO?</b>	<b>Very structured – I was told exactly what pieces of evidence to collect at each stage of the portfolio process</b>	<b>Structured – I had specific standards or criteria to meet but how I demonstrated this was up to me</b>	<b>Semi-structured – I was given some guidance as to how to complete my portfolio, but no specific standards or criteria to meet</b>	<b>Unstructured – my portfolio could include anything I wanted and be designed how I chose</b>	
(% of sample)	17	36	36	11	
<b>WHAT WAS THE FORMAT OF YOUR STUDENT PORTFOLIO?</b>	<b>Electronic platform via University</b>	<b>Paper</b>	<b>CSP e-portfolio</b>	<b>Electronic via webhost</b>	<b>Other</b>
(% of sample)	5	79	14	1	1

### 6.2.6 – Physiotherapists’ Student CPD Portfolios.

The questionnaire then asked the sample to provide some information about the portfolios they used as students (see Table 6.5). Forty-nine percent of physiotherapists had completed a portfolio as part of their pre-registration studies, and for 56% of these this was compulsory. Most had a student portfolio that was either structured or semi-structured, and 79% completed their portfolio in a paper format.

Respondents were provided with a list of documents that they might have collected in their student portfolios. The mean number of types of documents collected in student portfolios was 10.18, with a median of 11 and a range from 2-16 (see table 6.6).

**Table 6.6 – What did Physiotherapists Include in their Student Portfolios?**

TYPE OF DOCUMENT	(% of sample)
REFLECTION ON PLACEMENT LEARNING	88
SWOT ANALYSIS	81
CLINICAL PLACEMENT DOCUMENTS	81
ASSESSED COURSE WORK	77
LEARNING AGREEMENTS	74
MANDATORY TRAINING RECORDS	73
REFLECTION ON CLASSROOM LEARNING	73
IN-SERVICE TRAINING NOTES	71
PERSONAL DEVELOPMENT PLAN	71
EXTERNAL COURSE CERTIFICATES	68
REFLECTION ON READING RESEARCH PAPERS	60
THANK YOU CARDS	60
PATIENT RECORDS	53
RESEARCH PAPERS	43
NOTES FROM MEETINGS WITH ACADEMIC STAFF	26
UNASSESSED COURSE WORK	17

### 6.2.7 – Physiotherapists’ CPD Portfolio Activity

The questionnaire asked respondents to provide some information on their current use and organisation of a CPD portfolio (see Table 6.7). Eighty-seven percent of physiotherapists currently keep a CPD portfolio, with 39% describing these as well organised. When asked what they had used their portfolio for in the last 6 months, 77% said it was a place to store their CPD records, 44% used it as a place to record learning objectives and 41% used it as a place to consider their personal development planning. Only 20% of physiotherapists used their portfolio as somewhere to reflect on day-to-day happenings at work.

**Table 6.7 – Physiotherapists’ Current Use of a CPD Portfolio**

<b>DO YOU CURRENTLY KEEP A PORTFOLIO?</b>	<b>YES</b>	<b>NO</b>							
(% of sample)	87	13							
<b>HOW WOULD YOU DESCRIBE HOW YOU DO THIS?</b>	<b>Paper, well organised</b>	<b>Paper, not organised</b>	<b>Stuff in lots of places and lots of formats</b>	<b>Very organised, review it regularly, draw together what I have done</b>	<b>Electronic, well organised</b>	<b>Electronic, not organised</b>	<b>In my head, no hard evidence</b>	<b>No answer</b>	
(% of sample)	22	21	20	10	7	4	3	13	
<b>WHAT HAVE YOU USED YOUR PORTFOLIO FOR IN THE LAST 6 MONTHS?</b>	<b>A place to store my CPD records</b>	<b>A place to record my learning objectives</b>	<b>A place to consider my personal development planning</b>	<b>To help me complete an application for a different job or study</b>	<b>A method of identifying future learning needs</b>	<b>A tool to aid my learning</b>	<b>A method of identifying my strengths and weaknesses</b>	<b>Somewhere to reflect on day-to-day happenings at work</b>	
(% of sample)	77	44	41	32	32	31	28	20	Mean uses for portfolio = 3.06 Median uses for portfolio = 3 Range of uses for portfolio = 0.8

### 6.2.8 – Physiotherapists’ Attitudes towards Using a Portfolio

The final section of the questionnaire asked respondents to give their opinions on using a portfolio, by answering 17 likert style questions (see Table 6.8). Twelve of these questions were positively framed, five of them negatively framed (shown in red).

**Table 6.8 – Physiotherapists’ Responses to Opinions about Portfolios.**

	SA	A	MA	MD	D	SD	% POSITIVE ANSWER	% NEGATIVE ANSWER
I like compiling my portfolio	6	19	33	25	12	5	58	42
I am not sure what to use my portfolio for	2	6	16	24	34	18	24	76
My portfolio has helped me to develop my self-awareness of my learning needs	7	37	31	12	10	3	75	25
Using a portfolio has helped me to think more reflectively	7	39	34	11	7	2	80	20
I don't need to keep a portfolio to be able to reflect on my practice	5	17	33	25	16	4	55	45
Using a portfolio has helped me to think more critically about my practice	8	39	29	15	7	2	76	24
My portfolio is a safe place for me to examine my practice	5	33	37	16	7	2	75	25
Building the portfolio has improved patient care	6	24	36	17	14	3	66	34
Recording my learning in a portfolio has helped me to implement this in practice	4	32	30	18	12	4	66	34
Keeping a portfolio has not changed my practice	7	13	22	28	25	5	42	58
I value the portfolio as somewhere I can consider who I am as a physiotherapist	6	24	34	16	14	6	64	36
Using a portfolio has helped me to recognise my personal and professional values	7	36	30	13	8	6	73	27
My portfolio truly reflects who I am as a physiotherapist	1	10	33	29	18	9	44	56
A portfolio does not reflect the full scope of my competence as a physiotherapist	18	41	27	7	5	2	86	14
No-one is interested in looking at my portfolio	11	21	28	21	16	3	60	40
A portfolio is only beneficial when starting out in your career	2	4	7	16	47	24	13	87
I am confident I have sufficient evidence in my portfolio to meet HCPC requirements	22	37	25	6	9	1	84	16

Coding of responses – SA = Strongly agree, A = Agree, MA = Mildly agree, MD = Mildly disagree, D = Disagree, SD = Strongly disagree.

Although the respondents were confident that they knew what to use their portfolio for (75%), only 58% liked compiling their portfolios. In terms of skill development, there was a consensus that the portfolio had helped them to develop an awareness of their learning needs, had helped them to think more reflectively and more critically about their practice, and that it was a safe place to examine their practice and consider who they are as physiotherapists.

There was moderate agreement (66%) that building the portfolio had improved patient care and that recording learning had helped them to implement this learning into practice. Even though the respondents generally felt the portfolio had helped them to recognise their personal and professional values, they did not feel that the portfolio truly reflected who they are as physiotherapists and strongly felt that it did not represent the full scope of their competence. Although 60% felt that no-one was interested in looking at their portfolios, they

still felt these were beneficial throughout their careers, and were confident they had enough evidence to meet HCPC requirements, if called for audit.

### **6.3 – Physiotherapist Interview Findings.**

Five physiotherapists responded to emails asking for their participation in the interview phase of the study. Although the intention had been to interview physiotherapists from a range of employment types, those responding all worked in the NHS. For the purposes of reporting, their names have been changed and they will be referred to as Penny, Brian, Gareth, Owen and Richard. In the following sections of the thesis, Penny’s responses are shown in purple, Brian’s in blue, Gareth’s in green, Owen’s in orange and Richard’s in red. Figure 6.3 gives an overview of the demographics and student portfolio information of the five interviewees, and Table 6.9 provides a summary of their responses to the questionnaire.

PENNY	BRIAN	GARETH	OWEN	RICHARD
<ul style="list-style-type: none"> <li>•22-25</li> <li>•no family commitments</li> <li>•elite sports person</li> <li>•Full time BSc (degree highest level)</li> <li>•South East</li> <li>•NHS, band 6, MSK</li> <li>•60% clinical, 20% managerial, 10% education, 10% research</li> <li>•yes to student portfolio, very structured, 5/16 documents</li> </ul>	<ul style="list-style-type: none"> <li>•26-30</li> <li>•no family commitments</li> <li>•Full time MSc pre-reg (MSc highest level)</li> <li>•South West</li> <li>•NHS, band 6, functional assessment unit</li> <li>•90% clinical, 0% managerial, 10% education, 0% research</li> <li>•yes to student portfolio, structured, 8/16 documents</li> </ul>	<ul style="list-style-type: none"> <li>•46-50</li> <li>•family commitments</li> <li>•Full time BSc (degree highest level)</li> <li>•South West</li> <li>•NHS, band 7, acute medicine</li> <li>•70% clinical, 20% managerial, 10% education, 0% research</li> <li>•yes to student portfolio, unstructured, 7/16 documents</li> </ul>	<ul style="list-style-type: none"> <li>•36-40</li> <li>•family commitments</li> <li>•Full time BSc (MSc highest level)</li> <li>•East Anglia</li> <li>•NHS, band 7, acute medicine</li> <li>•60% clinical, 30% managerial, 10% education, 0% research</li> <li>•yes to student portfolio, semi-structured, 10/16 documents</li> </ul>	<ul style="list-style-type: none"> <li>•36-40</li> <li>•family commitments</li> <li>•Full time BSc (MSc highest level)</li> <li>•Wales</li> <li>•NHS, band 7, mental health</li> <li>•90% clinical, 10% managerial, 0% education, 0% research</li> <li>•no to student portfolio</li> </ul>

**Figure 6.3 – Physiotherapist Interview Participant Demographic Information.**

#### **6.3.1 – Physiotherapist Interviewee Responses in the Questionnaire.**

The physiotherapist interviewee’s responses to the questionnaire are summarised in Table 6.9. Except for Richard, all interviewees identified more benefits of CPD than barriers to it. Penny and Gareth identified the highest number of benefits, with Richard the lowest. Penny also identified the highest number of barriers, with Brian, Owen and Richard the lowest. All interviewees considered promotion/career trajectory and the maintenance of registration as important benefits of CPD, and all felt that patient care being prioritised over CPD and personal financial constraints were barriers to undertaking CPD.

**Table 6.9 – Summary of Physiotherapist Interviewee’s Responses to the Questionnaire**

	PENNY	BRIAN	GARETH	OWEN	RICHARD
Number of benefits identified (/10)	9	8	9	6	3
Number of barriers identified (/10)	8	4	5	4	3
Broadmindedness about CPD activities (/24)	17	22	24	21	24
Hours of CPD in last month	3-4	1-2	3-4	11-15	3-4
Description of current CPD portfolio	Not organised	Organised	Not organised	Not organised	Not organised
Number of uses for portfolio in the last 6/12 (/8)	2	2	5	3	2
Opinions on CPD	Mainly moderately positive	Mainly moderately positive	Strongly positive	Mainly moderately positive	Strongly positive and strongly negative
Opinions on current portfolios	Mainly negative	Mainly negative	Strongly positive	No strong opinion	Strongly positive and strongly negative

All five interviewees were broadminded about what constitutes CPD, ranging from 17 out of 24 activities (Penny), to 24 out of 24 activities (Gareth and Richard). Four of the five interviewees had done between one and four hours of CPD in the last month, with Owen completing 11-15 hours. Only Brian described his current CPD portfolio as organised, and of the list of eight activities suggested that they might have used their portfolio for in the last 6 months, interviewees said they had used it for between two and five of these. All five interviewees said they saw their portfolio as somewhere to store their CPD records, but none of them saw it as a tool to aid their learning or as a method to identify their strengths and weaknesses.

In terms of their opinions on CPD, when answering this section of the questionnaire, Gareth was strongly positive, Owen, Brian and Penny were moderately positive, and Richard was more strongly positive than negative, but was strongly negative in some areas.

All interviewees strongly agreed that LLL is an expected part of their professional status, and either strongly agreed or agreed that they cannot maintain their professional status unless they undertake CPD activities. They all strongly disagreed that CPD is only relevant for those still developing in their careers, that they do not need to undertake CPD to maintain their professional competence, and either strongly disagreed or disagreed that they should only have to undertake CPD if there is an opportunity for career progression for them.

When answering the questionnaire section relating to attitudes to using a portfolio, Penny and Brian were generally negative in their answers, while Gareth was strongly positive. Owen tended to give mainly mild answers, both positive and negative, while Richard was strongly positive or strongly negative with all his answers. In comparison with the likert questions relating to CPD, there were no questions about portfolios that the five interviewees agreed on.

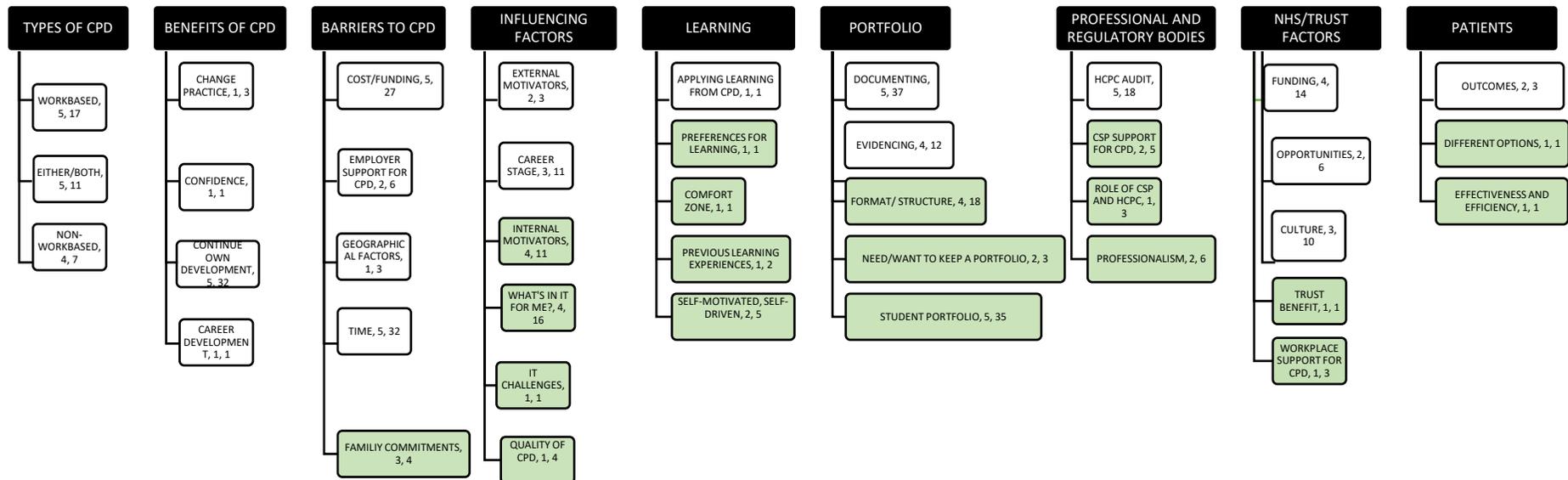


Figure 6.4 – Thematic Framework P – Physiotherapists’ Perceptions and Attitudes towards CPD and Portfolios from Interviews.

### 6.3.2 – Physiotherapist Interview Content Analysis

Content analysis was carried out, as described in Chapter Five, Section 5.3. The frequency of appearance of themes, both within and between participants, were recorded (first number represents number of participants raising the topic, second number represents the total number of times the theme is mentioned in the interviews) (Grbich, 2012). There was generally good concordance between the perceptions and attitudes to CPD and portfolios identified from the literature and those recorded in the interview transcripts in relation to types of CPD, NHS/Trust factors and patient factors. There were several themes that arose from the literature review that were not mentioned by the interviewees; these mainly fell under the headings of benefits and barriers to CPD, and the portfolio. Nineteen new themes, which did not appear from the literature review, were identified by content analysis of the interview transcripts. These fell under the headings of barriers, influencing factors, learning, portfolio, professional and regulatory bodies, NHS/Trust factors and patients (see green boxes in Figure 6.4).

### 6.3.3 – Physiotherapist Interview Thematic Analysis.

#### *6.3.3.1 – Physiotherapist interviewee opinions about CPD.*

During their interviews, all physiotherapists talked about how they felt about CPD (see Figure 6.5). Penny described a battle between what she wanted to do to continue her development, and what she was being told to do by her employer. This resulted in her feeling negative and demotivated to undertake CPD. Richard seemed to view CPD as something to be done, rather than a means of learning. Brian came across as highly motivated and keen to undertake CPD, but this didn't appear to follow through in his actions regarding CPD, with a limited range of activities done, and little evidence of any CPD. Owen presented a more positive picture, was broadminded about what can be considered as CPD and tends to do a lot of different things to learn. He stated that he thinks he learns on a daily basis, but mentioned several barriers to undertaking CPD. Gareth was the most positive of all the interviewees, being broadminded and does a lot of CPD. He talked a lot about learning about himself, rather than just learning skills and how this knowledge of who he is can assist in his daily work.

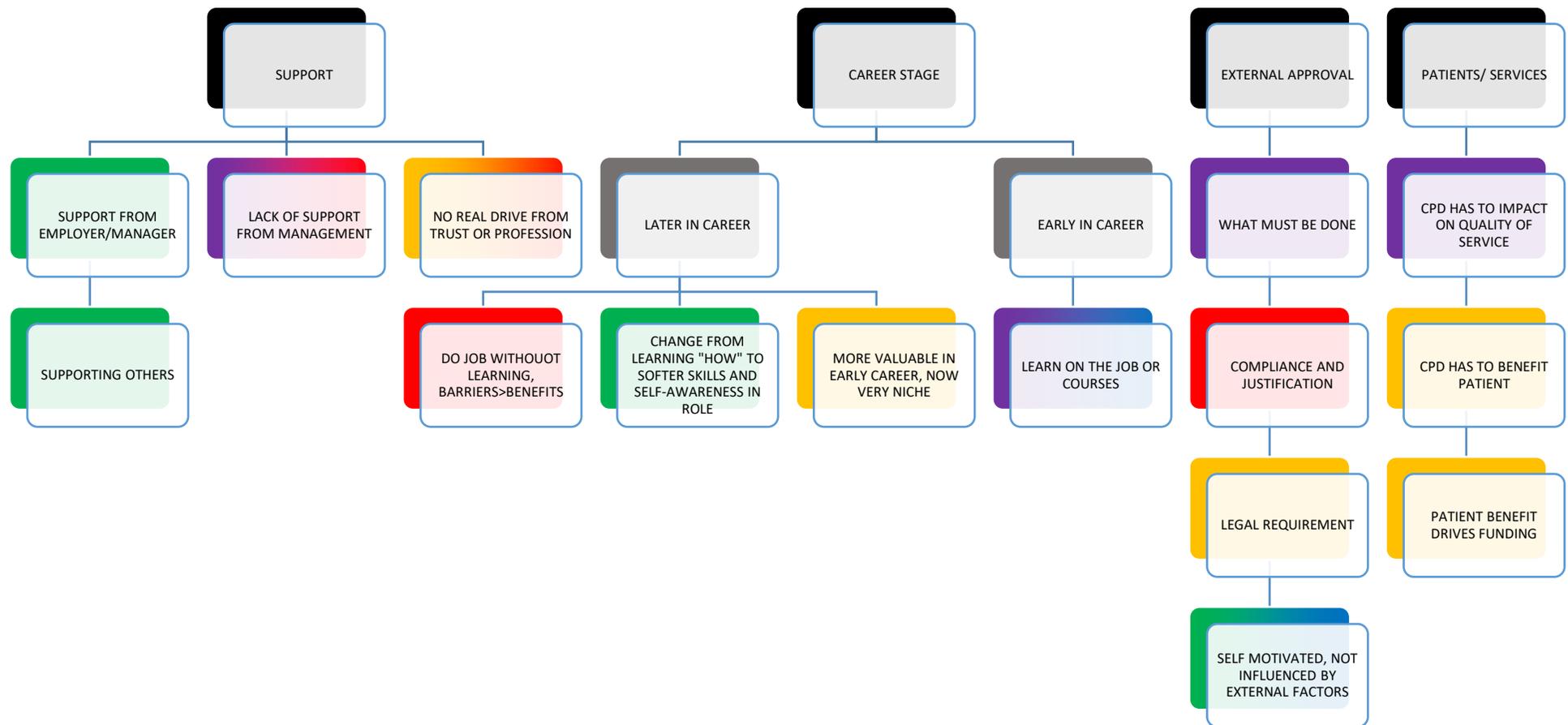
There appeared to be several influencing factors from across the interviews, and these impacted on interviewees motivation to undertake CPD and their attitudes to it. Gareth talked about the role of support in stimulating and maintaining motivation to learn and talked about himself as both a supporter of staff but also as being supported by his managers. Penny and Richard both presented a different view, that lack of support from employers for CPD had demotivated them. Owen, while not specifically mentioning a lack of support, felt that there

was no real drive from either his Trust or the profession to encourage CPD, and this was echoed by Richard.

Career point appeared to influence responses in several ways. Those physiotherapists who were early in their careers (Penny and Brian), seemed to want to undertake skills-based learning, either work-based, or on courses. The other three interviewees were more experienced. Owen reported that he felt his CPD had become very niche and it was not as important now as in the early stages of his career. Gareth felt that he had changed from learning how to do the job, to learning softer skills and self-awareness within his role. Richard seemed to do his job without learning, expressing mainly negative views and more barriers than benefits in his interview.

External approval, recognition for CPD and regulation was discussed in many of the interviews. Penny, Richard and Owen all present a negative impact of external factors – it is about what must be done, compliance and justification of what you do, and the legal requirement. Alternatively, Brian explicitly stated that he didn't need external prompting of audit to undertake CPD, that he did it because he wanted to. Gareth also appeared to be internally motivated and less influenced by external factors.

Four of the interviewees talked about accessing CPD, and financial support for undertaking CPD activities. Owen said that benefit of CPD to the patient needed to be demonstrated, and this drove financial support for CPD opportunities, while Penny said that her CPD had to have an impact on the service before it would be supported. Richard said that funded CPD opportunities were extremely limited, while Gareth felt that ensuring your CPD goals aligned with Trust goals would help you to obtain funding and support.



**Figure 6.5 – Physiotherapist Interviewees Opinions about CPD – Support, Career stage, External Approval and Patients/Services**

Blue = Brian’s responses, Green = Gareth’s responses, Purple = Penny’s responses, Orange = Owen’s responses, Red = Richard’s responses

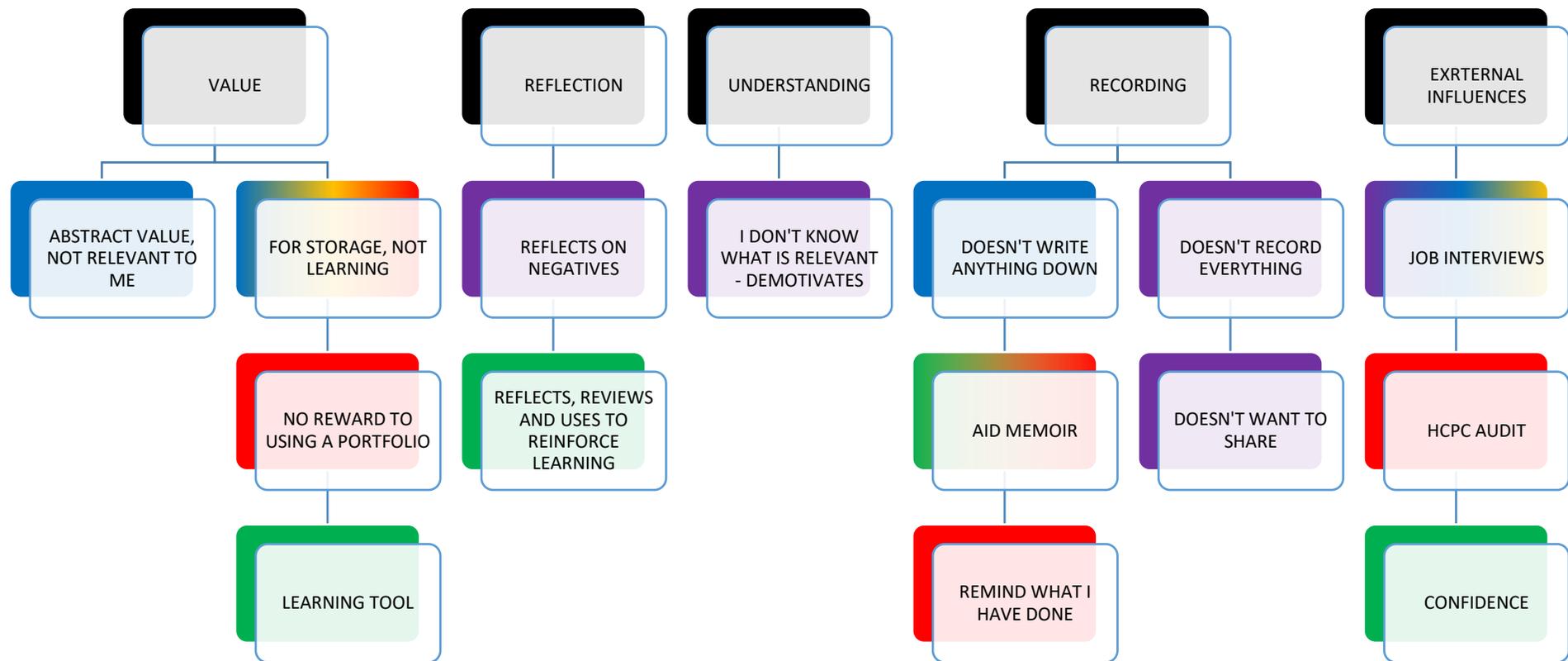
### *6.3.3.2 – Physiotherapist interviewee opinions about CPD portfolios.*

All the interviewees talked about their current portfolios, what they used them for and what they thought about using a portfolio (see Figure 6.16).

Owen and Richard both said that they only used their portfolios as a place for storage of documents and not as a learning tool. Brian, although he acknowledged a portfolio had value, did not think that it was relevant to him. Richard said that there was no reward to using a portfolio. Only Gareth seemed to value his portfolio as a learning tool. Penny felt that she didn't know what was relevant and therefore was not motivated to use her portfolio.

In terms of recording, Penny did not record everything in her portfolio and Brian did not write anything down. Richard and Gareth both described their portfolios as an aid memoir, however Richard said he recorded what he had done, whereas Gareth reflected a lot on many types of experiences, looked back on his reflections to identify themes and reinforce his learning. Penny, when she did reflect, tended to choose negative experiences to reflect on.

Penny, Brian and Owen all said they only really used or looked at their portfolios when they were applying for new jobs or going for interviews. Richard stated that he only really did anything in his portfolio because of the threat of HCPC audit and felt that the lack of guidance and knowledge of when the call to audit might come demotivated him. Gareth did not need any external influences to use his portfolio, but the use of his portfolio made him feel confident that he would have evidence for audit or for his regular reviews at work.



**Figure 6.6 – Physiotherapist Interviewees Opinions about Portfolios – Value, Reflection, Understanding, Recording and External Influences**

Blue = Brian’s responses, Green = Gareth’s responses, Purple = Penny’s responses, Orange = Owen’s responses, Red = Richard’s responses

## **6.4 – Physiotherapists’ Attitudes to Portfolios, CPD and LLL**

### 6.4.1 – Influence of the Student Portfolio on Physiotherapists’ Attitudes to Portfolios (see Figure 6.7)

#### *6.4.1.1 – Influence of completing a student portfolio*

From the questionnaire data, 49% of physiotherapists completed a student portfolio, 40% did not complete a student portfolio, and 10% could not remember whether they completed a student portfolio or not. When analysing the data by whether a portfolio was completed or not, there were some significant differences in terms of the demographic data (see Table 6.10). Those who had completed a student portfolio were significantly younger ( $p < 0.001$ ), were significantly more likely to have completed a BSc degree ( $p < 0.001$ ), had been qualified a significantly shorter time ( $p < 0.001$ ) and were significantly less likely to have a higher physiotherapy related qualification than the one with which they gained registration ( $p = 0.003$ ).

In terms of employment, those who had not completed a student portfolio were significantly more likely to work in private practice ( $p < 0.001$ ), and to work either at a higher band in the NHS or be self-employed ( $p < 0.001$ ). This is not surprising, given that this group were older, and had been qualified a longer time. Because of these differences in the groups, it is difficult to know whether the results described below are due to the influence of the student portfolio.

The group who completed a student portfolio were significantly more likely to have a portfolio currently (97% vs. 77.1%,  $p < 0.001$ ), but there was no significant difference between the groups in terms of what they currently use their portfolios for ( $p = 0.053$ ).

In terms of the 17 likert style questions regarding attitudes and beliefs about portfolios, there were differences between the groups on ten of these (see Table 6.11). Those physiotherapists who had completed a student portfolio liked compiling their current portfolios significantly more ( $p = 0.004$ ), thought the current portfolio had helped them to think more reflectively ( $p = 0.007$ ) and more critically about their practice ( $p = 0.001$ ) and had developed their self-awareness of their learning needs ( $p = 0.001$ ) significantly more than those who had not completed a student portfolio. They also felt that building their current portfolio and recording their learning in it had improved patient care ( $p < 0.001$ ), helped them to implement learning into practice ( $p = 0.002$ ) and changed their practice ( $p = 0.010$ ) significantly more than those who had not completed a student portfolio. The group with a student portfolio valued the current portfolio as somewhere they could consider who they are as a physiotherapist ( $p < 0.001$ ) and felt that it had helped them to recognise their personal and professional values ( $p = 0.002$ ).

**Table 6.10 – Comparison of Demographic Data for Physiotherapists Completing or Not Completing a Student Portfolio (all figures are a % of the total sample, n=184)**

AGE	22-25	26-30	31-35	36-40	41-45	46-50	51-55	55+	MWU ranks (where approp)	P value
Yes to student portfolio	11.9	18.4	11.4	7.6	1.6	1.6	0	2.1	67.89	<0.001*
No to student portfolio	3.8	3.2	4.3	5.4	5.9	8.1	8.1	5.9	122.45	
<b>GENDER</b>	<b>MALE</b>				<b>FEMALE</b>					
Yes to student portfolio	10.3				45					0.210
No to student portfolio	5.1				39.6					
<b>QUALIFYING QUALIFICATION</b>	<b>BSc full time</b>		<b>BSc part time</b>		<b>MSc pre-registration</b>		<b>Graduate Diploma</b>			
Yes to student portfolio	48.4		0		3.8		2.7			<0.001*
No to student portfolio	23.9		0.5		4.3		16.4			
<b>HOW LONG QUALIFIED</b>	<b>&lt; 5 YEARS</b>	<b>5-10 YEARS</b>	<b>11-20 YEARS</b>	<b>21-30 YEARS</b>	<b>&gt; 30 YEARS</b>					
Yes to student portfolio	22.3	15.3	13.5	1.7	2.1					<0.001*
No to student portfolio	4.9	5.5	9.8	14.1	10.8					
<b>HIGHEST QUALIFICATION SAME AS QUALIFYING QUALIFICATION?</b>	<b>Highest qualification is same</b>				<b>Highest qualification is higher</b>					
Yes to student portfolio	45.6				9.2					0.003*
No to student portfolio	28.8				16.4					
<b>EMPLOYMENT TYPE</b>	<b>NHS</b>	<b>Private hospital</b>		<b>Private practice</b>		<b>HEI</b>	<b>Other</b>			
Yes to student portfolio	51.1	1.0		2.2		0	0.5			<0.001*
No to student portfolio	32.7	0		11.5		0.5	0.5			
<b>GRADING OF POST</b>	<b>Band 5</b>	<b>Band 6</b>		<b>Band 7</b>	<b>Band 8a</b>		<b>Band 8b</b>	<b>Self-employed/ other</b>		
Yes to student portfolio	13.0	26.7		9.3	3.8		0	2.2	71.89	<0.001*
No to student portfolio	3.2	9.7		14.1	4.9		2.2	10.9	117.58	

significantly more than those without a student portfolio. Finally, the group who did not have a student portfolio were significantly more unsure of what to use their current portfolio for (p=0.048).

**Table 6.11 – Statistical Analysis of Influence of Completing a Student Portfolio on Physiotherapists’ Opinions about Current Portfolios**

Statement	Mann Whitney U Test Mean Rankings		P value
	Yes to student portfolio	No to student portfolio	
I like compiling my portfolio	73.24	94.14	0.004
My portfolio has helped me to develop my self-awareness of my learning needs	71.63	96.62	0.001
Using a portfolio has helped me to think more reflectively	73.80	93.29	0.007
Using a portfolio has helped me to think more critically about my practice	72.36	95.49	0.001
Building the portfolio has helped improve patient care	69.60	99.73	<0.001
I value the portfolio as somewhere I can consider who I am as a physiotherapist	71.10	97.42	<0.001
Recording my learning in a portfolio has helped me to implement this in practice	72.45	95.35	0.002
Using a portfolio has helped me to recognise my personal and professional values	72.42	95.40	0.002
Keeping a portfolio has not changed my practice	88.99	70.03	0.010
I am not sure what to use my portfolio for	87.21	72.75	0.048

All five interviewees had completed a student portfolio, however there are some interesting points raised when interviewees talked about their student portfolios and related this to current portfolio activity.

Although Richard answered “no” in the questionnaire when asked if he had a portfolio as a student, it was clear during the interview that he had completed one.

“So, I’ve kept one since I was a student... we were told portfolios are going to be much more important than they are today... do yourselves a favour and keep one”  
(Richard, lines 264-265)

Owen and Brian presented similar descriptions of their student portfolios, and similar attitudes towards using a portfolio now, in that they didn't really see the benefit of the student portfolio, and this had translated into the value they placed on the process now –

“In the long run, it probably has been beneficial,  
but at the time you didn't think it was beneficial...”  
(Owen, lines 353-354)

“But since I was a student, if I think of all the  
jobs I have worked in, we've never, within the  
workplace, there's no real push, unless someone  
gets sprung by having to have the HCPC registration  
folder...”  
(Owen, lines 327-329)

“And I did it as a part of the course because that  
was a requirement of the course, but since then,  
unless it's been a requirement in a job it's not worth  
me doing, from the point of view of my learning.”  
(Brian, lines 82-84)

“I do have one, I only qualified 2 and a half years ago.  
So, as a part of our course, we put together a CPD  
portfolio, particularly you're supposed to have a CPD  
portfolio to take to those interviews? But they don't  
look at it anyway, I don't think anyone has ever looked  
at one.”  
(Brian, lines 176-180, and 187)

“My portfolio is very out of date I would say.”  
(Brian, line 182)

However, later in his interview, Owen presented a different picture when talking about the advice he gives to students when they are on placement –

“This tool lives with you throughout your whole  
career, and it's the one thing that will help  
you get the most out of everything, and if you  
get it right, that's going to help.”  
(Owen, lines 518-520)

Gareth described his student portfolio as something that he began to do from the beginning of his studies, and how this has influenced how he now records and documents his CPD -

“Well we were told to keep one... And I think it was  
a very good idea, and I'm sure I was documenting  
right from the beginning, because that's what was  
coached into us in college.... it's definitely influenced  
what I do now”.  
(Gareth, lines 257, 259, 265-269)

Penny talked about how she felt she had to keep a portfolio as a student, with the threat of HCPC audit being communicated to them. She also talked about the fact that she didn't really know why she was doing it, and this translated into her attitude now – that it is something she must do, but doesn't want to do -

“It's really bad but I think most of it is because they told us that we needed to... you always need to prove, because if the HCPC come then they need to check your CPD folder”

(Penny, lines 308-313)

“I felt that we weren't really told why we have to keep CPD and it was always about box ticking...”

(Penny, lines 322-323)

“I guess I don't really want to be doing something I don't want to do but have to do.”

(Penny, lines 330-331)

#### *6.4.1.2 – Influence of structure of the student portfolio*

From the questionnaire results, the responders who said they had completed a student portfolio were divided into four groups depending on how they reported the structure of their student portfolios. Fifteen physiotherapists described their portfolio as very structured, where they were told exactly what pieces of evidence to collect at each stage of the portfolio building process. Thirty-six described their portfolios as structured, in that they had specific standards or criteria to meet, but how they demonstrated achievement of this was up to them. Thirty-six described their student portfolios as semi-structured, in that they were given some guidance as to how to complete the portfolio, but no specific standards or criteria to meet. The final 11 described their student portfolios as unstructured, where their portfolios could include anything they wanted and be designed how they chose.

When analysing the data by level of structure of the student portfolio, there were no differences in the number of things the current portfolio was used for across the groups (KW test  $p=0.699$ ), or in their responses to the 17 likert style questions relating to attitudes and beliefs about portfolios.

The physiotherapists were asked in the questionnaire whether they felt that the structure of their student portfolios had influenced how they used the portfolio. When these responses were analysed 41 respondents said that what they had put in their student portfolios was

**Table 6.12 – Statistical Analysis of Influence of Whether Structure of Student Portfolio Influenced what was collected, on Current Uses of Portfolio**

Statement	% of physiotherapists using their portfolio for each method		P value
	Yes, the structure of the student portfolio influenced what I collected in it (n=41)	No, the structure of the student portfolio did not influence what I collected in it (n=37)	
A method for identifying my strengths and weaknesses	24.4	45.9	0.046*
A method for identifying future learning needs	24.4	51.4	0.014*
A place to record my learning objectives	36.6	64.9	0.013*

influenced by structure, and 37 felt that it was not. There were no demographic differences between these groups. When analysing questionnaire responses between these two groups, while there was no significant difference between these groups in terms of whether or not they currently keep a portfolio ( $p=0.618$ ), those who felt that what they collected in their student portfolio was not influenced by its structure now use their current portfolio for significantly more activities than those who were influenced by structure of the portfolio as students ( $P=0.026$ ). It is interesting that all these differences related to learning (see Table 6.12).

There were also differences between these groups in terms of their responses to the likert questions relating to attitudes to current portfolios (see Table 6.13). Those who did not feel that the structure of their student portfolio had influenced what they collected in it had significantly more positive views towards their current portfolio, in terms of liking to compile it, making them more aware of their learning needs, helping them to think more reflectively and critically about their practice, and helping them to identify their personal and professional values. Those who did feel influenced by the structure of their student portfolios were more negative in their attitudes to portfolios, considering it only beneficial when starting out in their careers, not reflecting the full scope of their competence and that no-one is interested in looking at their portfolios (statements shown in red in Table 6.13).

All of this suggests that although the actual structure of the student portfolio did not influence how physiotherapists currently use a portfolio, or what they think about using a portfolio, how they perceived the influence of structure of their student portfolios has impacted on their use and attitudes to current portfolio usage.

**Table 6.13 – Statistical Analysis of Influence of Whether Structure of Student Portfolio Influenced what was collected, on Physiotherapists’ Attitudes to Current Portfolio**

Statement	Mann Whitney U Test Mean Rankings		P Value
	Yes, the structure of the student portfolio influenced what I collected in it (n=41)	No, the structure of the student portfolio did not influence what I collected in it (n=37)	
I like compiling my portfolio	42.85	32.75	0.038*
My portfolio has helped me to develop my self-awareness of my learning needs	44.24	31.24	0.006*
A portfolio is only beneficial when starting out in your career	32.28	44.19	0.012*
The portfolio does not reflect the full scope of my competence as a physiotherapist	31.79	44.72	0.007*
Using a portfolio has helped me to think more reflectively	44.44	31.03	0.005*
Using a portfolio has helped me to think more critically about my practice	43.88	31.63	0.010*
Using the portfolio has helped me to identify my personal and professional values	43.79	31.72	0.012*
No-one is interested in looking at my portfolio	33.00	43.42	0.034*

Four of the five interviewees gave some detail about the structure of their student portfolios, and whether these were compulsory or not. Penny described a very structured portfolio, which they had to complete, and her frustration for her student portfolio came through in the interview –

“But they were the most ridiculous of things to do, so, do a SWOT analysis? Ok, I’m all up for reflection, but reflecting on the lecture, how is that...? I’d rather spend that extra 10 minutes actually learning and looking at something I maybe didn’t actually understand...”  
 (Penny, lines 242-245)

Brian described his student portfolio as compulsory and structured, where they were encouraged to write a lot of reflections on placement experiences, and to make a video log of their skills. He talked about engaging with the process only because it was a requirement –

“I think if you benefit from writing reflections and if you benefit from recording information so you can see what you’ve done and see where you’ve been and that sort of thing, then I think it’s a really good thing to do, just from a selfish personal point of view, it has no impact on me at all so it’s literally only a way of writing something down to prove something.”  
 (Brian, lines 251-256)

Owen had a semi-structured portfolio. He couldn't remember whether this was compulsory, but it was strongly encouraged. He talked about being told to have something that said, "who you are" and "what you have done". He begrudged the portfolio at the time –

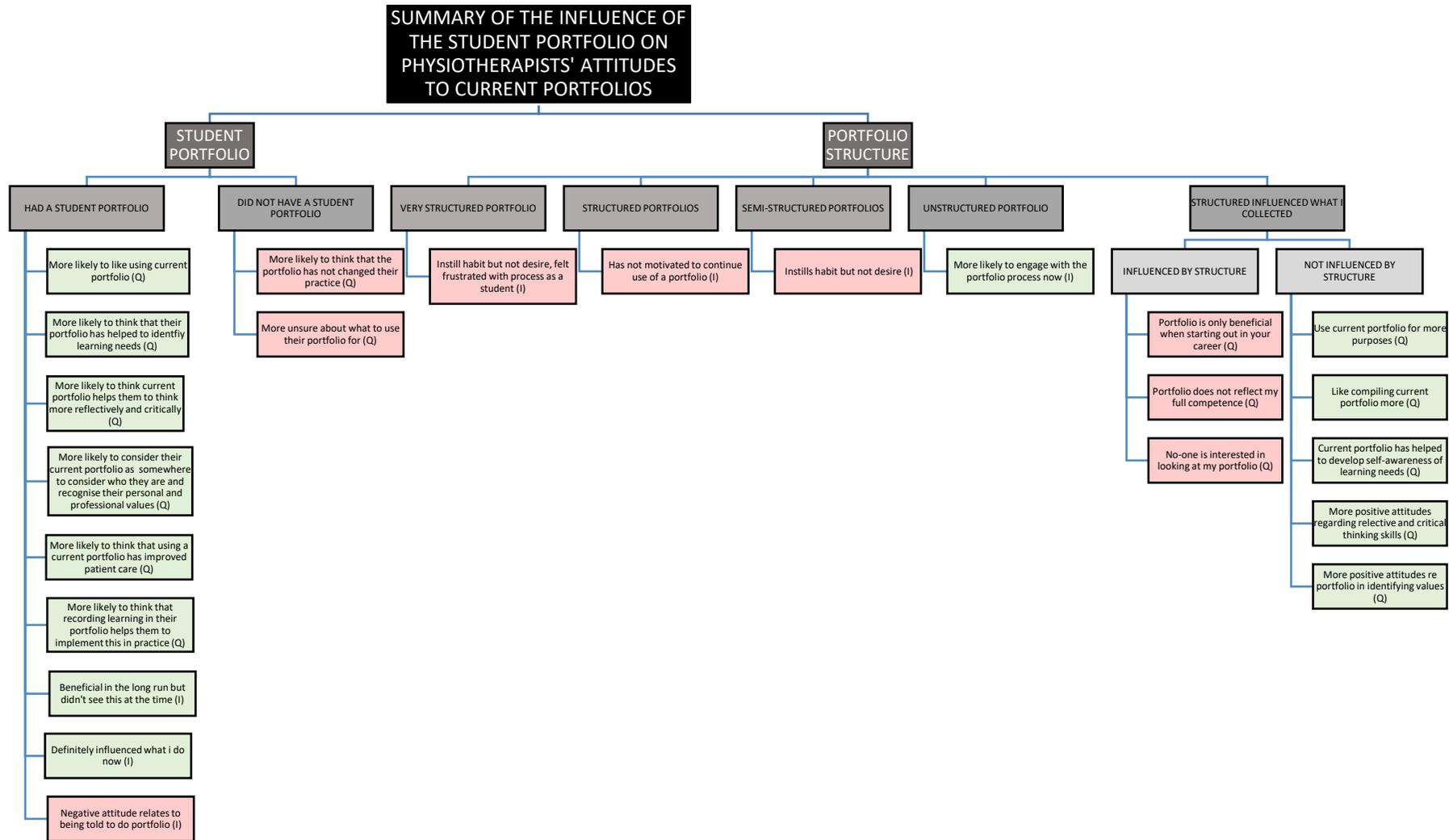
*"Oh, I didn't get it, and it was definitely an extra burden"  
(Owen, line 351)*

However, Owen now recognises the benefit of a portfolio to his practice.

Gareth didn't provide a lot of detail about his portfolio, although he thought he remembered that it was unstructured, but was unsure about whether it was a compulsory element of the course or not. What he did describe was a clear sense of guidance for the process –

*"They were saying, you must be collecting reflective practice and I'm sure we were asked to demonstrate them. So we had our reviews of each placement, and then maybe some research that you'd done or some presentations that you'd done on different placements, but in there I'm sure they were asking us to do like reflections on some good points, reflect on incidents, reflect on how you can keep improving..."  
(Gareth, lines 260-265)*

As with all the interviewees, while the data gives a picture of what they had to do, and how they felt about this, it is not possible to draw any conclusions as to whether their attitudes towards portfolios stem from having a student portfolio in general, or the structure of the student portfolio specifically.



**Figure 6.7 – Summary of the Influence of the Student Portfolio on Physiotherapists' Attitudes to Portfolios (Questionnaire and Interview Data).**

6.4.2 – Influence of the Student Portfolio on Physiotherapists’ Attitudes to CPD and LLL (see Figure 6.8)

6.4.2.1 – Influence of completing a student portfolio

There was no significant difference in the amount of CPD the two groups have done in the last month ( $p=0.381$ ) or the range of activities that the two groups deemed as suitable for CPD ( $p=0.703$ ).

The group who had completed a student portfolio saw a greater number of benefits to CPD than the group who had not completed a student portfolio (Mann Whitney U mean ranks Yes = 76.01, No = 112.56,  $p<0.001$ ). On breakdown of this section of the questionnaire, the benefits where there were significant differences can be seen in Table 6.14. There was no difference between the groups in terms of the number of barriers to CPD identified ( $p=0.164$ ).

**Table 6.14 – Statistical Analysis of Influence of Completing a Student Portfolio on Identified Benefits of CPD.**

	Yes to student portfolio	No to student portfolio	P value
Promotion/ Career trajectory	84.2%	51.8%	<0.001
Improved confidence	97%	74.7%	<0.001
Improved image of the profession	75.2%	55.4%	0.005

In terms of the 20 likert style questions regarding attitudes and beliefs about CPD, there were significant differences between the groups on five of these (see Table 6.15). Physiotherapists who had completed a student portfolio were more motivated to undertake CPD ( $p=0.022$ ), felt a greater sense of achievement when they completed CPD ( $p=0.031$ ), and felt that CPD had helped to improve patient outcomes significantly more than those who had not completed a student portfolio ( $p=0.005$ ). However, the group who had completed a student portfolio felt it

**Table 6.15 – Statistical Analysis of Influence of Completing a Student Portfolio on Attitudes to CPD.**

Statement	Mann Whitney U Test Mean Rankings		P value
	Yes to student portfolio	No to student portfolio	
I am motivated to undertake CPD	84.81	101.86	0.022
I feel a sense of achievement when I have completed some CPD	85.27	101.3	0.031
Undertaking CPD has helped to improve patient outcomes	83.24	103.77	0.005
I undertake CPD because I might be asked to submit for HCPC audit	81.48	104.92	0.002
It is difficult to implement changes generated from CPD into practice	85.67	100.81	0.050

was more difficult to implement change generated from CPD into their practice ( $p=0.050$ ) and were more driven to undertake CPD because of the threat of CPD audit than those who did not complete a student portfolio ( $p=0.002$ ).

All five physiotherapists who were interviewed had completed a student portfolio, so there is nothing to be drawn from their answers in relation to this section of the results.

#### 6.4.2.2 – Influence of structure of the student portfolio

When analysing the data by level of structure of the portfolio, there was no difference in the amount of CPD the four groups had done in the last month (KW test  $p=0.339$ ), or the range of activities they deemed appropriate for CPD (KW test  $p=0.819$ ). There were also no differences in the groups in relation to the number of benefits of or barriers to CPD identified (KW test  $p=0.889$ , and  $p=0.207$  respectively).

In terms of the 20 likert style questions about attitudes to CPD and LLL there was a significant difference between the groups on only one of these (see Table 6.16). Those with very structured portfolios thought that they could not maintain their professional status without CPD significantly more than those with structured or semi-structured portfolios, while those with unstructured portfolios thought they could not maintain professional status without CPD significantly more than those with structured portfolios.

**Table 6.16 – Statistical Analysis of Influence of Portfolio Structure on Attitudes to CPD**

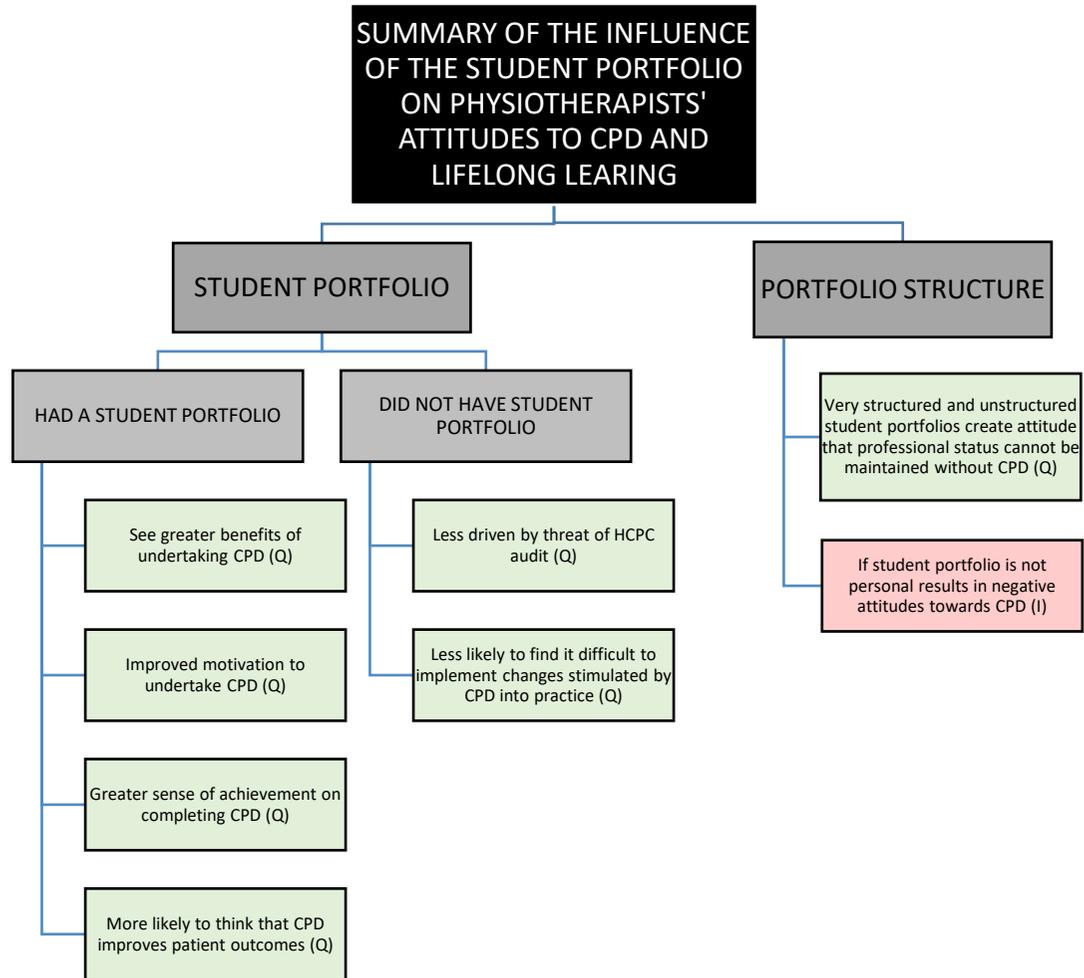
Statement	Kruskal Wallis Test Mean Ranks				P value
	Very structured student portfolio	Structured student portfolio	Semi-structured student portfolio	Unstructured student portfolio	
I cannot maintain my professional status unless I undertake CPD	30.5	58.88	51.9	36.86	0.002*
	Post Hoc Mann Whitney U Test Mean Ranks				
I cannot maintain my professional status unless I undertake CPD	15.6	30.33			<0.001*
	18.33		29.19		0.011*
	12.57			14.77	0.400
		38.99	34.01		0.278
		26.56		15.64	0.020*
			25.69	18.45	0.130

Physiotherapists' perceptions regarding whether the structure of their student portfolio had influenced how they used it, had no impact on their attitudes towards CPD.

From the interviews, there were limited comments reflecting influence of the structure of the student portfolio on attitudes to CPD. Penny did make one comment about the portfolio, which could potentially relate to its structure –

“It was always done for someone else to see. I feel that CPD should be very personal... I shouldn't necessarily have to share all of my reflections if I don't feel that's necessary... I think that's what's made me so anti a lot of CPD”.

(Penny, lines 248-251)



**Figure 6.8 – Summary of the Influence of the Student Portfolio on Physiotherapists' Attitudes to CPD and LLL (Questionnaire and Interview Data).**

### 6.4.3 – Other Influences on Physiotherapists’ Attitudes to Portfolios, CPD and LLL (see Figure 6.9)

#### 6.4.3.1 – Point on career path

To consider whether career point had any effect on responses in relation to attitudes to portfolios, CPD or LLL, the questionnaire respondents were divided by their job banding. Staff working in the NHS listed their bandings as either 5, 6, 7, 8a, or 8b. For those working in private practice, banding was categorised either by their description of their role (e.g. consultant physiotherapist banded as 8a, senior physiotherapist banded as 7), or by the length of time they had been qualified, in relation to those working in the NHS. There were five groups – band 5 (n=33), band 6 (n=74), band 7 (n=48), band 8a (n=20), band 8b (n=5). Twenty-five respondents did not answer this question and so were excluded from this analysis. There was an unsurprising significant correlation between job banding and length of time qualified ( $p < 0.001$ ) (see Table 6.17).

**Table 6.17 – Grade Banding of Questionnaire Respondents and Relationship with Length of Time Qualified**

	Band 5	Band 6	Band 7	Band 8a	Band 8b	Total
<b>Respondent numbers</b>	<b>33</b>	<b>74</b>	<b>48</b>	<b>20</b>	<b>5</b>	<b>180</b>
Qualified less than 5 years	32	23	0	0	0	55
Qualified 5-10 years	0	32	8	1	0	41
Qualified 11-20 years	0	13	22	10	2	47
Qualified 21-30 years	0	3	14	5	2	24
Qualified more than 30 years	1	3	4	4	1	13

Firstly, considering the influence of career point on use of a portfolio, there was no difference between the bandings in terms of whether they currently keep a portfolio or not. 18 of the 180 respondents analysed do not currently have a portfolio (10%).

There were, however, significant differences with how the portfolio was used across the different career points ( $p = 0.001$ ). Band 5 physiotherapists used their portfolio for a significantly broader range of activities than those in band 6, 7, or 8a posts. With regards to specific questions, it appeared that bands 5 and 8b used their portfolio as a tool to aid learning, for identifying strengths and weaknesses, for recording their objectives and to complete applications for jobs significantly more than those at bands 7 and 8a (see Table 6.18).

The five interview participants, were all either in band 6 or band 7 posts, and all five interviewees currently keep a portfolio. Brian and Penny, who both worked in band 6 posts, reported that they only look at their portfolios when going for a job interview. None of the band 7's who were interviewed mentioned this as a purpose for the portfolio, supporting the data from the questionnaire.

“I pretty much don’t pick it up unless I’ve got a job interview”  
(Brian, line 184)

“it’s kind of only a folder that’s put together if you go for a job”  
(Penny, line 198)

**Table 6.18 – Statistical Analysis of Current Portfolio Uses by Career Point.**

	Band 5	Band 6	Band 7	Band 8a	Band 8b	P value
Kruskal Wallis Mean rankings of overall portfolio activity	119.39	85.40	76.61	71.12	121.40	0.001*
<b>Post hoc analysis - Mann Whitney U mean rankings and p values</b>						
Band 5		5=68.68 6=47.45 P=0.001*	5=52.36 7=33.19 P<0.001*	5=29.97 8a=16.82 P=0.002*	5=19.38 8b=20.30 P=0.861	
Band 6			6=64.05 7=57.56 P=0.316	6=47.43 8a=39.79 P=0.278	6=38.97 8b=55.30 P=0.120	
Band 7				7=33.59 8a=31.32 P=0.667	7=25.77 8b=38.80 P=0.069	
Band 8a					8a=10.18 8b=16.00 P=0.074	
<b>Analysis of differences in uses of portfolio between grade bands (% in each banding)</b>						<b>P value</b>
A tool to aid my learning	55	31	19	25	40	0.015*
To identify my strength and weaknesses	52	26	27	10	40	0.015*
A place to record my learning objectives	70	39	35	40	80	0.009*
To complete an application for a different job	52	42	27	15	40	0.041*

Penny, and the three band 7 interviewees, also described using their portfolios for storage of CPD records, in alignment with 77% of the questionnaire respondents -

“It’s somewhere to keep them”

(Penny, line 203)

“You can store it somewhere, store it in a file”

(Gareth, line 172)

“I have files saved on my computer and an email folder called CPD... I have all this stuff stored for my CPD”

(Owen, lines 255-258, and 273-274)

“The lion’s share of it is records of in-service training, I’ve been accepted on this thing, conference posters, timetables, that kind of jazz”

(Richard, lines 253-255)

Gareth and Richard, the older interviewees, also talked about using their portfolios as somewhere to jog their memories about what they have done –

“I use it as an aid memoir, to help me remember my development over the last 6 months”

(Gareth, lines 200-201)

“I keep a portfolio because I am terrified that sooner or later I am going to get asked to present it... I have a wonky memory, unless I have written it down, so I have to do it, to stop myself from going grey”

(Richard, lines 279, 290, and 299-300)

In contrast to the questionnaire data, Gareth in a band 7 post, also said that he used his portfolio to consider his strengths and weaknesses –

“The ability to reflect on myself, see which areas I could improve on and ways to apply it in the workplace”

(Gareth, lines 153-154)

When analysing the likert style questions asking about attitudes to portfolios there were significant differences between the different bandings on 10 of these (see Tables 6.19 and 6.20). Band 5 physiotherapists liked compiling their portfolios, thought it had helped them to think more critically and reflectively, had improved patient care, helped them to recognise their personal and professional values and was a safe place to examine their practice, significantly more than bands 6, 7 and 8a. They also felt that recording learning in their

portfolios had helped them to implement this in practice, significantly more than bands 7 and 8a, as did those in band 8b posts. Band 5 physiotherapists valued the portfolio as somewhere they could consider who they are as a physiotherapist significantly more than bands 6 and 8a, while band 8b valued the portfolio for this purpose more than bands 6, 7, and 8a. Band 8b physiotherapists also felt that the portfolio had helped them to think more reflectively and to recognise their personal and professional values significantly more than band 8a physiotherapists, and thought it was a safe place to examine their practice significantly more than bands 6 and 8a. Band 8a physiotherapists were in the strongest agreement that the portfolio was only useful when starting out in a career as a physiotherapist, with those at band 8b disagreeing with this statement most strongly. Band 8b physiotherapists were the most confident in terms of what to use their portfolio for, with band 7s the least confident.

The interview data from Penny, Brian, Richard and Owen seemed to support the results from the questionnaire, that band 6 and 7 physiotherapists appeared to be the least motivated to use their portfolios. Penny, Brian and Owen were externally driven to use their portfolios for the purposes of interviews and job applications, with Brian and Richard motivated by the threat of HCPC audit. All four tended to use their portfolios only as a place for storage, with Penny unsure what to use her portfolio for. Richard did not seem to see any reward from using a portfolio, while Brian could abstractly see the value, but did not personally see any relevance to himself. Gareth's attitude seemed to contradict the questionnaire data, as he used his portfolio as a learning tool, documenting reflections on day-to-day happenings at work, looking back on these to identify any recurring themes, which highlighted areas for development and reinforced his learning from the initial reflection. He was also self-motivated to use his portfolio and found value in its use.

When considering the different bandings in relation to CPD activity, there was a significant difference in terms of the amount of CPD done in the last six months, with those in band 8a posts having done significantly more CPD than either band 6s or band 7s (Kruskal Wallis test,  $p=0.043$ ; post hoc Mann Whitney U test, 6 vs. 8a  $p=0.022$ , 7 vs. 8a  $p=0.004$ ). There were no significant differences in terms of the activities they deemed appropriate for CPD ( $p=0.960$ ) or in the number of benefits of CPD identified by the different groups ( $p=0.059$ ).

All the interviewees seemed to be actively engaged in CPD, although this appeared to vary between them, reflecting point on career path. Penny, at band 6, appeared to favour external courses, while Brian, also a band 6, favoured work-based learning – shadowing others and case-based discussions – reflecting that they were still learning about how to do their job effectively and improving their skill and knowledge base. Gareth and Owen both talked about

the development of leadership and management skills, reflecting their progression and higher level of responsibility in their band 7 posts, although Owen commented that CPD had become less of a priority as he had progressed through his career –

“I find, I would say, it’s probably more valuable in the earlier years of your career, I think the angle of CPD changes over your career, I think.”

(Owen, lines 13-16)

“Being honest, I do less now than I did at the start.”

(Owen, line 29)

“If I did a survey of band 7’s within my organisation across different professions, you’d probably find that CPD has dwindled.”

(Owen, lines 486-488)

**Table 6.19 – Attitudes to CPD Portfolios compared by Career Point – Kruskal Wallis Test Results**

	Kruskal Wallis Test Mean Rankings (lower number indicates stronger agreement with statement)					Kruskal Wallis Test P value
	Band 5	Band 6	Band 7	Band 8a	Band 8b	
I like compiling my portfolio	58.29	82.04	90.37	97.73	77.00	P=0.019*
I am not sure what to use my portfolio for	89.29	75.16	83.94	62.60	137.80	P=0.012*
A portfolio is only beneficial when you are starting out in your career	96.48	71.86	85.53	60.50	130.00	P=0.002*
My portfolio has helped me to develop my self-awareness of my learning needs	65.15	80.88	90.62	90.00	71.20	P=0.147
Using a portfolio has helped me to think more reflectively	57.66	85.53	84.99	106.50	54.20	P=0.002*
I don't need to keep a portfolio to be able to reflect on my practice	94.89	78.05	75.64	72.90	104.80	P=0.226
Using a portfolio has helped me to think more critically about my practice	59.10	86.81	82.33	101.13	67.20	P=0.016*
A portfolio does not reflect the full scope of my competence as a physiotherapist	90.27	76.65	73.42	88.30	125.10	P=0.072
Building the portfolio has improved patient care	60.32	86.63	84.19	95.63	62.40	P=0.037*
Recording my learning in a portfolio has helped me to implement it in practice	64.32	80.78	90.85	100.60	43.90	P=0.014*
Keeping a portfolio has not changed my practice	90.18	76.53	83.49	69.13	98.20	P=0.434
My portfolio is a safe place for me to examine my practice	60.81	86.87	82.98	104.43	40.20	P=0.003*
I value the portfolio as somewhere I can consider who I am as a physiotherapist	64.65	84.84	87.33	93.63	38.60	P=0.026*
Using a portfolio has helped me to recognise my personal and professional values	61.87	82.09	88.48	104.00	51.70	P=0.011*
My portfolio truly reflects who I am as a physiotherapist	69.24	82.58	87.56	86.07	61.10	P=0.369
No-one is interested in looking at my portfolio	98.76	75.24	78.83	72.07	93.60	P=0.144
I am confident I have sufficient evidence in my portfolio to meet HCPC requirements	81.45	83.63	75.38	92.97	55.30	P=0.462

\*statistically significant results, post hoc analysis of these is shown in Table 7.20.

**Table 6.20 – Attitudes to CPD Portfolios compared by Career Point – MWU post hoc tests of significant KW Tests**

	Mann Whitney U Test Mean rankings (lower number indicates greater agreement with statement) and p values for individual pair wise comparisons									
JOB BANDING	5-6	5-7	5-8a	5-8b	6-7	6-8a	6-8b	7-8a	7-8b	8a-8b
I like compiling my portfolio	5=39.94 6=53.93 P=0.019*	5=28.53 7=43.97 P=0.002*	5=20.02 8a=30.70 P=0.008*	5=17.81 8b=22.80 P=0.245	6=53.42 7=58.74 P=0.374	6=40.01 8a=48.13 P=0.217	6=36.69 8b=34.00 P=0.774	7=28.71 8a=31.77 P=0.530	7=24.95 8b=20.60 P=0.488	8a=11.13 8b=8.60 P=0.391
I am not sure what to use my portfolio for	5=55.24 6=46.84 P=0.160	5=39.03 7=36.40 P=0.584	5=26.13 8a=18.07 P=0.048*	5=16.89 8b=28.50 P=0.016*	6=53.17 7=59.13 P=0.322	6=42.49 8a=37.10 P=0.415	6=34.66 8b=61.20 P=0.005*	7=31.71 8a=23.17 P=0.079	7=22.71 8b=39.90 P=0.006*	8a=8.27 8b=17.20 P=0.002*
A portfolio is only beneficial when you are starting out in your career	5=59.47 6=44.89 P=0.013*	5=40.79 7=35.15 P=0.226	5=26.77 8a=16.73 P=0.012*	5=17.45 8b=25.00 P=0.106	6=51.72 7=61.40 P=0.095	6=42.49 8a=37.10 P=0.401	6=34.77 8b=59.70 P=0.007*	7=32.03 8a=22.23 P=0.034*	7=22.98 8b=37.60 P=0.015*	8a=8.43 8b=16.70 P=0.005*
Using a portfolio has helped me to think more reflectively	5=38.05 6=54.80 P=0.004*	5=30.48 7=42.56 P=0.011*	5=18.69 8a=33.43 P<0.001*	5=18.44 8b=18.90 P=0.915	6=55.60 7=55.34 P=0.964	6=39.63 8a=49.83 P=0.113	6=37.49 8b=23.20 P=0.121	7=27.65 8a=34.80 P=0.136	7=25.44 8b=16.40 P=0.151	8a=12.43 8b=4.70 P=0.004*
Using a portfolio has helped me to think more critically about my practice	5=37.87 6=54.88 P=0.004*	5=31.71 7=41.67 P=0.035*	5=19.48 8a=31.80 P=0.002*	5=18.03 8b=21.40 P=0.457	6=56.54 7=53.88 P=0.657	6=40.19 8a=47.33 P=0.269	6=37.19 8b=27.20 P=0.279	7=27.85 8a=34.25 P=0.188	7=24.92 8b=20.90 P=0.520	8a=11.77 8b=6.70 P=0.072
Building the portfolio has improved patient care	5=38.60 6=54.54 P=0.008*	5=31.19 7=42.05 P=0.026*	5=20.15 8a=30.43 P=0.011*	5=18.39 8b=19.20 P=0.863	6=56.15 7=54.59 P=0.782	6=40.68 8a=45.17 P=0.491	6=37.26 8b=26.30 P=0.240	7=28.47 8a=32.47 P=0.412	7=25.19 8b=18.60 P=0.301	8a=11.57 8b=7.30 P=0.147
Recording my learning in a portfolio has helped me to implement it in practice	5=42.48 6=52.75 P=0.084	5=30.87 7=42.28 P=0.019*	5=19.94 8a=30.87 P=0.007*	5=19.03 8b=15.20 P=0.405	6=52.69 7=59.87 P=0.236	6=39.65 8a=49.77 P=0.123	6=37.69 8b=20.60 P=0.068	7=28.83 8a=31.43 P=0.597	7=25.87 8b=12.70 P=0.040*	8a=12.53 8b=4.40 P=0.005*
My portfolio is a safe place for me to examine my practice	5=38.24 6=54.71 P=0.005*	5=31.71 7=41.67 P=0.037*	5=19.65 8a=31.47 P=0.003*	5=19.21 8b=14.10 P=0.249	6=56.48 7=53.98 P=0.672	6=39.71 8a=49.50 P=0.129	6=37.98 8b=16.70 P=0.020*	7=27.53 8a=35.13 P=0.118	7=25.79 8b=13.40 P=0.050	8a=12.33 8b=5.00 P=0.013*
I value the portfolio as somewhere I can consider who I am as a physiotherapist	5=40.58 6=53.63 P=0.028*	5=32.21 7=41.31 P=0.064	5=20.66 8a=29.37 P=0.032*	5=19.19 8b=14.20 P=0.289	6=54.46 7=57.12 P=0.659	6=40.69 8a=45.13 P=0.489	6=38.07 8b=15.50 P=0.014*	7=29.06 8a=30.77 P=0.730	7=25.84 8b=13.00 P=0.047*	8a=12.37 8b=4.90 P=0.010*
Using a portfolio has helped me to recognise my personal and professional values	5=40.98 6=53.44 P=0.035*	5=30.74 7=42.37 P=0.016*	5=19.45 8a=31.87 P=0.002*	5=18.69 8b=17.30 P=0.761	6=53.72 7=58.28 P=0.448	6=39.46 8a=50.63 P=0.088	6=37.48 8b=23.40 P=0.130	7=28.23 8a=33.13 P=0.318	7=25.59 8b=15.10 P=0.098	8a=12.37 8b=4.90 P=0.010*

Richard seemed to only undertake CPD that was necessary, such as mandatory training or required in-service training, possibly reflecting a static post with limited room for development from the level of band 7.

There was a significant difference in the number of barriers to CPD identified by the different groups ( $p=0.028$ ). On post hoc analysis, band 5 and 6 physiotherapists identified significantly more barriers than those at band 8a, and band 6s identified significantly more barriers than those in band 8b posts. When analysing specific questions, more junior staff felt that patient care being prioritised over CPD, and a lack of information regarding CPD opportunities were barriers significantly more than senior staff (see Table 6.21).

**Table 6.21 – Statistical Analysis of Barriers to CPD by Career Point.**

	Band 5	Band 6	Band 7	Band 8a	Band 8b	P value
Kruskal Wallis Mean rankings of overall portfolio activity	86.38	80.67	93.55	118.10	123.50	0.028*
<b>Post hoc analysis - Mann Whitney U mean rankings and p values</b>						
Band 5		5=56.68 6=52.80 P=0.545	5=39.11 7=42.30 P=0.544	5=23.21 8a=33.25 P=0.020*	5=18.38 8b=26.90 P=0.104	
Band 6			6=58.30 7=66.44 P=0.209	6=43.38 8a=62.75 P=0.004*	6=38.69 8b=59.40 P=0.048*	
Band 7				7=32.06 8a=40.35 P=0.112	7=26.25 8b=34.20 P=0.290	
Band 8a					8a=13.25 8b=12.00 P=0.729	
<b>Analysis of specific barriers to CPD between grade bands (% in each banding)</b>						<b>P value</b>
Patient care is prioritised over CPD	82	85	80	50	20	<0.001*
Lack of information about CPD opportunities	55	39	17	5	0	<0.001*

The band 7 interviewees tended to highlight personal factors such as family commitments, childcare and personal financial constraints as barriers to CPD, while these did not appear to affect the two band 6 interviewees. Penny (band 6) highlighted a conflict between her personal CPD goals and those of her employer as a major barrier, as well as balancing time for CPD and personal interests outside of work hours. Brian did not mention any barriers to CPD in his interview.

In terms of their attitudes towards CPD, there were differences between the groups on 12 of the 20 likert style questions in the questionnaire (see Tables 6.22 and 6.23). When considering this data, band 6 physiotherapists generally had a more negative attitude towards CPD than the other bands. These respondents were the least motivated to undertake CPD, felt that CPD was a chore the most strongly, thought CPD was the least worthwhile and of least value. While not significant, they also reported the least enjoyment and job satisfaction from undertaking CPD. Band 6 physiotherapists were also most unsure about what constituted CPD, felt that the culture of physiotherapy did not value CPD and that it was difficult to implement changes generated from CPD into practice more strongly than the other bands. These respondents also felt that they should only have to do CPD if there was an opportunity for promotion, and that they did not need to undertake CPD to maintain competence. Band 5 and 6 physiotherapists (more junior staff), felt that they did more CPD because of the threat of HCPC audit, but these bands also felt that employer support for CPD had improved since the introduction of audit significantly more than those in higher bands.

The interview data provided conflicting information about the influence of career point on attitude to CPD and did not fully agree with the findings from the questionnaire. Band 6 Penny presented a frustrated attitude to CPD, in that she wanted to do it, but felt like she was being hindered at each attempt to engage, and this had demotivated her. Also a band 6, Brian came across as keen and internally motivated to undertake CPD, but this tended to be opportunistic learning in the workplace, rather than planned or thought out learning. Richard, at band 7, presented a clear picture of the stick rather than the carrot, and seemed to be at a stage where he did what he was required to do, rather than looking for opportunities to develop further. Also band 7's, Owen and Gareth both had positive attitudes towards CPD, recognising that even though they had been qualified for 15-20 years, they still learned something new daily, however Gareth seemed to learn by self-reflection, while Owen relied on feedback from others. Both Gareth and Owen were driven to encourage CPD in others and considered that they learned from the facilitation of other members of their team.

The questionnaire highlighted that more junior staff tended to be more externally motivated to undertake CPD by the threat of HCPC audit, however this was only mentioned briefly by Penny and Brian (band 6's) in their interviews. Brian recognised that if he was to be called for CPD audit he would need to suddenly remember what he had done, since he didn't write anything down, while Penny only discussed this in the context of the University's instructions to her regarding her student portfolio. Of the band 7's who were interviewed, Gareth stated that HCPC audit should not be a driver for CPD, and that –

“You should be doing it yourself as a professional, you should be self-motivated, self-driven to identify what you need and your areas of weakness and where you might want to go and how to, you know, how to keep improving.”

(Gareth, lines 4-7)

Owen did not comment in detail about HCPC audit, except to state that –

“CPD is extremely valuable for our profession, because it’s a legal requirement for being able to re-register through the HCPC”.

(Owen, lines 3-4)

However, Richard, as a band 7 and in contrast to the questionnaire data, talked about the process of HCPC audit at length, and the most of all the interviewees, particularly about the lack of guidance for the process and how this was demotivating –

“What you need to do is keep a folder, in the folder you need to keep all of the stuff to prove that you are not a lazy layabout, and all of the stuff to prove you’re, you know, that you actually give two hoots, and are being professional and being a grown up, which is brilliant...”

(Richard, lines 351-354)

“But a bit of structure, wouldn’t be a bad idea, you know. Because, you know, as soon as you’re saying, you need to keep a professional CPD record, and if it’s not good enough you’re not going to be a physio anymore... that’s a big old stick.”

(Richard, lines 354-356, and 365-368)

“In my case, I went to University, I’ve been qualified for 17 years, I’ve done a Master’s, I’ve done research, I’ve tried my best to be a good physio thank you very much, but actually if I hand in my folder and they don’t like it, I can’t do physio anymore.”

(Richard, lines 378-380)

He also talked about the uncertainty of not knowing when the audit may come, and the difference with his nursing colleagues, for whom the process was much clearer and at an expected time. This lack of knowing seemed to produce some anxiety in his responses –

“You know, when you’re sat up there going ooh this might be my year, oh no I’ve missed it, oh no this might be my year, oh no I’ve missed it.... (the nurses) know exactly when it’s coming and you can get all of your ducks lined up.”

(Richard, lines 424-426)

**Table 6.22 – Attitudes to CPD Compared by Career Point – Kruskal Wallis Test Results**

	Kruskal Wallis Test Mean Rankings (lower number indicates stronger agreement with statement)					Kruskal Wallis Test P value
	Band 5	Band 6	Band 7	Band 8a	Band 8b	
I am motivated to undertake CPD activities	80.50	103.35	90.93	63.50	70.20	P=0.010*
I get enjoyment from undertaking CPD	86.44	101.73	86.05	73.10	63.40	P=0.072
CPD is worthwhile	81.98	101.90	93.91	66.20	42.50	P=0.003*
CPD is a chore	94.14	79.60	91.72	108.07	145.80	P=0.017*
I feel a sense of achievement when I have completed some CPD	87.89	87.99	96.97	91.83	77.40	P=0.825
Undertaking CPD gives me job satisfaction	79.08	95.50	94.63	81.98	86.40	P=0.488
There is value in undertaking CPD	84.42	98.93	88.86	87.90	32.00	P=0.037*
I have started undertaking more CPD since the introduction of HCPC audit	84.58	87.11	90.74	101.18	134.70	P=0.251
I undertake CPD because I might be asked to submit for HCPC audit	80.14	79.57	98.39	117.52	136.90	P=0.003*
Employer support (financial/time/cover) has improved since the introduction of HCPC audit	63.65	85.27	106.93	114.18	92.70	P=0.001*
I am unsure what constitutes CPD	91.64	73.16	104.89	110.48	121.60	P=0.001*
The culture of physiotherapy as a profession doesn't recognise the value of CPD	106.20	77.70	96.92	86.98	128.90	P=0.017*
I do not need external prompting to undertake CPD	86.11	101.81	88.02	69.35	60.50	P=0.053
I do not need to undertake CPD to maintain my professional competence	106.85	76.51	96.49	99.30	97.00	P=0.013*
Lifelong learning is an expected part of my professional status	86.17	97.36	87.48	83.25	57.00	P=0.209
I cannot maintain my professional status unless I undertake CPD activities	86.89	102.39	83.86	78.58	49.80	P=0.039*
CPD is only relevant for those still developing in their professional careers	102.50	79.95	92.36	102.30	102.30	P=0.112
I should only have to undertake CPD if there is an opportunity for career progression for me	95.71	78.74	95.80	103.98	125.30	P=0.047*
Undertaking CPD has helped me to improve client/patient outcomes	81.67	92.28	94.71	93.38	70.50	P=0.635
It is difficult to implement changes generated from CPD into practice	95.86	76.26	102.48	96.05	128.70	P=0.018*

\*statistically significant results, post hoc analysis of these is shown in Table 7.23.

**Table 6.23 – attitudes to CPD Compared by Career Point – MWU post hoc tests of significant KW Tests.**

	Mann Whitney U Test Mean rankings (lower number indicates greater agreement with statement) and p values for individual pair wise comparisons									
JOB BANDING	5-6	5-7	5-8a	5-8b	6-7	6-8a	6-8b	7-8a	7-8b	8a-8b
I am motivated to undertake CPD	5=44.74 6=58.14 P=0.030*	5=38.20 6=42.93 P=0.343	5=28.82 8a=24.00 P=0.228	5=19.76 8b=17.80 P=0.692	6=64.80 7=56.42 P=0.178	6=51.96 8a=31.00 P=0.001*	6=40.96 8b=25.80 P=0.133	7=37.52 8a=27.25 P=0.034*	7=27.56 8b=21.60 P=0.376	8a=12.75 8b=14.00 P=0.695
CPD is worthwhile	5=46.23 6=57.47 P=0.060	5=37.79 7=43.21 P=0.263	5=28.48 8a=24.55 P=0.299	5=20.48 8b=13.00 P=0.095	6=63.71 7=58.09 P=0.345	6=51.57 8a=32.45 P=0.002*	6=41.66 8b=15.50 P=0.007*	7=37.65 8a=26.95 P=0.023*	7=28.46 8b=13.00 P=0.018*	8a=13.75 8b=10.00 P=0.169
CPD is a chore	5=60.33 6=51.18 P=0.145	5=41.52 7=40.65 P=0.866	5=25.33 8a=29.75 P=0.292	5=17.95 8b=29.70 P=0.021*	6=58.32 7=66.41 P=0.205	6=44.34 8a=59.20 P=0.026*	6=38.27 8b=65.60 P=0.008*	7=32.74 8a=38.73 P=0.241	7=25.43 8b=42.10 P=0.018*	8a=11.90 8b=17.40 P=0.119
There is value in undertaking CPD	5=48.05 6=56.66 P=0.149	5=39.80 7=41.82 P=0.683	5=26.64 8a=27.60 P=0.813	5=20.94 8b=10.00 P=0.025	6=64.18 7=57.38 P=0.258	6=48.70 8a=4305 P=0.368	6=41.89 8b=12.00 P=0.002*	7=34.60 8a=34.25 P=0.942	7=28.56 8b=12.00 P=0.020*	8a=14.50 8b=7.00 P=0.025*
I undertake CPD because I might be asked to submit for HCPC audit	5=54.61 6=53.73 P=0.889	5=36.20 7=44.30 P=0.118	5=22.50 8a=34.43 P=0.005*	5=17.83 8b=30.50 P=0.014*	6=56.68 7=68.94 P=0.055	6=43.24 8a=63.25 P=0.003*	6=38.42 8b=63.40 P=0.015*	7=32.65 8a=38.95 P=0.221	7=26.00 8b=36.60 P=0.136	8a=12.40 8b=15.40 P=0.393
Employer support (financial/time/cover) has improved since the introduction of HCPC audit	5=44.24 6=58.35 P=0.026*	5=30.29 7=48.36 P=0.001*	5=21.59 8a=35.93 P=0.001*	5=18.53 8b=25.90 P=0.157	6=55.61 7=70.58 P=0.019*	6=44.08 8a=60.15 P=0.016*	6=39.73 8b=44.00 P=0.678	7=33.95 8a=35.83 P=0.712	7=27.53 8b=21.90 P=0.422	8a=13.78 8b=9.90 P=0.271
I am unsure what constitutes CPD	5=61.29 6=50.75 P=0.089	5=37.62 7=43.32 P=0.245	5=25.00 8a=30.30 P=0.193	5=18.73 8b=24.60 P=0.244	6=52.77 7=74.96 P<0.001*	6=43.28 8a=63.13 P=0.002*	6=38.86 8b=56.80 P=0.077	7=33.81 8a=36.15 P=0.618	7=26.29 8b=33.80 P=0.251	8a=12.40 8b=15.40 P=0.361
The culture of physiotherapy as a profession doesn't recognise the value of CPD	5=66.08 6=48.61 P=0.005*	5=43.18 7=39.50 P=0.462	5=29.14 8a=23.48 P=0.167	5=18.80 8b=24.10 P=0.281	6=56.56 7=69.11 P=0.047*	6=46.45 8a=51.40 P=0.454	6=38.57 8b=61.10 P=0.027*	7=35.64 8a=31.78 P=0.440	7=26.17 8b=35.00 P=0.197	8a=11.83 8b=17.70 P=0.089
I do not need to undertake CPD to maintain my professional competence	5=66.27 6=48.53 P=0.003*	5=43.77 7=39.09 P=0.278	5=27.97 8a=25.40 P=0.456	5=19.83 8b=17.30 P=0.537	6=56.22 7=69.65 P=0.024*	6=44.88 8a=57.20 P=0.052	6=39.39 8b=49.10 P=0.325	7=34.24 8a=35.13 P=0.842	7=27.01 8b=26.90 P=0.986	8a=13.08 8b=12.70 P=0.903
I cannot maintain my professional status unless I undertake CPD activities	5=47.50 6=56.90 P=0.122	5=41.91 7=40.38 P=0.760	5=27.92 8a=25.48 P=0.542	5=20.56 8b=12.50 P=0.103	6=66.27 7=54.15 P=0.051	6=50.26 8a=37.30 P=0.043*	6=41.46 8b=18.40 P=0.021*	7=34.96 8a=33.40 P=0.752	7=27.89 8b=18.50 P=0.170	8a=13.90 8b=9.40 P=0.175
I should only have to undertake CPD if there is an opportunity for career progression for me	5=60.73 6=51.00 P=0.109	5=41.09 7=40.94 P=0.975	5=26.18 8a=28.35 P=0.581	5=18.71 8b=24.70 P=0.209	6=56.86 7=68.65 P=0.052	6=44.65 8a=58.05 P=0.036*	6=38.73 8b=58.80 P=0.043*	7=33.57 8a=36.73 P=0.504	7=26.15 8b=35.20 P=0.164	8a=12.35 8b=15.60 P=0.304
It is difficult to implement changes generated from CPD into practice	5=62.23 6=50.33 P=0.060	5=39.12 7=42.29 P=0.540	5=26.98 8a=27.03 P=0.992	5=18.53 8b=25.90 P=0.153	6=54.61 7=72.11 P=0.006*	6=45.24 8a=55.85 P=0.113	6=38.57 8b=61.20 P=0.029*	7=35.28 8a=32.63 P=0.604	7=26.29 8b=33.80 P=0.287	8a=12.05 8b=16.80 P=0.181

#### 6.4.3.2 – Type of employment

When considering the questionnaire data in relation to employment sector, the responders were divided into two groups – those who currently work in the NHS (n=171) and those who currently work in private practice (n=31).

Regarding use of CPD portfolios, NHS physiotherapists used their portfolios for a broader range of activities than those working in private practice. The two areas with significant difference were in terms of using the portfolio for personal development planning and to help them complete an application for a different job (see Table 6.24).

**Table 6.24 – Statistical Analysis of Current Portfolio Uses by Type of Employment.**

	NHS physiotherapists	Private Practice Physiotherapists	P value
<b>Mann Whitney U Test mean rankings</b>	105.62	78.79	0.018*
	<b>Analysis of differences in uses of portfolio between types of employment (% in each banding)</b>		
Personal development planning	45.6	22.6	0.017*
To complete an application for a different job	38.6	0	<0.001*

In terms of the 17 likert questions regarding attitudes towards portfolios, there were no significant differences between the groups, suggesting nature of employment does not affect attitudes towards CPD portfolios.

All the interviewees worked in the NHS and so it is impossible to determine if their attitudes to portfolios were affected by their type of employment.

In relation to CPD activity, there was no significant difference in the amount of CPD done in the last month ( $p=0.090$ ), although there was a non-significant indication that those working in the NHS had done less than those working in private practice. There was also no significant difference between the groups in terms of the types of activities they deemed were appropriate for CPD ( $p=0.346$ ).

There were no significant differences between the groups in terms of the number of benefits of CPD identified ( $p=0.557$ ). There were significant differences in the barriers to CPD identified by the two groups, with the NHS physiotherapists identifying significantly more barriers than those working in private practice. While private practice physiotherapists reported being an isolated worker a barrier significantly more than NHS physiotherapists, the NHS physiotherapists reported a lack of protected time, a lack of employer support, lack of cover for time out of work to attend CPD activities, patient care prioritised over CPD and employer

financial constraints were barriers significantly more than private practice physiotherapists (see Table 6.25).

**Table 6.25 – Statistical Analysis of Barriers to CPD by Type of Employment.**

	NHS physiotherapists	Private Practice Physiotherapists	P value
<b>Mann Whitney U Test mean rankings for sum of barriers identified (lower number represents more barriers)</b>	96.72	127.85	0.006*
	<b>Analysis of differences in barriers identified between types of employment (% in each banding)</b>		
Isolated worker- no-one to undertake CPD activities with	12.3	35.5	0.001*
No protected time during work hours for CPD	63.7	29.0	<0.001*
Employer financial constraints	64.9	29.0	<0.001*
Patient care is prioritised over CPD	77.2	54.8	0.009*
Lack of employer support for CPD	32.7	3.2	0.001*
Lack of cover for time out of work to attend CPD activities	65.5	35.5	0.002*

In terms of their attitudes towards CPD, there were differences between the groups on four of the 20 questions asked (see Table 6.26). Physiotherapists working in private practice were significantly more motivated to undertake CPD, and gained more enjoyment and job satisfaction from CPD. Those working in the NHS found it significantly more difficult to implement changes generated from CPD into their practice.

**Table 6.26 – Statistical Analysis of Attitudes to CPD by Type of Employment.**

	<b>Mann Whitney U Test, Mean Rankings (lower number indicates stronger agreement with statement)</b>		P value
	NHS physiotherapists	Private Practice physiotherapists	
<b>I am motivated to undertake CPD activities</b>	105.23	80.90	P=0.023*
<b>I get enjoyment from undertaking CPD</b>	108.26	64.21	P<0.001*
<b>Undertaking CPD gives me job satisfaction</b>	104.83	83.11	P=0.046*
<b>It is difficult to implement changes generated from CPD into practice</b>	96.25	130.44	P=0.002*

All the interviewees worked in the NHS at the time of their interviews, and they reflected on the impact of this on their attitudes to CPD.

Lack of funding for CPD came through strongly in several the interviews, although one interviewee did talk about having funding for courses –

“If there’s no money, there’s no money.”  
(Richard, lines 64-65)

“You might not get funding.”  
(Gareth, lines 31-32)

“I think finances drive that to some extent,  
that some opportunities are curtailed because  
money isn’t abundant to fund courses,  
unfortunately.”  
(Owen, lines 404-407)

“They’ve been funded courses that have been  
provided, and they have been good opportunities  
for me to start developing in regard to leadership,  
I suppose.”  
(Gareth, lines 146-150)

Two of the interviewees talked about other factors that impacted on their ability to undertake CPD activities or access CPD through the Trusts they worked in –

“Everyone wants me for everything else, so my  
time to do stuff for me is very little.”  
(Owen, lines 35-36)

“If you are not 100% compliant with your  
mandatory training they won’t let you go off  
and do anything else.”  
(Richard, lines 28-30)

“I’ve worked in some places where, oh, you  
can only go on a course once you’ve been here  
for like twelve months.”  
(Owen, lines 401-402)

The need to justify their proposed CPD also came through strongly –

“It’s whether you can justify it, argue it is  
going to work out better for the service.”  
(Richard, lines 72-73)

“You have to demonstrate that the Trust will  
benefit from, you know, a course or time that  
you’re going to be spending doing some CPD;  
they don’t give it away freely without considering  
it.”  
(Gareth, lines 34-36)

Penny commented extensively on the frustration of not being able to do the CPD she wanted to because it didn’t fit with what her employer wanted her to do –

“It’s not as fun because there’s always a must... it’s on what somebody else thinks you should do, from history, rather than what you want to do.”  
(Penny, lines 9, 15 and 18)

“I think the NHS is the major one for limiting us in that (telling us what to do), because it’s what’s going to make the service better, rather than, ok, you tell me your idea of what you would like to do and how you could use that to make our service better.”  
(Penny, lines 353-356)

“It kind of puts you off, like, what’s the point in me going studying? You want me to go and study again, but what’s the point when you’re just putting up this massive barrier? Yet I am trying to help you get the best service.”  
(Penny, lines 377-379)

“You know, you feel like there’s lots of restrictions from other people that then make you do the whole, well I can’t be bothered with CPD because you’re not letting me do what I think would be best.”  
(Penny, lines 384-386)

“A lot of it comes from the hierarchy... the rest of the Trust are just well we know what’s right, and that makes CPD quite difficult.”  
(Penny, lines 386 and 392-393)

Owen talked about how his CPD needed to be relevant to his patients, but also the dissatisfaction of being told what to do –

“What I’ve learnt there is really changing what the patient gets at the other end... it motivates you a lot more, well it motivates me because you know that the end product is something that you really care about which is the patient... more than if it was something where you can’t really see, where is this going to give me a tangible, like, improvement for either yourself or for the patient or for the service? I think that’s harder, when someone says “oh you should go and learn about this” and you think well, where does that take me?”  
(Owen, lines 93-103)

Two of the band 7’s talked about how they tried to get around these challenges, particularly in terms of facilitating the staff in their teams –

“I’ll try to coach or facilitate them, even if it doesn’t quite align with where the Trust is going, it’s trying to find a creative way how they could word an application for money or time, that would be beneficial to them.”

(Gareth, lines 113-116)

“We do try to keep time available, despite how busy we are, for weekly in-service training.”

(Gareth, lines 120-122)

“We do 360-degree feedback appraisals and I use that as a springboard for them... so looking quite differently, and just encouraging them, I always keep my eyes open for opportunities.”

(Owen, lines 374, 378, 391-392)

“You can learn a hell of a lot by not going on an external course, because you forget that you are surrounded by people who have lots of knowledge, you just need to speak to them.”

(Owen, lines 411-413)

These same interviewees also talked about the requirement of their employer for them to undertake CPD as part of their annual review or appraisal process –

“I have to produce evidence every year for my own personal development review.”

(Gareth, lines 197-198)

“People realise there is a value to CPD, because in my organisation, getting through your appraisal is linked to your pay rise, so if you don’t go through your appraisal appropriately, then you don’t go up an increment, and that’s a strong motivator.”

(Owen, lines 445-451)

“If you’re not meeting your objectives from the previous year without good reason... then that’s all taken into account.”

(Owen, lines 466-469)

There were also some comments about the lack of a positive CPD culture within the workplace

–

“I don’t remember anyone looking at my CPD”

(Brian, line 196)

“In each workplace I’ve worked in there’s never really been anyone who’s been, like the departmental person who helps or pushes people to do CPD.”

(Owen, lines 334-335)

These comments do reflect the findings from the questionnaire, that motivation to undertake CPD, and levels of enjoyment and satisfaction could be hindered by these NHS related influences.

## **6.5 – Conclusion**

The results of the questionnaire have shown that this sample of physiotherapists had varying levels of CPD activity, ranging from none to more than 20 hours in the last month.

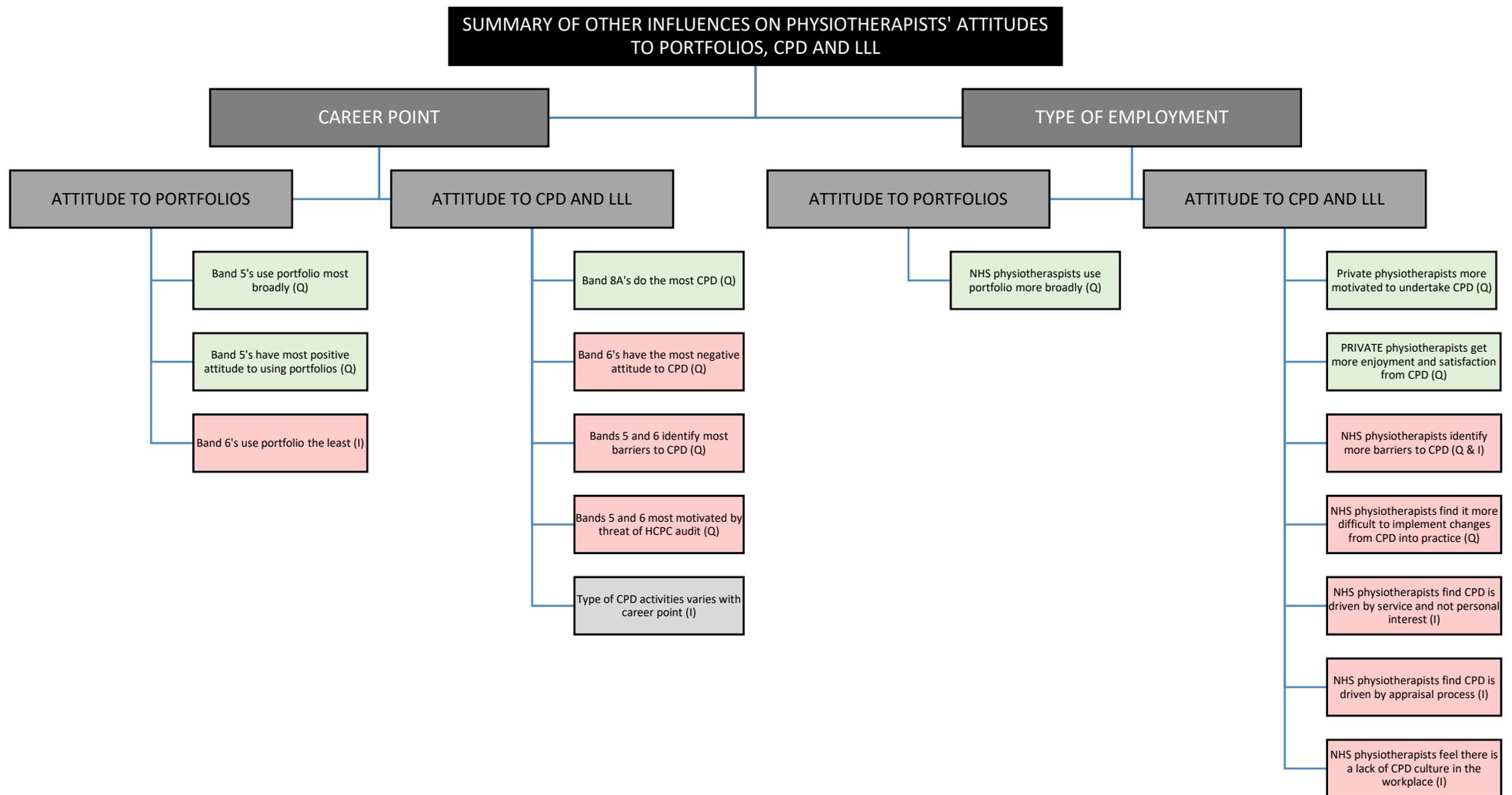
Physiotherapists were generally broadminded about what constituted CPD, although they preferred more formal activities over work-based activities; this seemed to be influenced by banding, with two of the interviewees in band 6 positions favouring formal CPD, while two of the band 7 interviewees recognised the value of more informal learning. The physiotherapists recognised more benefits than barriers to CPD, with keeping up to date with knowledge and skills the most important benefit and prioritisation of patient care the greatest barrier.

Generally, the physiotherapists responding to the questionnaire were positive in their attitudes towards CPD and felt it was an important aspect of being a professional; while all the interviewees had similar attitudes, it was clear that many factors impacted on their motivation towards undertaking CPD. There was also a consensus that CPD benefitted patients, although there were some challenges involved with implementing changes into practice for some of the participants.

Attitudes towards portfolios were less positive than those towards CPD, and the majority of respondents used their portfolios for storage rather than for learning. While using a portfolio did appear to encourage the development or use of some of the skills of SDL and LLL, agreement was mainly mild rather than strongly positive. Portfolios were seen as being useful throughout their careers, even though the physiotherapists did not think they fully reflected their competence or who they were as physiotherapists.

Completion of a student portfolio appeared to have a positive effect on attitudes towards current portfolios and towards CPD and LLL, although the two groups of physiotherapists were significantly different demographically, which could have influenced these results. The interviewees presented a different picture, with only one of them positive about the influence of his student portfolio on his current portfolio use and CPD. Structure of the student portfolio did not influence attitudes towards CPD or CPD portfolios, but perception of the impact of structure on the usefulness of the student portfolio did have some influence on attitudes.

Two other influences on motivation and attitudes towards CPD portfolios, CPD and LLL – those of career point and type of employment. In terms of career point, those at either end of their



**Figure 6.9 – Summary of Other Influences on Physiotherapists' Attitudes to Portfolios, CPD and LLL (Questionnaire and Interview Data).**

physiotherapy journey appeared to be most motivated towards using a portfolio, and towards CPD, with those in bands 6 and 7 posts being least motivated towards portfolio use, and band 6 physiotherapists being least motivated towards CPD. These findings were supported to some degree by the interviews. Although there were differences between NHS physiotherapists and those working in private practice in terms of their uses for the portfolio, there were no differences in attitude or motivation towards using a portfolio. NHS physiotherapists identified significantly more barriers to CPD than those working in private practice, and had less positive attitudes towards CPD, but despite this, there were no differences in the amount of CPD undertaken by the two groups.

These findings will be discussed in Chapter Eight, in the context of the previously published research that was examined in Chapter Three, as well as being appraised from the perspectives of the adult learning and motivation theories that were presented in Chapter Two.

## CHAPTER SEVEN – STUDENT QUESTIONNAIRE AND INTERVIEW RESULTS

### 7.1 – Introduction

In Chapter Four, the reader was introduced to the philosophical underpinning for the study, including the ontological, epistemological and research paradigm that influenced the approach to methodology and methods. Chapter Five explained the processes and procedures of the study, including design of the data collection instruments, recruitment and selection of participants and the processes of data analysis, and Chapter Six has presented the results from the physiotherapist questionnaire and interviews.

In this chapter, the results of the student questionnaire and interviews will be described. Firstly, the questionnaire findings will be presented, giving the demographic, course and student portfolio data for the participants, and comparing this to available national figures, to provide the reader with a comparison between the sample and the full population of student physiotherapists in the UK. Details of the students' responses to questions about portfolio guidance, assessment and feedback are given, along with their attitudes towards using a portfolio, followed by their answers to questions about knowledge of CPD and CPD processes, and their attitudes towards CPD and portfolios as they move forwards in their careers.

A brief overview of the interviewees is given, and then the interview data is presented in terms of content analysis, comparing the themes from the literature (see Chapter Three, Figure 3.17) with those emerging from the interviews, and merging these into a new thematic framework. Thematic analysis of the interviews is presented in terms of opinions about their student portfolios, CPD and CPD portfolios moving forwards in their careers and is summarised in Figures 7.3-7.5.

The final section of this chapter presents the results of both the questionnaire and interviews in relation to research objective 3 –

2. To explore the motivations of student physiotherapists towards CPD, LLL and portfolio use
  - a. How does a student CPD portfolio influence students' motivation towards CPD, LLL and portfolios?
  - b. What other factors influence students' motivation towards CPD, LLL and portfolios

Only statistically significant findings are presented in table form in this section of the chapter (Section 7.4); for full details of statements in each section, please refer to Section 7.2. These findings are summarised in Figures 7.7 – 7.9.

## **7.2 – Student Questionnaire Results**

### **7.2.1 – Demographic Data**

There were 53 responses to the student questionnaire. Demographic data for the sample is shown in Table 7.1.

**Table 7.1 – Student Questionnaire Respondents Demographic Data.**

<b>AGE</b>	<b>20-21</b>	<b>22-25</b>	<b>26-30</b>	<b>31-35</b>	<b>36-40</b>	<b>40+</b>				
(% of sample)	32	32	24	5	5	2				
<b>CSP Age Bands</b>	<b>17-20</b>	<b>21-24</b>	<b>25-29</b>	<b>30-34</b>	<b>35-39</b>	<b>40+</b>				
<b>CSP data (% of first years in each age band)</b>	46	25	14	5	2	2				
<b>GENDER</b>	<b>MALE</b>	<b>FEMALE</b>								
(% of sample)	17	83								
<b>CSP data (% of sample for total student population)</b>	40	60								
<b>COURSE TYPE</b>	<b>BSc Full time</b>	<b>BSc Part time</b>	<b>MSc Full time</b>							
(% of sample)	68	4	28							
<b>CSP data (% of sample of total student population)</b>	77	1	21							
<b>GEOGRAPHICAL LOCATION OF STUDY</b>	<b>SE</b>	<b>SW</b>	<b>NE</b>	<b>EA</b>	<b>NW</b>	<b>WM</b>	<b>YH</b>	<b>NI</b>	<b>S</b>	<b>EM</b>
(% of sample)	24	21	11	10	7	7	7	7	4	2

Coding of geographical locations – SE = South East, SW = South West, NE = North East, EA = East Anglia, NW = North West, WM = West Midlands, YH = Yorkshire and Humber, NI = Northern Ireland, S = Scotland, EM = East Midlands

It was not possible to retrieve the age distribution for the full population of final year Physiotherapy students in the UK, as this data is not collected by the CSP. Available data from the CSP for first year Physiotherapy students (see Appendix 5h) indicated that the questionnaire sample possibly had less students in the youngest age bracket (20-21), but more students in the next two age brackets (22-30), although groupings were slightly different, so it is difficult to compare.

The distribution of gender of the respondents was biased towards female respondents, in comparison with the total population of Physiotherapy students, as recorded by the CSP (83% vs. 60%) (see Appendix 5i).

The distribution of students by course type was not representative of the distribution of UK Physiotherapy student number. The study sample had a higher percentage of students on full

time MSc programmes (28% vs. 21%) and part time BSc programmes (4% vs. 1%) and less students on full time BSc programmes (68% vs. 77%) (see Appendix 5h).

At the time of undertaking the questionnaire, there were 35 institutions providing Physiotherapy pre-registration education in the UK. There were 35 BSc full time courses, 17 MSc full time courses and 2 BSc part-time courses. Since it has not been possible to determine student numbers at each institution, it is unclear whether the distribution by geography is representative of the total population of physiotherapy students in the UK.

### 7.2.2 – Student Portfolio Information

Information about the student’s portfolios is shown in tables 7.2 and 7.3. Many students were required to keep a portfolio as part of their studies (85%). Nearly half of students had a portfolio that was assessed, although there was some variation in how this was done, in terms of grading or pass fail, and in terms of whether the portfolio assessment contributed to module assessment requirements. Most of the students had portfolios that had some flexibility (see Table 7.3 portfolio structure), with only 4% stating that their portfolio was very structured. Half of the respondents did not answer the question about the format of their portfolios; of those that did respond, 61% maintained their portfolio electronically, and 26% kept their portfolio in paper format.

**Table 7.2 Student Questionnaire Respondents Portfolio Information – Requirement and Assessment**

<b>ARE YOU REQUIRED TO KEEP A PORTFOLIO AS PART OF YOUR COURSE?</b>	<b>YES</b>	<b>NO</b>			
(% of sample)	85	15			
<b>IS YOUR PORTFOLIO ASSESSED?</b>	<b>YES</b>	<b>NO</b>			
(% of sample)	47	53			
<b>HOW IS YOUR PORTFOLIO ASSESSED?</b>	<b>Portfolio is not marked</b>	<b>Portfolio always contributes to the module grade</b>	<b>I don't know</b>	<b>Portfolio counts for whole grade of module or modules</b>	<b>Portfolio is marked several times but only contributes to module mark some the time</b>
(% of sample)	53	15	13	13	6
<b>HOW IS YOUR PORTFOLIO GRADED?</b>	<b>Always banded or a %</b>	<b>Always pass/fail</b>	<b>A mixture of graded and pass/fail</b>	<b>I don't know</b>	<b>No answer</b>
(% of sample)	26	6	4	6	58
<b>HOW OFTEN IS YOUR PORTFOLIO ASSESSED?</b>	<b>ONCE</b>	<b>TWICE</b>	<b>FIVE TIMES</b>	<b>MORE THAN FIVE TIMES</b>	<b>NO ANSWER</b>
(% of sample)	21	2	5	10	59

**Table 7.3 - Student Questionnaire Respondents Portfolio Information – Structure and Format**

<b>HOW IS YOUR PORTFOLIO STRUCTURED?</b>	Very structured – I am told exactly what pieces of evidence I should collect at each stage of the portfolio process	Structured – I have specific standards or criteria to meet but how I demonstrate this is up to me	Semi-structured – I am given some guidance as to how to complete my portfolio, but no specific standards or criteria to meet	Unstructured – my portfolio can include anything I want and be designed how I choose		
(% of sample)	4	34	38	25		
<b>WHAT IS THE FORMAT OF YOUR PORTFOLIO?</b>	Electronic platform via University	Paper	CSP e-portfolio	other	Electronica platform via external webhost	No answer
(% of sample)	17	13	9	6.	4	51

In the questionnaire, students were provided with a list of documents that they might collect or use in their portfolios. Responses to this question varied widely, with one student reporting they had collected all the listed documents in their portfolio, and two students reporting they only had 6% of these documents in their portfolios. The average percentage of documents collected by individual students across the sample was 56% (see table 7.4).

**Table 7.4 – What do Students Include in their Portfolios?**

<b>TYPE OF DOCUMENT</b>	<b>(% of sample)</b>
REFLECTION ON PLACEMENT LEARNING	91
SWOT ANALYSIS	87
CLINICAL PLACEMENT DOCUMENTS	81
MANDATORY TRAINING RECORDS	81
LEARNING AGREEMENTS	74
REFLECTION ON CLASSROOM LEARNING	72
PERSONAL DEVELOPMENT PLAN	58
EXTERNAL COURSE CERTIFICATES	57
ASSESSED COURSE WORK	55
REFLECTION ON READING RESEARCH PAPERS	53
IN-SERVICE TRAINING NOTES	47
PATIENT RECORDS	38
THANK YOU CARDS	36
RESEARCH PAPERS	25
UNASSESSED COURSE WORK	21
NOTES FROM MEETINGS WITH ACADEMIC STAFF	21

### 7.2.3 – Assessment of Portfolios

Students were asked to respond to several likert style questions related to assessment of their portfolios. Only 47% of students had an assessed portfolio, and so only these students were asked to respond to these questions. Their responses are shown in table 7.5.

Generally, 61.7% of students felt that the portfolio should be assessed, while 53.2% felt that all the work they do should be assessed (including the portfolio). Sixty-six percent of students found the portfolio assessment undirected and 63% would prefer an assignment or an

**Table 7.5 – Student Responses to Portfolio Assessment Likert Questions (% of sample who have assessed portfolio)**

	SA	A	MA	MD	D	SD	% POSITIVE ANSWER	% NEGATIVE ANSWER
I find this type of assessment too undirected	12.76	23.40	29.78	6.38	23.40	4.25	65.94	34.03
I prefer this type of assessment to an assignment or an examination	4.25	12.76	17.02	31.91	8.51	23.40	34.03	63.82
I don't think the portfolio should be assessed	4.25	14.89	19.14	44.68	8.51	8.51	38.28	61.70
I think all the work I do should be assessed, including the portfolio	8.51	19.14	25.53	14.89	23.40	8.51	53.18	46.80
Competence cannot be assessed by a portfolio	29.78	29.78	17.02	19.14	4.25	0	76.58	23.39
The portfolio is the best way to assess my professionalism	0	0	17.02	36.17	27.65	19.14	17.02	82.96
The portfolio only assesses what I write about my practice, not my actual practice	27.65	36.17	21.27	2.12	8.51	4.25	85.09	14.88
Because my portfolio is personal, I am not sure how it can be marked	14.89	27.65	31.91	17.02	0	8.51	74.45	25.53
Knowing my portfolio was going to be marked affected what I included in it	23.47	31.91	8.51	14.89	8.51	12.76	63.89	35.97
Feedback on the portfolio is more helpful to my development than getting a mark for its completion	31.91	48.93	10.63	4.25	4.25	0	91.47	8.50

Coding of responses – SA = Strongly agree, A = Agree, MA = Mildly agree, MD = Mildly disagree, D = Disagree, SD = Strongly disagree.

examination. Sixty-four percent felt that knowing the portfolio was going to be marked affected what they put in it, while 75% felt that because it was personal they were not sure how it could be marked. Seventy-seven percent of students felt that the portfolio could not assess their competence as physiotherapists, while 82% felt the portfolio was not the best way to assess their professionalism. Students strongly agreed that the portfolio only assessed what they wrote about their practice, and not their practice (85%), and 91% of students felt that the feedback they received on their portfolios was more useful to them than the mark awarded.

#### 7.2.4 – Support for and Feedback on Portfolios

Students were asked to respond to questions relating to the support and feedback they received on their portfolios. Responses to the likert questions relating to support are shown in Table 7.6, while the responses to the questions relating to feedback are shown in Table 7.7.

In general, between 60-70% of students felt their portfolios were introduced to them at an appropriate time, although the questionnaire did not ask them to say when this was. They also felt that the purpose of the portfolio was clearly explained and that the person supporting them understood the process well. Only a third of students felt they had on-going support for their portfolio development, and 60% of students felt that the level of support they received influenced the value they placed on the portfolio development process. Only 39% felt that their clinical educators had been able to help them with their portfolios.

**Table 7.6 – Student Responses to Likert Questions about Support for Portfolio Development.**

	SA	A	D	SD	% POSITIVE ANSWER	% NEGATIVE ANSWER
The portfolio was introduced to me at an appropriate time	19	51	26	4	70	30
The purpose of the portfolio was clearly explained to me	13	48	32	7	61	39
The person supporting me in portfolio development understands the portfolio process well	15	52	22	11	67	33
I have on-going support for my portfolio development	6	28	41	25	34	66
The level of support I receive for my portfolio development influences the value that I place on this process	15	45	25	15	60	40
My clinical educators have been able to help me with my portfolio	7	32	40	21	39	61

Coding of responses – SA = Strongly agree, A = Agree, D = Disagree, SD = Strongly disagree.

In relation to the student responses regarding feedback, only 28% were confident that they received feedback on their portfolios, with 49% sure that they did not receive feedback. The number of students responding that they did not know if they received feedback or not may link to the timing of the questionnaire in relation to assessment timings of their portfolios. Only 17% of students found their feedback helpful, however this did increase the value they placed on the portfolio process. Of those saying they do not receive useful feedback, two thirds felt the lack of useful feedback did not influence the value they placed on the portfolio process.

**Table 7.7 – Student Responses to Questions regarding Feedback**

ARE YOU PROVIDED WITH FEEDBACK ON YOUR PORTFOLIO BY THE COURSE TEAM?	YES	NO	DON'T KNOW	
(% of sample)	28	49	23	
DO YOU FIND THE FEEDBACK YOU RECEIVE HELPFUL IN TERMS OF YOUR CONTINUED PORTFOLIO DEVELOPMENT	YES	NO	DON'T KNOW	
(% of sample)	17	34	49	
DOES THE FEEDBACK YOU RECEIVE INFLUENCE THE VALUE YOU PLACE ON THE PORTFOLIO DEVELOPMENT PROCESS?	I do not receive useful feedback, and this reduces the value I place on the portfolio process	I receive useful feedback, and this increases the value I place on the portfolio process	I do not receive useful feedback, but this does not influence the value I place on the portfolio process	I don't know if the feedback I receive influences the value I place on the portfolio process
(% of sample)	23	17	40	26

### 7.2.5 – Student Attitudes to Using a Portfolio.

Students were asked to respond to 20 likert style questions in relation to their attitudes to using a portfolio and how valuable they think it had been for their development (see Table 7.8). Fifteen questions were positively framed, with five negatively framed (shown in red).

Students were divided in terms of whether they liked compiling their portfolios (57% agreed, 43% disagreed), although they were generally positive about the process being worthwhile (84%) and giving them a sense of achievement (75%). Although 64% of students felt building the portfolio had involved too much work, only 29% felt this was unmanageable. Two-thirds of students felt the portfolio was easy to use or navigate, however 74% were unsure of what to include in their portfolios.

**Table 7.8 – Student Responses to Attitudes to using a Portfolio.**

	SA	A	MA	MD	D	SD	% POSITIVE ANSWER	% NEGATIVE ANSWER
I like compiling my portfolio	11	21	25	21	15	7	57	43
The process of portfolio building is worthwhile	23	37	24	6	6	4	84	16
Building my portfolio has given me a sense of achievement	9	39	27	9	9	7	75	25
The process of building my portfolio is unmanageable	0	6	23	40	25	6	29	71
Building the portfolio has involved too much work	6	30	28	17	17	2	64	6
The portfolio is a good method of developing my knowledge about Physiotherapy	6	30	25	19	11	9	61	39
Using a portfolio has allowed me to pull together learning from across all my modules	9	32	23	16	13	7	64	36
The portfolio has helped me to identify my strengths and weaknesses	7	32	38	13	6	4	77	23
The portfolio has helped me to make links between theory and practice	9	19	43	17	6	6	71	29
The portfolio has helped me in self-directed learning	4	33	28	19	9	7	65	35
The portfolio is a good method of making me aware of my values	6	25	43	13	6	7	74	26
My portfolio truly reflects how I have developed during my studies	4	30	28	13	19	6	62	38
Building the portfolio has improved my clinical practice	6	21	32	19	16	6	59	41
Building the portfolio has improved patient care	2	15	28	31	15	9	45	55
Building the portfolio has contributed to my development in considering ethical issues in practice	4	13	29	26	19	9	46	54
The portfolio provides a useful opportunity to explore my feelings and emotions	9	26	25	13	18	9	60	40
I felt uncomfortable writing about my mistakes in my portfolio	4	11	25	25	26	9	40	60
Completing the portfolio has caused me a lot of anxiety	7	17	25	15	25	11	49	51
I have been unsure about what to include in my portfolio	21	42	11	6	16	4	74	26
My portfolio is easy to use/navigate	0	32	34	13	8	13	66	34

Coding of responses – SA = Strongly agree, A = Agree, MA = Mildly agree, MD = Mildly disagree, D = Disagree, SD = Strongly disagree.

Students were generally positive in terms of the learning that had occurred through building their portfolios. Between 60 and 77% agreed that the portfolio had helped them develop their knowledge of physiotherapy, allowed them to pull together learning from all modules, identify their strengths and weaknesses, build links between theory and practice, helped them in SDL, made them aware of their values, and been a good place to explore their feelings and

emotions. Although 59% of students felt using the portfolio had improved their clinical practice, only 45% felt that it had improved patient care. Students did not feel uncomfortable writing about their mistakes in their portfolios (60%), but half of respondents did think that completing the portfolio had caused them a lot of anxiety.

#### 7.2.6 – Student Knowledge about CPD.

One section of the questionnaire aimed to develop an idea of students' level of understanding of CPD (see Table 7.9). eighty-five percent of students responded that they were taught about CPD as part of their course.

Generally, students demonstrated a good understanding of what CPD is, how this is monitored and their own role, as well as the roles of regulatory and professional bodies and employer.

**Table 7.9 Students' Knowledge about CPD**

	Yes, definitely	Yes, partially	I don't think so	Definitely not	% POSITIVE ANSWER	% NEGATIVE ANSWER
CPD means attending courses following graduation	47	49	2	2	96	4
CPD can be any activity that allows me to learn	74	26	0	0	100	0
CPD is part of what it means to be a professional	62	36	2	0	98	2
The CSP regulates how much CPD I will have to do	21	49	28	2	70	30
CPD is monitored by the Health and Care Professions Council	68	23	9	0	91	9
It will be the responsibility of my employer to ensure I undertake the appropriate CPD	4	19	37	40	23	77
It is an obligation of my employer to ensure I have time to complete CPD	28	51	15	6	79	21
CPD will help me to maintain my competence after graduation	90	8	2	0	98	2
It is important that any CPD I undertake after I graduate is going to benefit the service users I am involved with	55	35	8	2	90	10
Undertaking CPD might help me to get promoted	36	56	8	0	92	8

#### 7.2.7 – Student Attitudes to CPD and Portfolios moving forwards into their careers.

The final section of the questionnaire asked students to give their opinions about how they felt about using a portfolio as they continue into their careers, and their thoughts about CPD once graduated (see Table 7.10).

Students were positive about continuing their use of a portfolio after graduation (94%), feeling that it was a good method of documenting their CPD (89%), it would help them monitor and organise their CPD post-graduation (84%), and that it would help them to demonstrate their

CPD if required (90%). Despite this, 26% said they were unlikely to look at their student portfolios again once they graduate. Although students responded that they had to continue with CPD after graduation because they might be audited (96%), there was a strong feeling from students that LLL was not about proving what they had done, but about improving their practice (94%). Students also appeared to be internally motivated to continue their development, saying they were happy they would be responsible for their own learning (90%).

Students could see the benefit of having used a portfolio during their pre-registration education, agreeing that it had increased their confidence in their ability to learn following graduation (78%), had helped them to value the process of LLL (78%) and inspired them to continue their development (77%). They could also see the benefit of keeping a portfolio to patient care (89%).

**Table 7.10 – Students Attitudes towards CPD and Portfolios moving forwards.**

	SA	A	MA	MD	D	SD	% POSITIVE ANSWERS	% NEGATIVE ANSWERS
I am likely to continue to keep a portfolio after I graduate	38	37	19	2	2	2	94	6
I am unlikely to look at my portfolio again once I graduate	9	9	8	19	19	36	26	74
Using a portfolio has helped me to identify how I learn best	8	11	28	29	13	11	47	53
Using the portfolio has helped me to identify how I can best approach learning in the future	9	25	32	20	8	6	66	34
Using a portfolio as a student has made me value the process of lifelong learning	15	40	23	9	9	4	78	22
Using the portfolio has inspired me to continue my development after graduation	15	26	36	8	6	9	77	23
Using a portfolio is a good means of documenting my CPD	30	43	17	4	0	6	89	10
The experience of using a portfolio as a student will help me to organise and monitor my CPD after graduation	30	35	19	6	6	4	84	16
I have to undertake CPD following graduation because it might be audited	45	30	21	0	4	0	96	4
Keeping a portfolio following graduation will help me to demonstrate my CPD if required	40	35	15	2	4	4	90	10
Lifelong learning is not about proving what you have done but about improving practice	30	41	23	4	0	2	94	6
I do not need to undertake any CPD as I will learn from doing the job	0	8	8	9	24	51	16	84
I am happy that I will be responsible for my own professional development following graduation	25	44	21	6	2	2	90	10
Using a portfolio has increased my confidence in my ability to continue to learn following graduation	8	38	32	8	6	8	78	22
I can see the benefit of keeping a portfolio to the quality of patient care	17	41	30	8	2	2	89	12

Coding of responses – SA = Strongly agree, A = Agree, MA = Mildly agree, MD = Mildly disagree, D = Disagree, SD = Strongly disagree.

The two areas which were less positive in this section of the questionnaire seemed to relate to the portfolio's ability to develop awareness of their learning approaches. Only half of the students felt using the portfolio had helped them to identify how they learn best, and two

thirds felt the portfolio had helped them to identify how they could approach learning in the future.

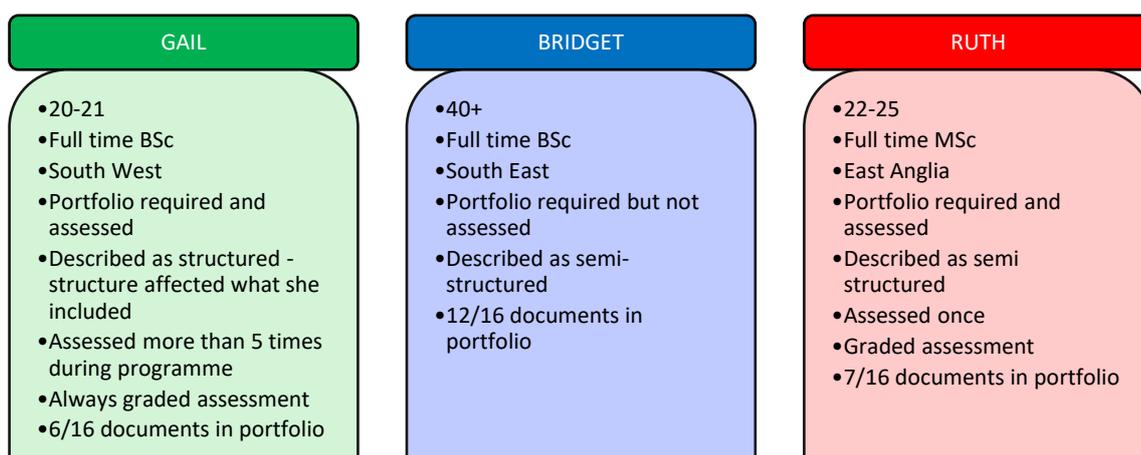
### **7.3 – Student Interview Findings.**

Although the intention had been to interview students from a range of age groups, course types, genders and geographical areas across the questionnaire participants, only three students responded to emails asking for their participation in the interview phase of the study. For the purposes of reporting, these students’ names have been changed, and they will be referred to as Gail, Bridget and Ruth. In the diagrams to follow in this section of the thesis, Gail’s responses are shown in green, Bridget’s in blue and Ruth’s in red. Figure 7.1 gives an overview of the demographics and style of the portfolios of the three interviewees.

#### **7.3.1 – Student Interviewee Responses in the Questionnaire**

The student interviewee responses in the questionnaire are summarised in Table 7.11.

Only Gail and Ruth had assessed portfolios, and they mainly had shared views on the impact of assessment in their responses to the questionnaire. Gail highlighted the issue of honesty when the portfolio is assessed, but despite this she still preferred this type of assessment to more traditional methods. Ruth did not feel that a portfolio could be used to assess professionalism. Despite their generally negative thoughts about portfolio assessment, both students still felt that all the work they do should be assessed, including the portfolio.



**Figure 7.1 – Student Interview Participant Demographic Information.**

Gail and Ruth, the students with assessed portfolios, were positive about the support they were given for their portfolio development. Gail was also positive about the feedback she received, while Ruth was unsure whether she got any feedback. This might relate to the differences in assessment processes, with Gail’s portfolio being assessed regularly through the

programme, and Ruth’s only being assessed at the end of her course. Bridget, whose portfolio is unassessed, felt she didn’t get any on-going support or feedback on her portfolio.

In terms of their opinions on using their student portfolios, when answering the questionnaire, Gail was mainly mildly positive, Bridget was mainly mildly positive and negative, and Ruth was mainly positive. All three students reported being unsure what to include in their portfolios.

**Table 7.11 – Summary of Student Interviewee Responses to the Questionnaire.**

	GAIL	BRIDGET	RUTH
Responses to assessment questions	Negative	Not assessed	Negative
Responses to support and feedback questions	Positive	Strongly negative	Mixed positive and negative
Opinions on portfolios	No strong answers	No strong answers	Positive
Opinions on CPD and portfolios moving forwards into careers	Mainly positive	Mainly positive	Strongly positive

When answering the questionnaire section relating to opinions on portfolios and CPD moving forwards into their careers, Ruth gave all positive answers. Bridget was strongly positive in most of her answers, however did not feel the portfolio had helped her in terms of identifying best methods of learning, either now or for the future. Gail’s answers were also mainly strongly positive; however, she didn’t feel the benefit of the portfolio in terms of inspiring CPD or LLL, nor did she feel the portfolio was a good means of documenting CPD and was not happy that she would take responsibility for her professional development post-graduation.

### 7.3.2 – Student Interview Content Analysis

Content analysis was carried out, as described in Chapter Five, Section 5.3. The frequency of appearance of themes, both within and between participants, were recorded (first number represents number of participants raising the topic, second number represents the total number of times the theme is mentioned in the interviews) (Grbich, 2012). There was generally good concordance between the perceptions and attitudes to portfolios identified from the literature and those recorded in the interview transcripts. There were only three themes arising from the literature review which were not mentioned by the interviewees. Eight new themes were identified by content analysis of the interview transcripts. These were motivation to learn, progression, employment interviews, verbal reflection, influences on their

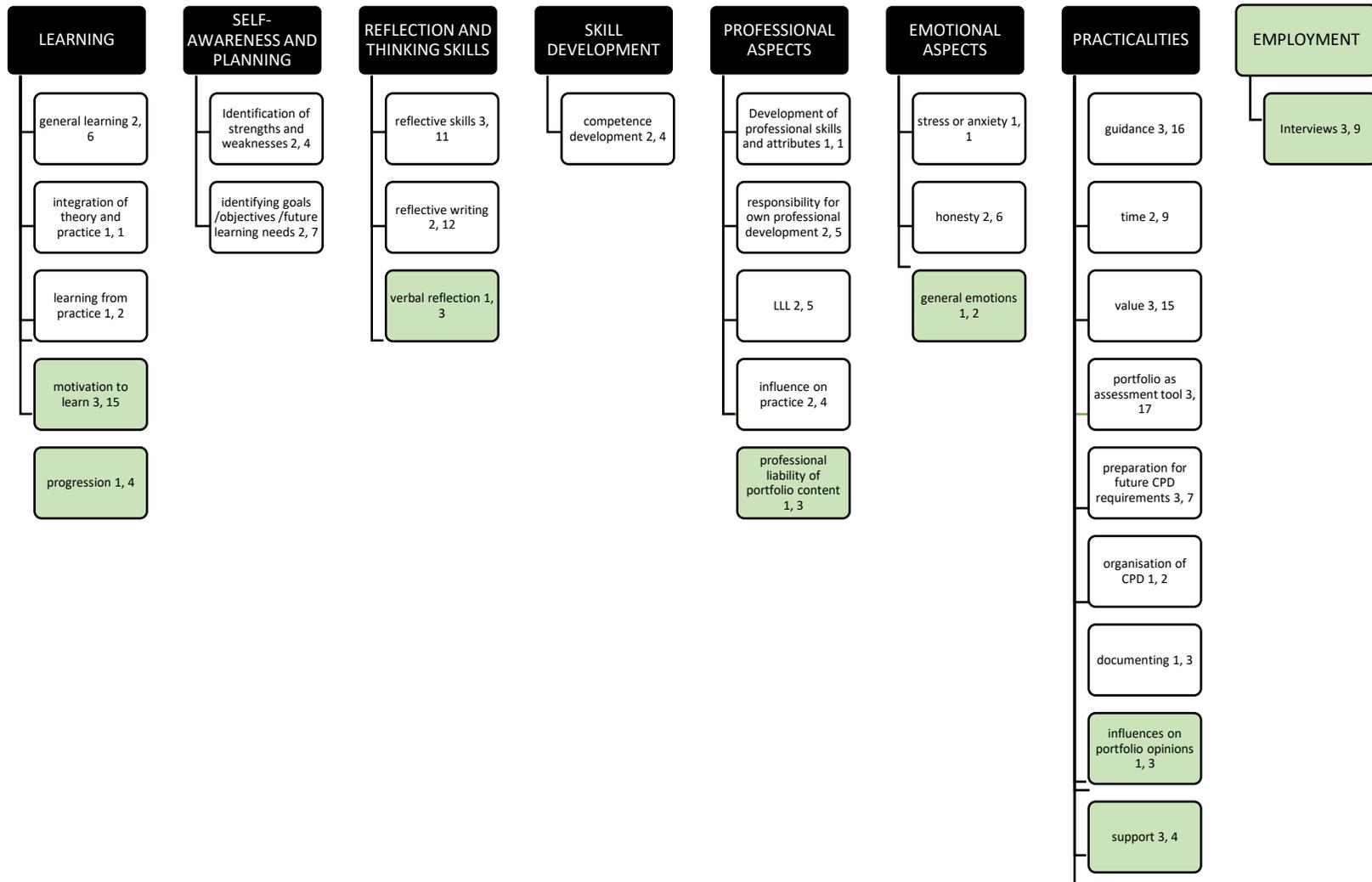


Figure 7.2 – Thematic Framework S2 – Student Perceptions and Attitudes towards portfolios from Interviews (green =new from interviews).

opinions of portfolios, support for portfolio development, general emotions, and professional liability of portfolio content (see green boxes in Figure 7.2).

### 7.3.3 – Student Interview Thematic Analysis

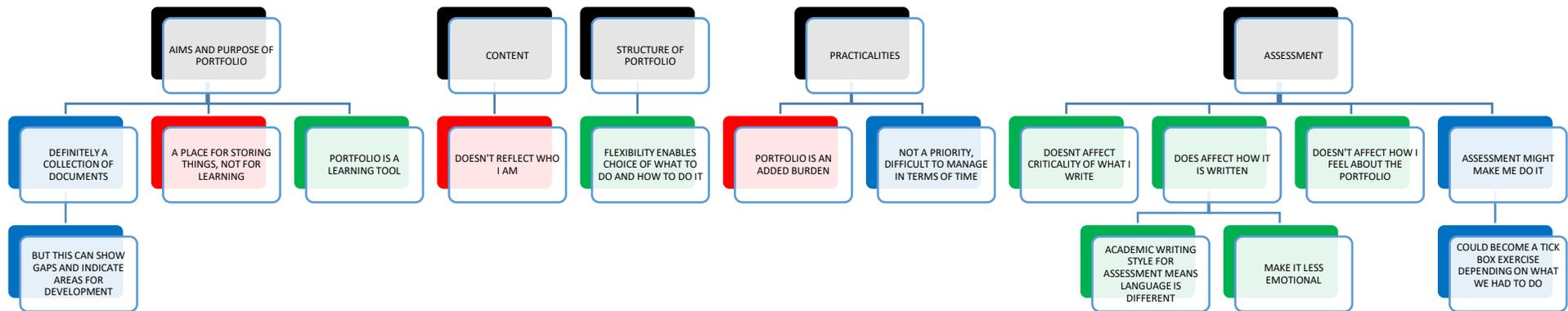
#### *7.3.3.1 – Student interviewee opinions about their student portfolios*

During the interviews, all three students talked about how they felt about their portfolios (see Figure 7.3). Gail described her portfolio as a tool for learning, and that the flexibility provided within its structure allowed her to choose what she wrote about and how she created her portfolio. Although she felt the assessment of the portfolio changed the way she wrote in her portfolio, in terms of using academic language and making it less emotional than she might if it was not assessed, she did not feel this changed the criticality of what she included in her portfolio, or how she felt about using a portfolio. When Ruth talked about her portfolio, she described it as a place for storing things, not for learning, and she felt that the portfolio did not reflect who she was as a physiotherapist. She felt that the portfolio was an added burden on top of all her other work for the course. Bridget presented a case somewhere in between these, saying that the portfolio was definitely a collection of documents; but that this could show gaps in her knowledge or learning and indicate areas for development. Because her portfolio was not assessed, she felt that it was not a priority in terms of what she needed to do, and it was difficult to manage the completion of the portfolio in terms of time.

Interestingly, although Bridget's portfolio was not assessed, she still talked about assessment, and wondered whether having an assessed portfolio might make her give it a higher priority, although she did think this might make it a tick box exercise, depending on what was required.

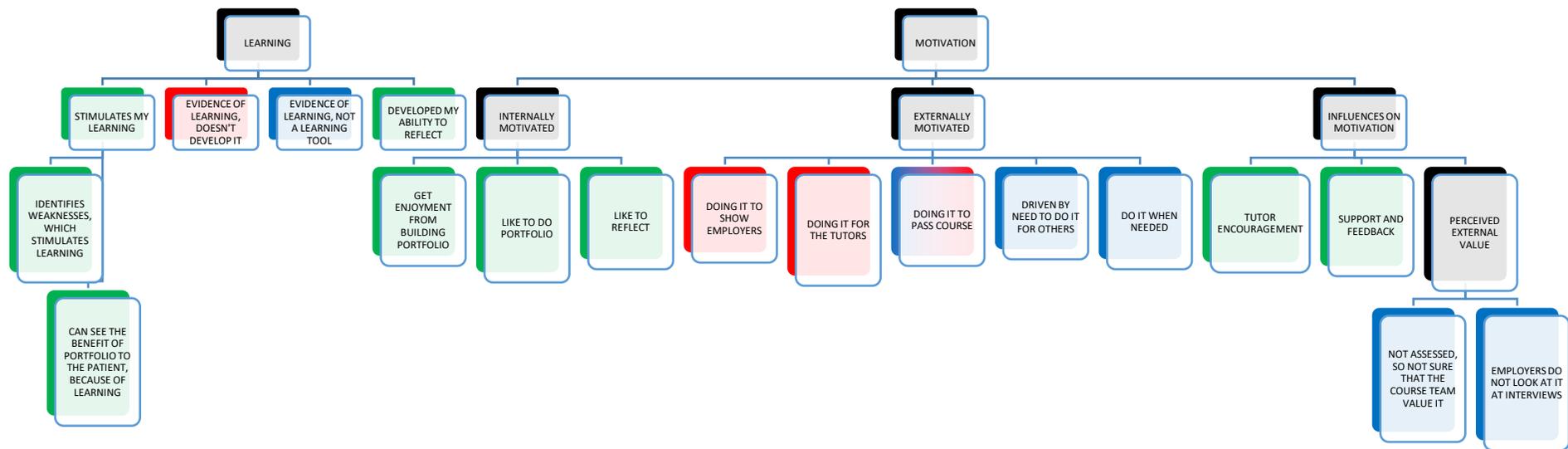
Gail strongly gave the opinion that her portfolio was a place for learning during her interview, saying it had helped her identify her strengths and weaknesses, which stimulated learning, and she could see the benefit of this to the patient. She also felt it had developed her ability to reflect on her experiences. On the other hand, both Ruth and Bridget felt that the portfolio showed evidence of what they had learned, but Bridget did not feel the portfolio was a learning tool and Ruth felt that the portfolio did not develop her learning (see Figure 7.4).

Motivational factors for using and developing the portfolio came through in all three interviews (see Figure 7.4). Gail appeared to be internally motivated - she liked compiling her portfolio and got enjoyment from building it, and she liked to reflect. This internal motivation seemed to be influenced by encouragement from the tutors, a good level of support and useful feedback. On the other hand, Bridget and Ruth both expressed the view that they were completing the portfolio to pass their course, demonstrating an external motivation. Ruth said



**Figure 7.3 – Student Interviewee Opinions about their Student Portfolios – Aims, Purpose, Content, Structure, Practicalities and Assessment**

Blue = Bridget’s responses, Green = Gail’s responses, Red = Ruth’s responses



**Figure 7.4 - Student Interviewee Opinions about their Portfolios – Learning and Motivation.**

Blue = Bridget's responses, Green = Gail's responses, Red = Ruth's responses

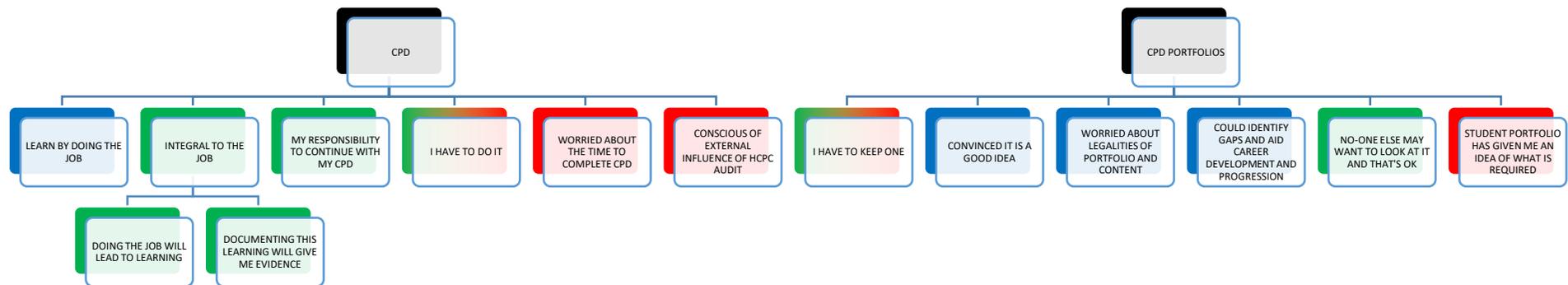
she was doing it for the tutors, and to show employers. Bridget said she did it when it was needed and was driven by the need to do it for others. Bridget appeared to also be influenced by the perceived value that she thought others placed on the portfolio. Because her portfolio was not assessed, she felt that the course team did not value the portfolio process. This was reinforced by the fact that employers did not ask to see her portfolio during interviews.

#### *7.3.3.2 – Student interviewee opinions on CPD moving forwards into their careers*

Bridget had very little to say about CPD moving forwards into her career, except that she felt a lot of it would be on the job learning, in terms of developing her skills and learning from senior staff. While both Gail and Ruth said that they knew they had to do CPD, their opinions aside from this were very different. Ruth was worried about the time commitment required to complete CPD, influenced in part by conversations with clinical educators on placement. She also had concerns about the impact of HCPC audit and felt this was a significant external driver for CPD. Gail, on the other hand, felt that CPD was integral to the job, and that learning would occur because of doing the job. She also recognised that documenting her learning would provide evidence, if required. She also recognised that her own CPD was her responsibility (see Figure 7.5).

#### *7.3.3.3 – Student interviewee opinions on CPD portfolios moving forwards into their careers*

In terms of continuing to use a portfolio following graduation and into their careers, both Gail and Ruth stated that they felt they had to keep one. Gail seemed to take possession of this, in that she was not sure if anyone else would ever ask to see her portfolio, but she was ok with this. Ruth felt that using a student portfolio had given her a “heads up” as to what is required in a portfolio. Bridget, although convinced a portfolio is a good idea, had concerns about the legalities of a portfolio and its content, in terms of potential legal action against her as a practitioner and whether her portfolio might be called as evidence. Despite this, she still felt that the portfolio might help her to identify gaps and therefore aid career progression (see Figure 7.5).



**Figure 7.5 – Student Interviewee Opinions on CPD and CPD Portfolios moving forwards into their careers**

Blue = Bridget's responses, Green = Gail's responses, Red = Ruth's responses

## 7.4 – Student Attitudes to Portfolios, CPD and LLL

### 7.4.1. Influence of the Student Portfolio on Student Attitudes to Portfolios (see Figure 7.7)

#### 7.4.1.1 – Influence of completing a student portfolio

From the questionnaire data, 85% of students (n=45) were required to keep a portfolio as part of their studies, with only 15% not required to keep a portfolio (n=8). When analysing the data by whether the portfolio was required or not, there was no significant difference between the two groups in terms of demographic data (gender  $p=0.714$ ; age  $p=0.605$ ; type of course  $p=0.712$ ; variety of documents collected in portfolio  $p=0.136$ ).

There was a significant difference in relation to the structure of the portfolios between those required to keep a portfolio and those not required to keep a portfolio ( $p=0.028$ ) (see table 7.12).

**Table 7.12 – Relationship between Portfolio Requirement and Portfolio Structure.**

	Very structured portfolio (n=2)	Structured portfolio (n=18)	Semi-structured portfolio (n=20)	Unstructured portfolio (n=13)
<b>Portfolio is required (n=45)</b>	100%	100%	85%	61.5%
<b>Portfolio is not required (n=8)</b>	0%	0%	15%	38.5%

Students who were not required to keep a portfolio as part of their studies, were significantly more likely to have a sense of achievement from developing their portfolios than those where it was a requirement of their course ( $p=0.039$ ), (see Table 7.12). There were no other

**Table 7.13 - Statistical analysis of Influence of Portfolio Requirement on Attitudes to Portfolios (significant results only).**

Statement	Mann Whitney U Test mean rankings		P value
	Portfolio is required (n=45)	Portfolio is not required (n=8)	
Building my portfolio has given me a sense of achievement	28.84	16.63	$P = 0.039^*$
I am likely to continue to keep a portfolio after I graduate	28.71	17.38	$P = 0.042^*$
Keeping a portfolio following graduation will help me to demonstrate my CPD if required	28.66	17.69	$P = 0.050^*$

significant differences between the groups in terms of their attitudes towards their student portfolios.

Students who were not required to keep a portfolio as part of their studies were also significantly more likely to continue to keep a portfolio after graduation ( $p=0.042$ ). They were also of the opinion that keeping a portfolio would help them to demonstrate their CPD significantly more than those required to keep a portfolio ( $p=0.050$ ), (see Table 7.13). There were no other significant differences between the groups in terms of their attitudes towards portfolios post-graduation.

All three students who were interviewed were required to keep a portfolio, and so there is nothing to be drawn from their answers in relation to this section of the results.

#### *7.4.1.2 – Influence of the structure of the student portfolio*

From the questionnaire results, two students had a very structured portfolio, where they were told exactly what pieces of evidence they should collect at each stage of the portfolio process. Eighteen students described their portfolios as structured, in that they had specific standards or criteria to meet, but how they demonstrated achievement of this was up to them. Twenty students described their portfolios as semi-structured, in that they were given some guidance as to how to complete the portfolio, but no specific standards or criteria to meet. Thirteen students described their portfolios as unstructured, where their portfolios could include anything they wanted and be designed how they chose.

When analysing the data by level of structure of the portfolio, there was no significant difference between the four groups in terms of demographic data (gender  $p=0.724$ ; age  $p=0.756$ ; type of course  $p=0.390$ ; variety of documents collected in portfolio  $p=0.585$ ).

The level of structure of the portfolio was correlated with whether the portfolio is required/not required and assessed/not assessed (Pearson Chi-square test  $p=0.004$ ), therefore it was difficult to determine whether attitudes to portfolios were influenced entirely by structure of the portfolio.

There were significant differences between the groups on six of the questions related to attitudes to portfolios (see Table 7.14). Students with a very structured or semi structured portfolio thought the process of building the portfolio was unmanageable significantly more than those with a structured portfolio. Students with semi-structured or unstructured portfolios had a sense of achievement on building their portfolios significantly more than those with a structured portfolio. Students with a semi-structured portfolio thought the portfolio

had involved too much work significantly more than those with a structured portfolio. Those with a very structured portfolio thought the portfolio truly reflected their development significantly more than those with either a structured or semi-structured portfolio, and those with an unstructured portfolio thought the portfolio truly reflected their development significantly more than those with a structured portfolio (see Table 7.14).

Students with a very structured or semi-structured portfolio were significantly more likely to continue using a portfolio after graduation than those with a structured portfolio and saw a portfolio as a good means of documenting their CPD after graduation significantly more than those with either a structured or unstructured portfolio (see Table 7.14).

**Table 7.14 – Statistical Analysis of Influence of Structure of Portfolio on Attitudes to Portfolios (significant results only).**

	Post-hoc Mann Whitney U Test Mean rankings and p values for individual pair wise comparisons					
Statement and KW test result	VS-S	VS-SS	VS-US	S-SS	S-US	SS-US
The process of building my portfolio is unmanageable (p=0.012)	VS=2.00 S=11.44 p=0.023*	VS=4.50 SS=12.20 p=0.087	VS=2.75 US=8.81 p=0.066	S=24.22 SS=15.25 p=0.009*	S=16.64 US=15.12 p=0.624	SS=14.85 US=20.31 p=0.096
Building the portfolio has given me a sense of achievement (p=0.024)	VS=3.50 S=11.28 p=0.069	VS=9.00 SS=11.75 p=0.54	VS=6.00 US=8.31 p=0.457	S=23.47 SS=15.93 p=0.032*	S=19.61 US=11.00 p=0.007*	SS=17.58 US=16.12 p=0.656
Building the portfolio has involved too much work (p=0.019)	VS=3.50 S=11.28 p=0.063	VS=7.25 SS=11.93 p=0.316	VS=2.75 US=8.81 p=0.063	S=24.19 SS=15.28 p=0.011*	S=17.39 US=14.08 p=0.288	SS=14.65 US=20.62 p=0.073
My portfolio truly reflects how I have developed during my studies (p=0.033)	VS=2.50 S=11.39 p=0.04*	VS=2.75 SS=12.38 p=0.038*	VS=3.75 US=8.65 p=0.126	S=20.03 SS=19.03 p=0.775	S=18.72 US=12.23 p=0.043*	SS=19.43 US=13.27 p=0.063
I am likely to continue to keep a portfolio after I graduate (p=0.039)	VS=2.50 S=11.39 p=0.029*	VS=7.00 SS=11.95 p=0.243	VS=4.00 US=8.62 p=0.144	S=23.81 SS=15.63 p=0.016*	S=17.44 US=14.00 p=0.265	SS=15.83 US=18.81 p=0.349
Using a portfolio is a good means of documenting my CPD (p=0.006)	VS=2.50 S=11.39 p=0.036*	VS=6.50 SS=12.00 p=0.199	VS=2.50 US=8.85 p=0.044*	S=24.56 SS=14.95 p=0.005*	S=17.58 US=13.81 p=0.222	SS=14.50 US=20.85 p=0.047*

The students were asked in the questionnaire whether they felt that the structure of their student portfolio influenced how they used the portfolio. When these responses were analysed 20 respondents said that what they had put in their student portfolios was influenced by structure, and 33 felt that it was not. There were no demographic differences between these groups, however, those with very structured or structured portfolios or those with required and assessed portfolios thought the structure had influenced how they used their portfolios significantly more than those with semi-structured or unstructured, or required but not assessed or not required or assessed portfolios. Students who felt that the structure of the portfolio had not influenced how they used it were significantly more positive about using the portfolio on several statements in the questionnaire (see Table 7.15), including their sense of achievement and satisfaction, the portfolio's ability to help them develop knowledge of physiotherapy and skills for SDL, pulling together learning from across modules and making links between theory and practice. They also thought the portfolio was significantly easier to use than those who felt the structure had influenced what they did. Considering this, it is surprising that those who were not influenced by structure felt that building the portfolio had

**Table 7.15 – Statistical Analysis of Influence of the Perceived Impact of Portfolio Structure on Attitudes to Portfolios.**

Statement	Mann Whitney U Test Mean Rankings		P values
	Yes, the structure of my portfolio influences how I used it	No, the structure of my portfolio does not influence how I use it	
The process of portfolio building is worthwhile	33.78	22.89	P=0.010*
Building my portfolio has given me a sense of achievement	33.68	22.95	P=0.011*
The portfolio is a good method of developing my knowledge about Physiotherapy	33.13	23.29	P=0.021*
Using a portfolio has allowed me to pull together learning from across all my modules	33.40	23.12	P=0.016*
The portfolio has helped me to make links between theory and practice	32.75	23.52	P=0.027*
The portfolio has helped me in self-directed learning	32.25	23.82	P=0.047*
Completing the portfolio has caused me a lot of anxiety	32.48	23.68	P=0.040*
My portfolio is easy to us/navigate	32.83	23.83	P=0.026*

caused them significantly more anxiety. There was no significant difference between the groups on any other questions in this section of the questionnaire. Students who did not think that the structure of the portfolio had influenced what they used it for were more positive about using a portfolio after graduation, in that they felt it would help them to organise and monitor their CPD ( $p=0.034$ ), would be a good means of documenting their CPD ( $p=0.025$ ) and could see the benefit of using a portfolio to patient care ( $p=0.015$ ) significantly more than those who felt they had been influenced by the structure of the student portfolio.

The interviewees talked little about the structure of their portfolios, apart from to describe this in more detail than was given in the questionnaire. Although Gail had recorded her portfolio as structured in the questionnaire, further discussion revealed that part of the portfolio was structured, but part was very flexible and open to wide interpretation by the student –

“They tell us what they want from it, and it’s quite structured in that way. It’s just how you expand on your own sort of portfolio aside from that is where we have a fair bit of freedom.”

(Gail, lines 58, ands 60-61)

This flexibility in the portfolio seemed to have improved Gail’s engagement with the portfolio process –

“This (flexibility) sets us up quite well to adapt it and change it to fit how we want to for each placement.”

(Gail, lines 13-14)

Bridget gave some insight into her portfolio as a collection of documents and whether this was beneficial to her –

“So even just having a collation of documents, is, in itself, a prompt I think to show where I still need to develop and where I’m a bit thin on the ground.”

(Bridget, 125-126)

Ruth did not give any insights into whether the structure of her portfolio influenced her attitude towards it.

#### *7.4.1.3 – Influence of assessment*

From the questionnaire data, 25 students had an assessed portfolio, and 28 had an unassessed portfolio. When analysing the data in relation to whether it was assessed or not there was no

significant difference between the two groups in terms of demographic data (gender  $p=0.857$ ; age  $p=0.282$ ; type of course  $p=0.121$ ; variety of documents collected in portfolio  $p=0.435$ ).

Students with an unassessed portfolio felt that the process of building the portfolio was worthwhile and that building their portfolio had made them value the process of LLL significantly more than those with an assessed portfolio (see Table 7.16). There were no differences in relation to any other questions in the questionnaire.

**Table 7.16 – Statistical Analysis of Influence of Assessment on Attitudes to Portfolios (significant results only).**

Statement	Mann Whitney U Test mean rankings		P value
	Assessed portfolio (n=25)	Non-assessed portfolio (n=28)	
The process of portfolio building is worthwhile	31.44	23.04	P=0.039*
Building my portfolio has made me value the process of lifelong learning	31.74	22.77	P=0.028*

The interviewees talked a lot about assessment and provided some insights into how they felt this affected their attitudes towards using a portfolio. The two students with a required and assessed portfolios had differing views, with Ruth expressing the view that assessment was not helpful –

“It’s an added burden that’s on top of our modules that we have to do.”  
(Ruth, lines 87-88)

“I don’t think everyone can get their message across in the portfolio.”  
(Ruth, lines 181-182)

“I think it doesn’t always reflect how you are as a practitioner.”  
(Ruth, lines 182-183)

Gail, on the other hand, appeared to see the assessment of the portfolio as a means for her to learn –

“Our portfolios have improved because of it, and our understanding of how to develop it... it’s actually sort of helped me to develop.”  
(Gail, lines 249-250 and 286-287)

She also commented on *the way* the portfolio was assessed, and the influence of this on her attitude towards the portfolio –

“They’re marking it in a way that shows you... where to develop, but not undermining the fact that it’s personal. They mark it on whether we have considered the situation from multiple perspectives, aspects like that, and I find that easier, it doesn’t affect whether it’s a personal thing.”

(Gail, lines 334-335, 337-339, and 345-346)

She did, however, reflect that her portfolio content was perhaps not the same as it would be if it wasn’t assessed –

“So then to go and show it to someone, in a sort of academic way, just sort of changes, it doesn’t come across how you’re feeling, you can’t always say your exact thoughts if you’re trying to present it in an academic way and you know it’s going to get marked.”

(Gail, lines 239-242)

Gail also considered whether she thought her attitude to the portfolio would have been different if her portfolio was not assessed –

“I would still do it, but perhaps not with the rigour that I do at the moment. I think by now I would do it, because I understand the importance, but if you had told me in first year (it wasn’t assessed), I probably wouldn’t have done it, because at that point I didn’t understand its significance....so my portfolio probably wouldn’t have been so useful or as focussed.”

(Gail, lines 302-307)

Bridget, who had an unassessed portfolio, also talked about assessment, having met another student who had an assessed portfolio while waiting for a job interview. This made her think about whether she would have liked her portfolio to be assessed –

“I hadn’t thought about it before... but I think that would be very beneficial, because I am not the only person who sort of scrabbled around a bit the weekend before an interview to bring everything to one place. It might make it a bit more of a natural process, rather than a reactive portfolio. But I think there is a risk, if it wasn’t done well, that it might become a bit of a box ticking exercise.”

(Bridget, lines 185-190, and 209-210)

These comments provide insights into the challenges of assessing a portfolio. Assessment can provide a driver for engagement with the portfolio process, but this does not necessarily lead to a positive attitude towards the development and use of a portfolio. Unassessed portfolios, however, may lead students to disengage with the process until absolutely necessary.

#### 7.4.1.4 – Influence of teaching style

The questionnaire did not investigate the influence of teaching style, but this was something that came through from the interviewees as being important. Gail talked in detail about how they had been taught to use their portfolios –

“They’ve been really proactive about it, and I think that feeds on positively to us as well... they’ve given us lots of tools in this toolbox, and then we can pick and choose the ones that are useful to us.”

(Gail, lines 430-431 and 81-82)

Gail also stressed the flexibility in teaching methods -

“They are really keen to make it something that people engage with and understand, hence the different ways of trying to teach us about it... we’ve had all sorts of methods – post-it notes, Lego, drawings, group work... if she tries a method of getting us to show something and it doesn’t work she wants to know why it doesn’t work.”

(Gail, lines 419-422 and 444-445)

and the benefit of being taught by different members of the course team –

“All of their different ways of approaching their CPD... and to get all their different viewpoints and different ways of doing it is really, really good.”

(Gail, lines 471-473)

“Different people within our class who learn in different ways, then there’s stuff to sort of appeal to them, so everyone’s got a different area they can latch onto.”

(Gail, lines 477-479)

Bridget, on the other hand, describes a different approach to teaching portfolio use –

“So, there was a list of things, that... our lecturer, for example, put in hers... it was a strong recommendation from them... we were told it’s not just a pile of stuff.”

(Bridget, line 75-76, and 80)

These comments suggest that a teaching style that presents lots of options and alternatives to students, in terms of how they might approach building their portfolio, with encouragement to be creative, generates a positive attitude towards using a portfolio post-graduation. However, a teaching style that is directive, with limited flexibility, creates a negative attitude towards using a portfolio post-graduation.

#### 7.4.1.5 – Influence of guidance, support and feedback

From the questionnaire results, students were divided into two groups – those who perceived the level of support they had for portfolio development positively (n=31), and those who perceived the level of support they had for their portfolio development negatively (n=22).

There was no significant difference between the groups in terms of age (p=0.192), gender (p=0.845), type of course (p=0.303), requirement for portfolio (p=0.191), assessment of portfolio (p=0.442), structure of portfolio (p=0.673), whether students were provided with feedback or not (p=0.750), or whether they thought that the feedback they received influenced the value they placed on the portfolio (p=0.916). There was a significant difference between the groups in terms of whether they perceived their feedback to be helpful, with those who perceived the level of support they received positively also perceiving that feedback was helpful (p=0.010).

**Table 7.17 – Statistical Analysis of Influence of Perceived Level of Support on Attitudes to Portfolios (significant results only).**

	Mann Whitney U test mean rankings		P value
	Positive perceived level of support	Negative perceived level of support	
The portfolio has helped me to identify my strengths and weaknesses	23.58	31.82	0.045*
The portfolio has helped me in self-directed learning	23.16	32.41	0.026*

In relation to their current student portfolios, those who perceived the level of support they received for portfolio development positively felt the portfolio had helped them to identify their strengths and weaknesses and develop as self-directed learners significantly more than those who perceived the level of support they received for portfolio development negatively (see Table 7.17). There was no significant difference between the groups on any other questions in this section of the questionnaire.

There were no statistically significant differences between the groups in terms of their opinions on using a portfolio going forwards in their careers.

To analyse whether feedback had any influence, students were divided into two groups – those who perceived their feedback as helpful, and those who perceived their feedback as not helpful. There were no significant demographic differences between the two groups (age  $p=0.181$ ; course type  $p=0.074$ ; variety of documents collected in portfolio  $p=0.997$ ). In terms of their attitudes towards their current portfolios there were significant differences on four questions (see Table 7.18). Students who perceived their feedback on their student portfolios as helpful thought the portfolio had helped them to identify their strengths and weaknesses and to develop skills for SDL and was a good place to explore their feelings and emotions significantly more than those who did not perceive their feedback as helpful. Those who did not find their feedback helpful felt portfolio building had caused them significantly more anxiety than those who perceived feedback as helpful. There were no differences in their attitudes towards using a portfolio following graduation.

**Table 7.18 – Statistical Analysis of Influence of Perceived Level of Helpfulness of Feedback on Attitudes to Portfolios (significant results only).**

	Mann Whitney U test mean rankings		P value
	Feedback perceived as helpful	Feedback perceived as unhelpful	
The portfolio has helped me to identify my strengths and weaknesses	8.39	16.81	$P=0.006^*$
The portfolio is a useful place to explore my feelings and emotions	9.56	11.64	$P=0.034^*$
The portfolio has helped me in self-directed learning	9.67	16.17	$P=0.038^*$
Building the portfolio has caused me a lot of anxiety	18.72	11.64	$P=0.026^*$

Two of the three interviewees discussed the support and guidance they received on their portfolio development during the interviews. Gail discussed the fact that she felt she had on-going guidance and support for her portfolio development and how this had influenced her ability to understand the portfolio process –

“And, but now, as we’ve gone on and they taught us, fed back to us on how we’ve done it, so I’ve been able to integrate that into my practice, I’ve got a gradual understanding of, erm, sort of the bits that are most useful to me.”

(Gail, lines 74-76)

She also recognised that she was being supported to develop her portfolio in a way that suited her personal approach to learning and her way of expressing herself –

“So it’s sort of how you develop as you go along, it’s very much sort of your personal preference... but it’s very much on the fact that it’s your portfolio, it’s your CPD, erm, and encouragement on sort of expressing it how you want to.”

(Gail, lines 209-210, and 213-214)

Bridget presented a different picture of how she was supported to develop her portfolio and the way that guidance was provided –

“In first year we were given an introduction to why we have to keep a portfolio and some specific activities to start building up content... So I think at that point we were given some guidance.”

(Bridget, lines 8-9 and 15-16)

The overarching feeling from Bridget regarding support for portfolio development, was that she felt she had to do it, but didn’t really want to or feel encouraged or supported to –

“We were asked to send links to our personal tutors, so that they could look at the efforts that we’d been putting on there as well... just I think to check that we were using it and putting appropriate things on.”

(Bridget, lines 22-26)

“I think it was the start of the third year we had another formal lecture on CPD and the importance of doing it, not just for jobs, but for long term careers and including the fact that we, erm, were highly likely to get audited on the content.”

(Bridget, lines 29-32)

Even Bridget’s suggestions of how they could have been supported or guided more effectively reflected this negative approach, one of habit, rather than desire –

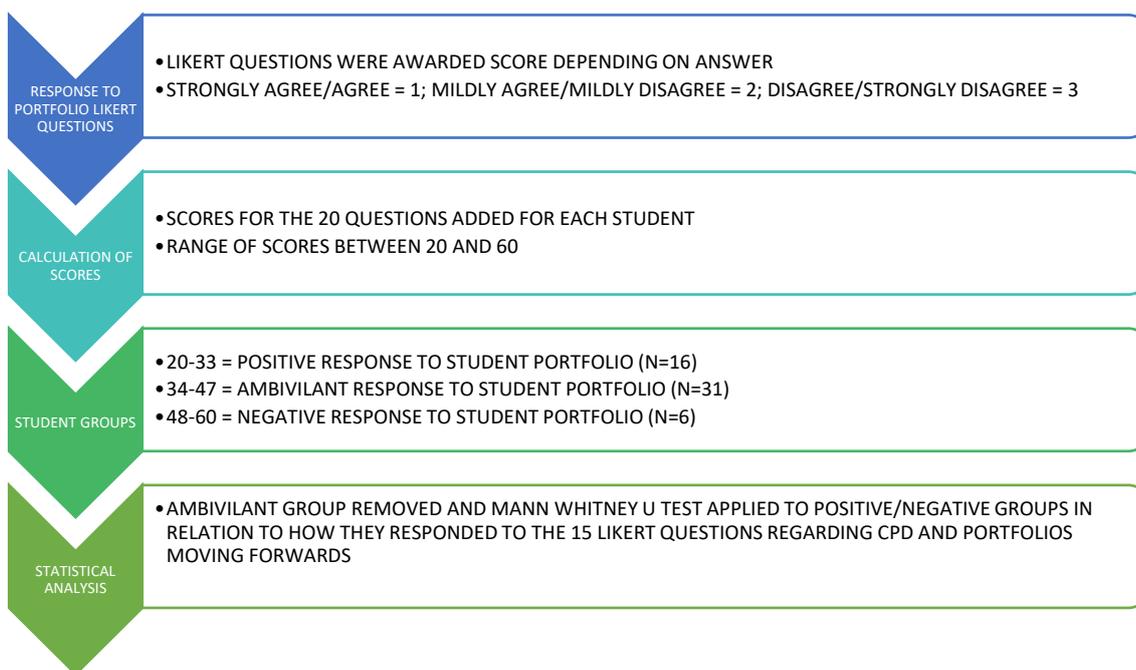
“I think it would be more of a living resource, if we had more discipline in the first place to get us into the habit of using it... if we were told, okay, you’re going to have

to hand in your folder, we want to see it as you would present it to employers or to audit, erm and then we can check that we're on the right lines, as well as making sure it's a bit more up to date, on a regular basis."

(Bridget, lines 198-199 and 202-205)

#### 7.4.1.6 – Influence of a positive attitude to student portfolio.

The questionnaire data was analysed to determine if students with a positive attitude towards their student portfolio, also had a positive attitude towards using a portfolio as they progress into their careers. Students were grouped depending on their responses to the 20 likert style questions about their student portfolio (see Figure 7.6). These groups were then compared in terms of their answers to the 15 likert style questions relating to CPD and portfolios moving forwards. Six of these questions related to using a portfolio following graduation, of these there was a statistically significant difference between the groups on three questions (see Table 7.19).



**Figure 7.6 – Grouping Process for Student Attitude to Portfolios.**

The group who were positive about their student portfolio thought that a portfolio would be a good means of documenting their CPD, that using the portfolio as a student would help them to monitor and organise their CPD following graduation, and they could see the benefit of keeping a portfolio to the quality of patient care significantly more than the group who had a negative opinion of their student portfolio.

**Table 7.19 - Statistical Analysis of Attitude to Student Portfolio on Attitudes to Portfolios moving forwards in career (significant results only).**

	Mann Whitney U Test - Mean Rankings		P value
	Positive to student portfolio (n=16)	Negative to student portfolio (n=6)	
Using a portfolio is a good means of documenting my CPD	9.41	17.08	0.009*
The experience of using a portfolio as a student will help me to organise and monitor my CPD after graduation	9.63	16.50	0.022*
I can see the benefit of keeping a portfolio to the quality of patient care	9.63	16.50	0.017*

In terms of the interview data, it is difficult to determine whether their opinions regarding their student portfolios were positive or negative as all three interviewees gave mixed opinions. Gail appeared to have the most positive attitude to her student portfolio, and this seemed to translate into her attitude to her portfolio moving forwards into her career –

“It’s a really good way of showing progress, to me as well, it’s a really good summary document.”  
(Gail, lines 100-102)

“At the end of the day, it’s about your own development, so even if there isn’t anyone reading it, then that shouldn’t matter.”  
(Gail, lines 269-270)

Ruth’s attitude towards her student portfolio felt more negative and this appeared to translate into her comments relating to continuing to use a portfolio after graduation –

“I feel it is just repeating what I know... I’d like to think that I would remember (what I had done) on the next occasion.”  
(Ruth, lines 112 and 120-121)

Bridget’s attitude seemed to be somewhere in between the attitudes of Gail and Ruth –

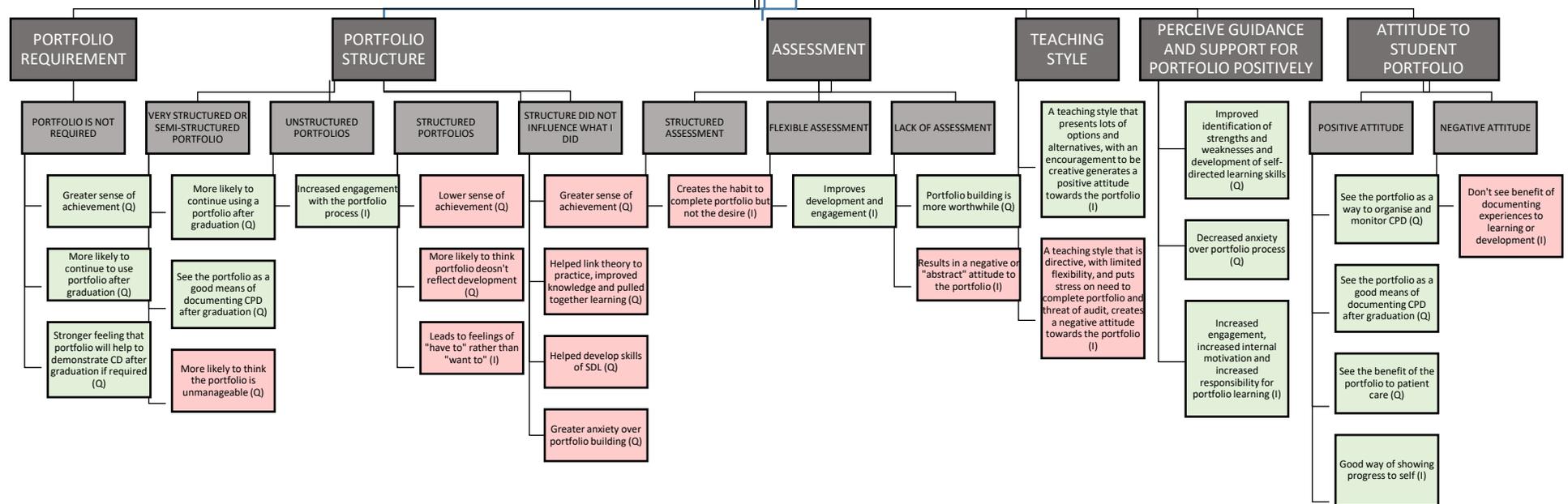
“I know that we keep this portfolio for continuous professional development, so I am still pretty convinced in it, obviously and will continue to do so once I am working.”  
(Bridget, lines 55-57)

She also provided insight into how she might improve her engagement with her portfolio once she has graduated and is working –

“I think if I had my portfolio more to hand, you know, on the side of my desk, it’ll be another prompt to keep doing these things regularly.”

(Bridget, lines 121-123)

**SUMMARY OF THE INFLUENCE OF THE STUDENT PORTFOLIO ON STUDENT ATTITUDES TO PORTFOLIOS**



**Figure 7.7 – Summary of the Influence of the Student Portfolio on Student Attitudes to Portfolios (Questionnaire and Interview Data).**

#### 7.4.2. Influence of the Student Portfolio on Student Attitudes to CPD and LLL (see Figure 7.8)

Bridget did not talk specifically about CPD or LLL in her interview, only commenting on using a portfolio post-graduation rather than learning itself. On this basis, there will be no reference to Bridget in this section of the results.

##### 7.4.2.1 – Influence of completing a student portfolio

From the questionnaire data, whether the portfolio was required or not did not seem to influence student’s attitudes to CPD or to LLL, with no significant differences in responses to the likert questions regarding these topics. All three interviewees were required to keep a portfolio, so comparison between them is not possible for this section of the results.

##### 7.4.2.2 – Influence of the structure of the student portfolio

From the questionnaire data, the structure of the portfolio seemed to have limited influence on how students felt about CPD or LLL. There were no significant differences in responses to the likert style questions relating to attitudes to CPD or the influence of the portfolio on attitudes to LLL.

**Table 7.20 – Statistical Analysis of Influence of the Perceived Impact of Portfolio Structure on Attitudes to CPD and LLL.**

Statement	Mann Whitney U Test Mean Rankings		P value
	Yes, the structure of my portfolio influences how I used it	No, the structure of my portfolio does not influence how I use it	
Using a portfolio has helped me to identify how I learn best	35.08	22.11	P=0.002*
Using a portfolio as a student has made me value the process of lifelong learning	34.58	22.41	P=0.004*
Using the portfolio has inspired me to continue my development after graduation	35.28	21.98	P=0.002*
Using a portfolio has increased my confidence in my ability to continue to learn following graduation	36.40	21.30	P<0.001*

The perceived influence of the structure of the portfolio on how the portfolio was used seemed to have some influence on attitudes to CPD and LLL. Those who did not feel that the structure of the portfolio influenced how they used it had significantly more positive attitudes

to CPD and LLL (see Table 7.20), specifically they felt the portfolio had helped them identify how they could learn best and had increased their confidence to continue their development after graduation. They also felt that the student portfolio had made them value the process of LLL and inspired them to continue their development significantly more than those who felt portfolio structure had influenced what they did with their portfolio. There were no other significant differences between the groups on any other questions. Equally, as the interviewees did not discuss the structure of their portfolios in detail, the content of the interviews did not throw any light on whether the structure of the portfolio influenced their attitudes towards CPD and LLL.

#### 7.4.2.3 – Influence of assessment

From the questionnaire data, students with unassessed portfolios felt that their student portfolio made them value the process of LLL significantly more than those with an assessed portfolio (see Table 7.21). There were no other significant differences between the groups on any other questions.

**Table 7.21 - Statistical Analysis of Influence of Portfolio Assessment on Attitudes to CPD and LLL (significant results only).**

	Mann Whitney U Test – Mean Rankings		P Value
	Portfolio is assessed (n=25)	Portfolio is not assessed (n=28)	
Using a portfolio as a student has made me value the process of lifelong learning	31.74	22.77	P = 0.028*

As previously stated, Gail seemed to have the attitude that assessment of the portfolio was beneficial to her development, while Ruth did not find assessment helpful, and felt it was a burden. Ruth’s comments relating to CPD after graduation focussed on the practicalities of this in terms of the time required to complete CPD, but also the external influence of the threat of audit by the HCPC. This suggests that assessment may not influence attitudes to CPD and learning post-graduation, but that attitudes to the process of portfolio assessment may have an influence.

#### 7.4.2.4 – Influence of guidance, support and feedback

From the questionnaire results, there were no significant differences in responses to the likert style questions relating to CPD and LLL between those who perceived the level of support they had for portfolio development positively and those who perceived the level of support they

had negatively. Equally, receiving or not receiving feedback on their portfolios did not influence student attitudes towards CPD and LLL. Those students who thought their feedback on their portfolios was helpful thought that their student portfolio had increased their confidence in their ability to continue to learn following graduation significantly more than those who did not find their feedback helpful ( $p=0.038$ ), but there were no other differences between the groups in terms of CPD and LLL moving forwards.

From the interview data, Gail felt well supported and guided in her portfolio development journey, and her comments regarding feedback were related to developing an understanding of relevance of the portfolio building process to her future development and continued learning, all of which seemed to translate into her positive attitude towards CPD. Ruth did not comment on guidance, support or feedback in her interview.

#### 7.4.2.5. Influence of a positive attitude to student portfolio

When analysing the questionnaire data for students having a positive or negative attitude to their student portfolios, there were some significant differences between the two groups in relation to their attitudes to CPD and LLL. Perhaps unsurprisingly, students with a positive attitude to their student portfolio placed significantly greater value on the process of LLL and were more inspired to continue their development after graduation. They also had greater confidence in their ability to continue to learn after graduation, feeling that the portfolio had helped them to identify how they learn best and how to best approach learning in the future (see Table 7.22). There were no differences between the groups on any other questions.

**Table 7.22 - Statistical Analysis of Influence of Positive Attitude to Student Portfolio on Attitudes to CPD and LLL (significant results only).**

	Mann Whitney U Test Mean Rankings		P value
	Positive attitude to student portfolio (n=16)	Negative attitude to student portfolio (n=6)	
Using a portfolio has helped me to identify how I learn best	8.78	18.75	<0.001*
Using the portfolio has helped me to identify how I can best approach learning in the future	9.22	17.58	0.006*
Using a portfolio as a student has made me value the process of lifelong learning	9.22	17.58	0.005*
Using the portfolio has inspired me to continue my development after graduation	9.06	18.00	0.003*
Using a portfolio has increased my confidence in my ability to continue to learn following graduation	8.94	18.33	<0.001*

This was reflected in the interview data, with Gail presenting the most positive attitude towards her portfolio and towards continued development post-graduation -

“I think it is something that people do in their practice but just don’t push it a little bit further to make it CPD... so therefore they miss out on a whole load of CPD which if they just looked at it from a few different perspectives actually it would improve their learning.”

(Gail, lines 363-364, and 373-374)

Ruth’s attitude to her portfolio was very task orientated and externally driven, and this was reflected in her attitude towards CPD, feeling like something she must do rather than something she wanted to do, and talking about concepts in an abstract manner, rather than how they related to her. Ruth did not feel motivated to continue to learn by using a portfolio –

“I would say it should do (motivate me), but for me it doesn’t. I feel like I just do it for the sake of it, what motivates me most is if I was to see something in person.”

(Ruth, lines 139-142)

This created the impression of generalisation in terms of her thoughts about CPD and LLL post-graduation, as if her comments did not relate to herself. Alternatively, Gail’s comments felt as if she viewed CPD and LLL as something personal to her, and her whole interview felt more contemplative –

“I know it’s quite important to do in the future, but I have enjoyed doing it, I understand it can be a challenge, but I feel like it’s an important part of professional practice”.

(Gail, lines 350 and 398-399)

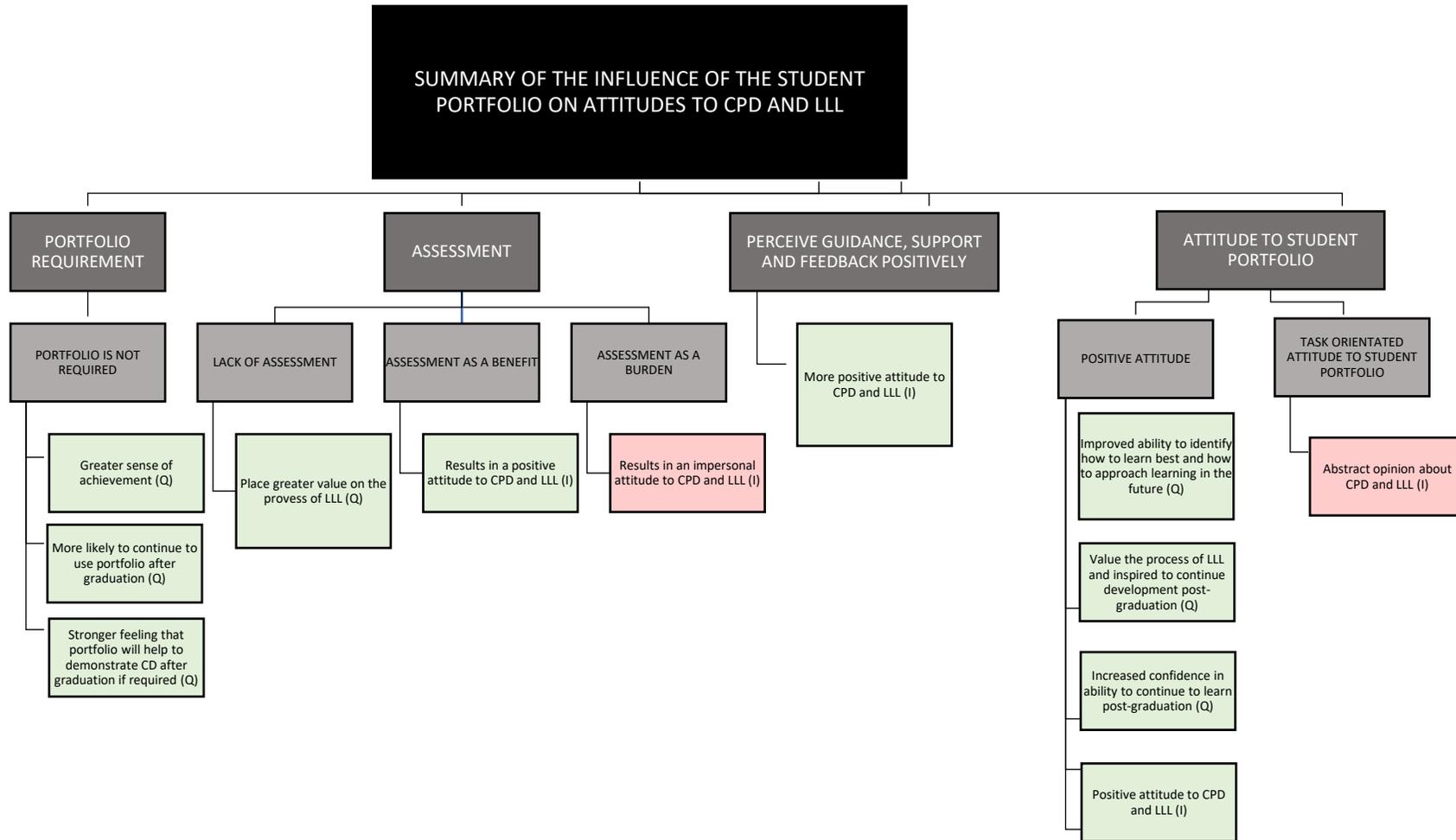


Figure 7.8 – Summary of the Influence of the Student Portfolio on Student Attitudes to CPD and LLL (Questionnaire and Interview Data).

### 7.4.3. Other Influences on Student Attitudes to Portfolios, CPD and LLL (see Figure 7.9)

#### *7.4.3.1 – Clinical educators*

Only 39% of students responding to the questionnaire felt that their clinical educators had been able to help them with their portfolio (see Table 7.6). While only discussed by Ruth during her interview, clinical educators appeared to have an impact on how students felt about CPD and using a portfolio as they approach graduation. In general, the clinical educators' attitude towards their own CPD and portfolio affected students' perceptions of the CPD process and how they will be able to approach this as clinicians. Clinical educator comments in relation to lack of time, lack of support and financial pressures, created anxiety in students about how they will be able to continue to learn once they are working in the same environment. Ruth commented that –

“They’ve all kind of said to me ‘oh gosh, I need to do my CPD’...I’d say the majority of it (comments from clinical educators) is just like moaning that they have to do it.”

(Ruth, lines 248 and 252-253)

“I think it would be nice, for hearing from other educators and other physios who are qualified, that if they had the time, or more time to get CPD done, during a working day, that’s helpful for them”

(Ruth, lines 293-295)

Similarly, students appeared to be anxious about HCPC audit based on comments from clinical educators and overheard conversations between qualified staff. Again, Ruth’s experience was of clinical educators who commented on this as being a burden –

“We do need to try to keep on top of it, someone might ask to check it.”

(Ruth, lines 249 and 252)

On a positive note, this attitude of educators did seem to have given Ruth an idea that she will need to be prepared for CPD in the future, and an awareness of the potential barriers to this within the workplace.

#### 7.4.3.2- Future employers

The questionnaire did not ask students about other influences on their attitudes towards portfolios, CPD and LLL. During the interviews, students reported that future employers had not engaged with their portfolios at job interviews. Bridget commented –

“So I turned up with my hard copy of my portfolio, but they didn’t ask for it at all..”

(Bridget, line 46)

“So in theory, there would have been an opportunity for me to say “oh I’ve got my portfolio would you like to look at it?” but I didn’t, and they certainly didn’t ask to see it.”

(Bridget, lines 50-51)

This resulted in reduced enthusiasm for completing their portfolios, and led to thoughts that perhaps this would continue once they had graduated, so reducing their perceived value of continuing with a portfolio post-graduation.

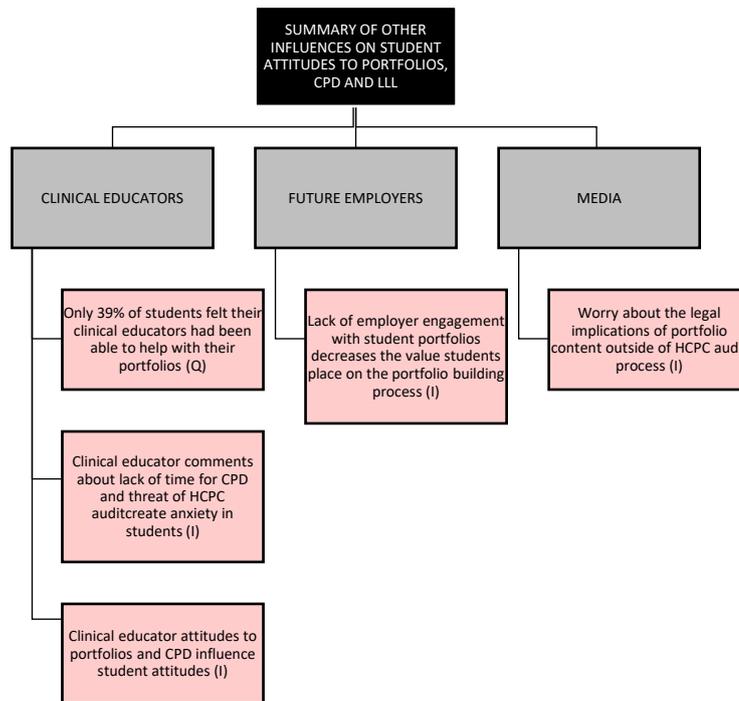
#### 7.4.3.3 – Media

Although not something that had been considered prior to commencing this piece of work, Bridget raised the issue of the impact of the media on her attitudes to her portfolio following graduation –

“Well I’ve been thinking about the Dr... who’s in the news at the moment for her reflections becoming public and part of the GMC approval. So I would say I probably write my reflections as if they were on the public record... I haven’t been involved in anything where my reflections might need to go to court, but I think that would naturally make anyone think differently about it... and what are the boundaries of those reflections really?”

(Bridget, lines 222-225 and 252-254)

These comments raise the issue of the legal ramifications of a professional portfolio, outside of the normal regulatory body requirements, and is something worth considering when advising students.



**Figure 7.9 – Summary of Other Influences on Student Attitudes to Portfolios, CPD and LLL (Questionnaire and Interview Data).**

### **7.5 – Conclusion**

The results of the student questionnaire have shown that 85% of students in the sample were required to keep a portfolio as part of their studies, with 47% of these being assessed. Structure of the portfolio varied, with four percent having a very structured portfolio, 34% a structured portfolio, 38% describing it as semi-structured and 25% as unstructured. Various different documents were collected in their portfolios, including reflections on placement and classroom learning, SWOT analyses, clinical placement documents, learning agreements and mandatory training records. The interviewees presented similar results to these, although they were all clear about what to include in their portfolios, while 74% of the questionnaire respondents were not.

The questionnaire results demonstrated that physiotherapy students thought the portfolio was worthwhile, and that completing it had given them a sense of achievement, although only one of the interviewees liked compiling her portfolio. More than two thirds of students felt using the portfolio had improved their knowledge of physiotherapy, built links between theory and practice, and helped identify their strengths and weaknesses. The results suggest that a student portfolio that is not required or assessed as part of a programme of study is more likely to generate positive attitudes towards using a portfolio following graduation. Portfolio structure had some influence on attitudes towards portfolios, however perception of the

impact of structure on the usefulness of the portfolio had more significant influences on attitudes towards portfolios.

Students were less positive about the assessment of their portfolios, and while two-thirds thought the portfolio should be assessed, they had concerns over the validity of this, because it was personal, and because it only showed what they wrote about their practice. The interviewees presented mixed feelings about the assessment or non-assessment of their portfolios. Students perceived the level of support they received for on-going portfolio development poorly, with only a third considering they received any, and this did influence the value they placed on the portfolio process. Similarly, only 17% of students found the feedback they received was helpful. Where perception of the helpfulness of guidance and feedback was positive, students had more positive attitudes towards using a portfolio, and this was supported by the interview findings.

Despite these more negative comments, students were positive about continuing to use a portfolio after graduation, as were the interviewees, although a quarter of the questionnaire participants said this would not be with their student portfolio. The physiotherapy students responding to the questionnaire appeared to have a positive attitude towards CPD and were internally motivated towards it, seeing it as their own responsibility, and that LLL was important.

The respondents felt that the student portfolio had a positive impact on their attitudes towards CPD and had built their confidence in their ability to learn following graduation, given value to the process of LLL and inspired them to continue their development. It appeared to have less impact on their development of skills for self-directed learning, with only 47% thinking it had helped them to identify how they learn best. Again, perceived impact of the structure of the portfolio and perceptions of support for portfolio development influenced attitudes towards CPD, and those with an unassessed portfolio valued the process of LLL more than those with an assessed portfolio.

In terms of other influences, there is some weak evidence of a negative impact of clinical educators and future employers' attitudes and approaches to the student portfolio.

These findings will be discussed in Chapter Eight, in the context of the previously published research that was examined in Chapter Three, as well as being appraised from the perspectives of the adult learning and motivation theories that were presented in Chapter Two.

## CHAPTER EIGHT – DISCUSSION

### **8.1 – Introduction**

In Chapter Six, the results of the physiotherapist questionnaire and interviews were presented to the reader, initially considering these separately and in their entirety, and then integrating the results in terms of the research objectives. Chapter Seven presented the results from the student questionnaire and interviews, again giving full results of each data collection method first, followed by an integrated presentation in relation to the research objectives.

In this chapter, the results will initially be discussed in the context of previously published research, highlighting and explaining similarities and differences between the findings from this study and previous literature. This will be followed by an analysis of the findings in relation to adult learning and motivational theories. A new model of motivation for CPD portfolios, CPD and LLL is proposed, using health-specific terminology, to make the model more accessible to those working in the education and management of healthcare professionals.

Strengths and weaknesses of the current study are examined, along with a reflexivity statement by the researcher. Finally, the applications and implications of the research findings for healthcare educators and managers, and areas for future research are discussed.

### **8.2 – Results of this study in the context of published literature**

#### **8.2.1 – Physiotherapists' CPD Activity, Benefits and Barriers.**

From the questionnaire results, 63% of physiotherapists had undertaken 1-6 hours of CPD in the last month, with 3% having done none, and 8% having done more than 20 hours. Johnson (2008) reported 51% of her physiotherapy sample had undertaken some CPD in the last month, although she doesn't quantify this, Sturrock and Lennie (2009) in a study in dietetics reported a similar figure of 60% having done 1-4 hours, and more recently Stevens and Wade (2017) reported 52% of radiographers had done less than 3 hours. The fact that the amount of CPD undertaken by respondents in the current study was higher than previous studies could be explained by the introduction of HCPC audit since the two earlier studies (Johnson, 2008; Sturrock & Lennie, 2009), however, this doesn't explain the difference between the physiotherapists in this study and the radiographers in the study by Stevens and Wade (2017), who are also regulated by the HCPC. It is possible that reporting by month does not clearly reflect how much CPD is taking place, as there could be peaks and troughs in people's levels of activity at different times of the year.

Physiotherapists responding to the questionnaire were generally broadminded about what constituted CPD, although they viewed formal learning opportunities as more valuable than

work related activities. From the interviews, Penny, Brian and Richard seemed keener to learn from formal activities, while Owen and Gareth recognised the benefits of different learning, in particular developing soft skills, rather than clinical skills. While Brian and Richard said that they were broadminded, they seemed to undertake a narrow range of CPD activities. The published research in physiotherapy reported a mixed picture of both formal and informal, work-based and non-work-based activity (Cole et al, 2008; French, 2006; Gunn & Godling, 2009; Johnson, 2008), with Physiotalk (2015) reporting a preference for informal work-based learning. It is difficult to explain these differences, since it might be expected that informal work-based activities would be more popular in the current climate of lack of funding and pressure from service delivery restricting being out of the work environment. However, O'Sullivan (2003) commented that formal non-work-based CPD is easier to justify to employers and colleagues, and it may be that this is the reason that the physiotherapists consulted in this study found it more valuable.

The physiotherapists identified more benefits than barriers to CPD (means 7.84 and 4.74 respectively) when completing this section of the questionnaire. The greatest benefits were keeping up to date with knowledge and skills (96%) and maintaining registration (93%), both of which came through strongly in the physiotherapy specific literature (Johnson, 2008; Gunn & Godling, 2009) as well as the other professional groups. Interestingly, improving knowledge and skills was only mentioned as a benefit by two of the interviewees, while all mentioned the need to maintain registration. One benefit identified in the literature, that of credibility as a professional (Johnson, 2008) was not discussed by any of the interviewees, and while 90% of the questionnaire participants agreed that job or personal satisfaction was a benefit of CPD, in agreement with the literature (Bell et al, 2002; Bolton, 2002; Gunn & Godling, 2009; Johnson, 2008), only Gareth commented that undertaking CPD gave him a sense of satisfaction.

The greatest barriers to CPD identified by the questionnaire participants and by the interviewees was prioritisation of patient care (73%) and lack of time, themes that came through strongly from all disciplines in the literature review (see Chapter Three, Section 3.4.2.2). As well as these issues, the interviewees were also focussed on the barriers of organisational culture and the level of support for CPD from within the organisation, again supporting the findings from the literature (Banning & Stafford, 2008; Beeston et al, 1998; Cole et al, 2008; Gunn & Godling, 2009; Haywood et al, 2013; Henwood et al, 2004; Johnson, 2008; Maharaj, 2013; Manship, 2014; O'Sullivan, 2003).

### 8.2.2 – Physiotherapists' Attitudes to CPD and LLL

The physiotherapy questionnaire revealed that physiotherapists thought CPD was worthwhile (96%), were motivated to undertake CPD (93%), got a sense of achievement from CPD completion (93%), got enjoyment and job satisfaction from CPD (both 89%), and felt there was value in undertaking CPD (92%). This supports the findings from the non-physiotherapy literature (Bell et al, 2002; Bolton, 2002; Hughes, 2005; Keim et al, 2001; Power et al, 2008; Stewart et al, 2008). While all the interviewees appeared to be motivated to undertake CPD, different factors seemed to influence this. For Penny, her motivation was for learning that was personally driven, and she was demotivated by being told what to do by her employer. Richard also seemed to be externally motivated by the need for compliance with Trust requirements, as well as HCPC audit. This perhaps reflects the findings of Mottram et al (2002) and Sturrock and Lennie (2009) who found that their respondents thought it was important and they should engage but did not specifically comment on personal satisfaction or levels of motivation. Personal development was a key internal motivator for both Gareth and Brian, but only Gareth appeared to get enjoyment and satisfaction from CPD, potentially because he felt that his personal goals were aligned with his employers' goals. For the other interviewees, CPD appeared to be more of a chore, supported by 43% of questionnaire participants. Only one of the studies reviewed specifically commented that CPD was a chore (Hughes, 2005).

99% of the respondents agreed that LLL was an expected part of being a professional, and that the culture of physiotherapy as a profession valued CPD (84%). Interviewees disagreed with this, suggesting that there was no real drive for CPD from the profession, supporting the findings from the literature review (Hughes, 2005, Katsikitis et al, 2013). Questionnaire participants felt that professional status and professional competence could not be maintained without engagement with CPD (86% and 94% respectively), supporting the findings of Gunn and Godling (2009). Questionnaire participants also felt that CPD was relevant throughout their careers (92%), even if there was no opportunity for career progression (85%), in contrast to the findings of Haywood et al (2013), whose participants felt that they should not have to undertake CPD if there was no opportunity for promotion. Owen acknowledged that although he had been motivated to undertake CPD, this had reduced as he had progressed through his career. This reflects the findings of Beeston et al (1998) where age became a barrier to CPD.

While 94% of questionnaire respondents felt that CPD had improved patient outcomes, agreeing with the findings of Bell et al (2002), Brigley et al (2006), Moons et al (2012) and Bolton (2002), 43% felt that it was difficult to implement changes from CPD into practice, concurring with Hughes (2005). Some authors in the literature review suggested that CPD had little or no impact on practice (Bolton, 2002; Hughes, 2005; Kostrzewski et al, 2009a; Little &

Hayes, 2003) but this was not evident from the current study findings. Johnson (2008) found that her physiotherapy participants were keenly driven by a desire to improve patient outcomes, and the interviewees in this study also focussed on the benefit of CPD to the service user, talking about increasing confidence leading to improved performance, CPD providing different treatment options, improving outcomes for patients and making treatments more effective or efficient. However, the interviewees also felt that CPD was driven by patient benefit, in that there had to be an expected improvement in outcomes for patients and the service from CPD for it to be funded by their employers. Three of them felt this was demotivating, but Gareth and Owen recognised that development that benefitted patients or service also benefitted them as individuals. Gunn and Godling (2009) also found that matching CPD to current practice ensured the maximum benefit, for both the service and the individual therapist.

HCPC audit appeared to have some influence on participants, with 59% agreeing that they undertook CPD because of the threat of audit and 54% doing more since the introduction of audit, although 80% did not feel that they needed external prompting to undertake CPD. Interview participants also stated that they did not need external prompting and that they were self-motivated and self-driven, however other comments they made suggested that this was not the case. For example, phrases such as “I ought to be doing it”, it’s a job requirement”, “it is necessary as a professional”, suggested external influences rather than internal motivations. This perhaps supports the findings of Cole et al (2008) whose physiotherapy respondents did not feel that CPD was integral to their existence. While all the interviewees talked about HCPC audit, only Richard seemed to be directly motivated by this, in terms of his engagement with CPD.

### 8.2.3 – Physiotherapists’ Attitudes to CPD Portfolios

87% of the physiotherapy questionnaire respondents currently kept a portfolio, however the majority used these as somewhere to store CPD records, with less than half using it to record learning objectives or consider their development planning. Only 20% used it as a tool for reflection. All the interviewees kept a portfolio, although Brian, Penny and Owen all reported they only updated their portfolios prior to job interviews or appraisals. Richard only used his portfolio for storage, while Gareth was the only interviewee who appeared to use his portfolio as a learning tool, including regular reflection in his portfolio activities. These findings reflect those from the literature review, where portfolios were generally used for recording attendance rather than learning (Austin et al, 2005b; Miller & Tuekam, 2011; Harris, 2005).

The opinions of questionnaire respondents about using their portfolios were generally mild, with only small percentages of strongly positive or negative answers given, as opposed to the CPD opinions, where there were several strongly positive responses. Only a quarter of the sample agreed or strongly agreed that they liked compiling their portfolios, and this is mirrored by the interviewees, with Richard saying there was no reward to using a portfolio, and Brian feeling it hypothetically had value, but not for him. Penny commented that now she was completing a portfolio under her own direction, she was unsure what was relevant, and so had lost motivation for using it, suggesting a lack of SDL skills. These findings all support those from the literature, where many of the general opinions about using a portfolio were negative (Harris, 2005; Pearson & Heywood, 2004).

The questionnaire participants generally felt that the portfolio had helped them to identify their learning needs (75%), think more reflectively (80%) and more critically about their practice (76%). Only Gareth reflected these feelings in his interview and these views are contrary to the literature, with several studies finding that a portfolio did not help with either identification or achievement of learning goals (Austin et al, 2005b; Little & Hayes, 2003; Hrisos et al, 2008; Vance et al, 2013).

The questionnaire participants generally valued the portfolio as somewhere to consider who they are as physiotherapists (64%) and as a safe place to examine their practice (75%), supporting the findings of Harris (2005). 55% of physiotherapists in the current study felt they didn't need a portfolio to be able to reflect on their practice, like the findings of Austin et al (2005a) and Kostrzewski et al (2009b) in pharmacy. This was supported by Brian in his interview, who did not see the benefit of documenting reflection at all. Contrastingly, Gareth appeared to use his portfolio to examine his practice, as well as considering who he is as a physiotherapist and his values within practice.

Questionnaire participants also felt the portfolio had helped them to recognise their personal and professional values (73%), but that it did not reflect who they are as physiotherapists (56%), or the full scope of their competence (86%). Despite this they still considered a portfolio to be beneficial throughout their careers (87%). The interview data suggested that some of this benefit throughout the career might stem from the portfolio being an aid memoir (Gareth and Richard). These findings are partially supported by the literature, with Miller and Tuekam (2011) finding a portfolio cannot reflect the full scope of practice of an experienced clinician, however the current findings are in contrast to studies suggesting that portfolios are only useful early in a career, or if in a specialised role (Austin et al, 2005a; Miller & Tuekam, 2011; Sturrock & Lennie, 2009). Pearson and Heywood (2004) found that overall enthusiasm for using a portfolio dwindled as practitioners became more experienced.

Overall, physiotherapists felt that using a portfolio was beneficial to patient care (66%) and had changed their practice (58%). This contrasts with the literature, where all responses relating portfolio use to clinical practice were negative (Kostrzewski et al, 2009b; Miller & Tuekam, 2011). The interviewees did not relate use of the portfolio to patient care.

#### 8.2.4 – Structure and Content of Students’ Portfolios.

Eighty-five percent of the student questionnaire participants were required to keep a portfolio as part of their studies, with 47% of these being assessed. Four percent described their portfolio as very structured, 34% as structured, 38% as semi-structured and 25% as unstructured. It is difficult to compare these findings with those from the literature, as detail of portfolio structure was limited in many of the studies. From what could be determined from the literature, there has perhaps been a slight move towards a more flexible portfolio structure, with higher numbers of students reporting an unstructured or semi-structured portfolio in this study.

In terms of portfolio content, more than two-thirds of students responding to the questionnaire study collected reflections on placement and classroom learning, SWOT analyses, clinical placement documents, learning agreements and mandatory training records within their portfolios. Again, it is difficult to compare this with the literature as, although studies generally described their content well, it was often in terms of specific goals, such as evidence of working as part of a team, or evidence of good communication skills, making it difficult to know what type of evidence this might be. Reflection on practice learning was a key element in 91% of the portfolios in this study, and this is reflective of the literature, and to be expected.

#### 8.2.5 – Students’ Attitudes to CPD

Physiotherapy students in the questionnaire appeared to have a positive attitude towards CPD, seeing LLL as a means to improve their practice (94%). They also appeared to be internally motivated towards CPD and taking responsibility for their own learning and development (90%). The interviewees presented a mixed picture, with Gail being positive about CPD and learning, while Ruth and Bridget presented a picture of concern regarding the time required for CPD once qualified, but not providing any other opinions. Questionnaire responses suggested that using the portfolio as a student had a positive impact on their attitudes to CPD, saying it had increased their confidence in their ability to continue to learn following graduation (78%) and inspired them to continue their development (77%). These findings are supported by Fung et al, (2000) and Funk (2007) whose participants felt that using a portfolio had motivated them to continue to learn and given them a desire for LLL.

However, the portfolio seemed to have less effect on helping students to identify how they learned best (47%) or how to approach learning in the future (66%). This concurs with the overall findings from the literature, where several studies found that using a portfolio had made students more aware of how they learnt best (Gordon, 2003; Ashcroft & Hall, 2006a), or changed their approach to learning (Altahawi et al, 2012; Gordon, 2003), while others reported the portfolio having no impact on students' awareness or approaches to learning (Ashcroft & Hall, 2006a; Elango et al, 2005; Murphy et al, 2011).

#### 8.2.6 – Students' Attitudes to Using a Portfolio

Student respondents to the questionnaire were divided in terms of whether they liked compiling their portfolios, but generally positive about the process being worthwhile (84%) and giving them a sense of achievement (75%). Only one of the student interviewees liked compiling her portfolio and gave the opinion that she thought it was worthwhile, while the other two completed the portfolio because it was something they had to do for the course. The student questionnaire results presented a more positive picture than the literature, where there were less positive (Brennan & Lennie, 2010; Coffey, 2005; Gordon, 2005), and more negative findings (Ashcroft & Hall, 2006a; Elango et al, 2005; Kalet et al, 2007; Mitchell, 1994; Urish, 2005) in terms of enjoyment and achievement from completing the portfolio.

Although 64% of student questionnaire participants thought building the portfolio had involved too much work, only 29% felt it was unmanageable. None of the student interviewees mentioned the portfolio being too much work, although Ruth did comment that it was an added burden. This was reflective of the findings in the literature, where the majority of studies gave the impression that while students had achieved the work required, they felt there was too much to do to build their portfolios effectively (Altahawi et al, 2012; Brennan & Lennie, 2010; Coffey, 2005; Corcoran & Nicholson, 2004; Cross, 1997; McMullan, 2008; Mitchell, 1994; Timmins & Dunne, 2009). Ruth did not feel benefit from developing her portfolio and so perhaps her feelings of it being a burden relate to the cost-benefit she perceived from the process, reflecting the findings of Murphy et al (2011). Seventy-four percent of the student questionnaire participants were unsure what to include in their portfolios, in agreement with several authors in the literature review (Ashcroft & Hall, 2006b; Bradley & Schofield, 2014; Haffling et al, 2010; McMullan, 2008; Mitchell, 1994; Nairn et al, 2006; Timmins & Dunne, 2009; Urish, 2005) but this was not supported by the interviews.

The student questionnaire respondents generally thought the portfolio had helped them to develop their knowledge of physiotherapy (61%), which was not something that came through as an outcome of portfolio use in the literature. The questionnaire also found that the

portfolio had helped to develop skills for SDL (65%). The literature on the impact of the portfolio on students' learning is varied, with some studies finding positive results in terms of development of SDL skills (Elango et al, 2005; Fung et al, 2000; Heijne et al, 2012), and others finding the opposite (Belcher et al, 2014; Bradley & Schofield, 2014; Funk, 2007). Some studies, while not specifically talking about SDL skills, did find that the portfolios had encouraged a more mature (Cross, 1997) or deep approach (Heijne et al, 2012) to learning or promoted independent learning (McMullan, 2008), all associated with SDL. Generally, the literature reported positively in terms of portfolios helping students to identify their strengths and weaknesses (Altahawi et al, 2012; Ashcroft & Hall, 2006a; Bradley & Schofield, 2014; Driessen et al, 2003; Elango et al, 2005; McMullan, 2008) and this is supported by this current study, with 77% of students feeling the portfolio helped them in this area. Gail said that the portfolio had helped her to identify her strengths and weaknesses, while Bridget, although she didn't agree, felt it had helped her to see where her gaps in experience were.

The student questionnaire respondents thought using a portfolio had allowed them to link learning from different modules (64%) and build links between theory and practice (71%), supporting the findings of Ashcroft and Hall (2006a, 2006b), Bradley and Schofield (2014), Corcoran and Nicholson (2004), Thompson and Farrow (1999) and Urish (2005). Questionnaire participants also thought it had made them aware of their personal and professional values (74%), reflecting the findings of Gordon (2003), and was a good place to explore feelings and emotions (60%). Gail talked in detail about the portfolio allowing her to explore her emotional responses to situations she had experienced, supporting the findings of Gordon (2003) and Nairn et al (2006), whose participants felt the portfolio was a good outlet for exploring personal feelings. This did not come through in the other two interviews.

Fifty-nine percent of student questionnaire respondents thought using the portfolio had improved their clinical practice, supporting the findings of Altahawi et al (2012) and Lonka et al (2001), but in contrast to other findings from the literature who did not find that using a portfolio had improved clinical practice (Brennan & Lennie, 2010; Taylor et al, 2009). Only 45% of students responding to the questionnaire thought the portfolio had improved patient care, reflecting findings in the literature (Corcoran & Nicholson, 2004; Dolan et al, 2004; Timmins & Dunne, 2009). The interviewees did not talk about whether the portfolio had improved their clinical practice specifically, although Gail said she was stimulated to learn through her portfolio because she wanted to be good at her job for the benefit of patients.

Student questionnaire participants were not uncomfortable writing about their mistakes in their portfolios (60%), in contrast to the majority of the literature, where students felt they could not be honest, or write about poor practice for fear of being judged by tutors (Belcher et

al, 2014; Bush & Bissell, 2008; Heijne et al, 2012; McMullan, 2008; Mitchell, 1994; Ross et al, 2009; Timmins & Dunne, 2009). However, the portfolio process had caused anxiety for 50% of the questionnaire participants, something that was reported in numerous studies in the literature review (Bradley & Schofield, 2014; Elango et al, 2005; McMullan, 2008; Ross et al, 2009; Taylor et al, 2009; Timmins & Dunne, 2009). None of the interviewees mentioned either writing about mistakes or anxiety when building the portfolio.

Although the student questionnaire did not ask participants to comment on their feelings about reflective writing in their portfolios, the interviewees did talk about this. Bridget felt the portfolio had prompted her to reflect on her experiences, not something she would do naturally, supporting many of the findings from the literature, where the portfolio had helped to improve reflective skills (Ashcroft & Hall, 2006b; Bradley & Schofield, 2014; Corcoran & Nicholson, 2004; Cross, 1997; Dolan et al, 2004; Eggelton et al, 2011; Elango et al, 2005; Gomez et al, 2013; Lonka et al, 2001). Gail, who was naturally reflective, also found benefit and gained enjoyment in using the portfolio for this purpose (Clarke et al, 2011; Grant et al, 2007; Haffling et al, 2010; Kalet et al, 2007). Ruth, however, did not like nor find any benefit from writing reflections, supporting other findings from the literature (Bush & Bissell, 2008) and thought this was pointless as she had already done this in her head (Belcher et al, 2014; Gomez et al, 2013), although she said she was not a naturally reflective person.

In terms of assessment of portfolios, the student questionnaire presented mixed results, with 62% of students thinking the portfolio should be assessed, but 63% preferring a more traditional type of assessment. This was in contrast to the literature results, where the majority of studies that investigated whether students would prefer a different type of assessment found they preferred the portfolio assessment to traditional methods (Ashcroft & Hall, 2006b; Bradley & Schofield, 2014; Gordon, 2003; Heijne et al, 2012), with only Mitchell (1994) finding students did not think the portfolio should be assessed. There were strong feelings from the questionnaire that the portfolio could not assess competence (77%) or professionalism (82%), things that Ruth felt quite strongly that she *did*, and therefore how could written work measure these; this did not come through strongly from the literature, with only one study questioning the assessment of competence in practice through a portfolio (Brennan & Lennie, 2010). Questionnaire respondents also felt that assessment of the portfolio only assessed what they wrote about their practice, rather than practice itself (85%), perhaps reflecting Eggelton et al, (2011), who questioned the validity of portfolio assessment, as students could write whatever they wanted, or what they thought would give the highest grades (Grant et al, 2007). Three-quarters of the questionnaire sample were unsure how a personal portfolio, that was unique, could be marked, mirroring the findings of Coffey (2005)

and that marking affected what they included in their portfolios (64%). This contrasted with Gail, who said that although assessment did affect how she wrote, it didn't affect her criticality or her motivation towards using the portfolio.

The student questionnaire results in this study provided generally positive results in terms of the value of the portfolio for students overall, but this was not the case in the literature, with many studies finding students perceived the portfolio to be irrelevant (Cross, 1997; Urish, 2005), a waste of time (Bradley & Schofield, 2014; Gomez et al, 2013), or of questionable usefulness (Corcoran & Nicholson, 2004; Taylor et al, 2009; Urish, 2005). Dolan et al, (2004) found students placed the portfolio as a low priority within their workload, and this was supported by Bridget in her interview, who was also demotivated because no-one was interested in looking at her portfolio, supporting findings from Belcher et al (2014) and Urish (2005).

Ninety-four percent of the student questionnaire respondents were positive about continuing to use a portfolio following graduation, although the reasons for this were mainly related to organising their CPD and being prepared for HCPC audit, something Ruth commented on in her interview. These findings are consistent with the literature review, where the majority of studies found the benefits of using a student portfolio to future practice were related to organisation and recording (Advani et al, 2014; Ashcroft & Hall, 2006a, 2006b; Belcher et al, 2014; Brennan & Lennie, 2010; Eggelton et al, 2011; Ross et al, 2009; Urish, 2005), being prepared for revalidation or audit (Dolan et al, 2004) or for job interviews (Advani et al, 2014), rather than for learning. A quarter of the questionnaire sample said they would not look at their student portfolio again.

### **8.3 – Original Contribution to Knowledge**

This study is the first to explore the influence of a student CPD portfolio on physiotherapists' motivation and engagement with lifelong learning. The study found that completing a student portfolio has a positive influence on motivation towards CPD portfolios, CPD and LLL. The positive influence on motivation towards CPD portfolios, CPD and LLL may be enhanced when students perceive the structure of the portfolio to be helpful and receive useful support and feedback for portfolio development. Portfolios that are a requirement of the course and/or are assessed reduce the positive influence of completing a portfolio on motivation for future use of a portfolio and learning. Physiotherapists perceive greater benefit from learning that is internally motivated, and there are many internal and external motivating factors that can influence the decision to learn, both positively and negatively. Ultimately, this study has shown that physiotherapists and student physiotherapists will only engage in learning when

the perceived benefits outweigh the perceived costs. The following sections of this chapter will discuss these findings in more detail, in relation to the theories and concepts of adult learning and motivation, introduced in Chapter Two, Section 2.5 and figure 2.8, and the reader may find it helpful to refer to this.

### 8.3.1 – The Influence of Completing a Student Portfolio on Motivation towards Portfolios, CPD and LLL

The results of this study have shown that physiotherapists who completed a student portfolio had a more positive attitude towards their current portfolio, in terms of it helping them to recognise their values and be aware of their learning needs, gaining personal satisfaction and improving their reflective and critical thinking. This could be because completing a student portfolio helped them to develop skills for self-directed learning (as found with the student results in this study), therefore increasing their internal motivation through their perceived ability to perform the specific task of portfolio building (part of the ABS as described by Cassidy & Eachus, 2000). They also felt that building their current portfolios had resulted in positive changes to their practice and had improved patient outcomes. It is not clear whether the desire of physiotherapists to improve outcomes for patients is an internal motivator, linked to commitment to development, advancement and growth (Herzberg, 1968), or whether it is part of the external motivation of social and cultural norms of being a professional (Kantar, 2018). Wynia (2009) suggested that motivation to improve patient's health because of professionalism was an internal motivation, while The Physician Foundation (2016) found that solving patient problems was internally motivating because it provided intellectual stimulation, considered by 58% of those surveyed to be one of the most satisfying characteristics of practising medicine. These findings suggest that professionalism, and desire to improve patient outcomes, are internal factors (Wynia, 2009; The Physician Foundation, 2016), although social and cultural norms, common within healthcare professions (Hall, 2009) and healthcare organisations (Mannion, Davies & Marshall, 2005), remain external motivators.

All the students completing the questionnaire had a student portfolio, but it is interesting that those who were not required to keep a portfolio as part of their studies, thought using a portfolio once qualified would help them to demonstrate their CPD and were most likely to continue to keep one following graduation. It is unclear why this might be the case, although these students gained a greater sense of achievement from portfolio development than those that were required to complete a portfolio. This internal satisfaction may have increased their internal motivation, resulting in the difference in attitude towards using a portfolio post-graduation. It is possible that for those with required portfolios, once the external motivation of completing the portfolio to pass the course is removed, they no longer see the need to use a

portfolio following graduation. These suggestions are supported by Lowman (1990) who found that not only do external motivators need to be there indefinitely for a behaviour to continue (in this case working with the portfolio), but that external achievement (completing the portfolio because it is a requirement of the course) reduces internal motivation to continue with the behaviour.

In terms of attitudes to CPD and LLL, the physiotherapists who had completed a student portfolio saw a greater number of benefits of CPD, were more motivated to undertake CPD, felt a greater sense of achievement on completing CPD and felt there was benefit to patients of undertaking CPD. It is difficult to consider whether the student portfolio had acted as an internal or external motivator here, as these differences are mixed in terms of motivational drive. The benefits of improved confidence and sense of achievement are clearly internal motivations (Kantar, 2018; Ryan & Deci, 2017; Festinger, 1964), and benefit to patients also appears to be an internal motivator, based on the discussion above. The benefit of improved opportunities for promotion, however, suggests external reward (McClelland, 1985; Festinger, 1964), and it is unclear where the benefit of improved image of the profession fits within the motivational models. It could be that improving the image of the profession leads to greater pride in being part of the profession, and is therefore an internal motivation, or that this improvement in image is aimed for to achieve recognition from external parties, making it an external motivator (Festinger, 1964). Because the physiotherapists were not asked why they were motivated, one can only assume that it is because of the benefits that they have suggested come from undertaking CPD. Physiotherapists who had not completed a student portfolio were more unsure of what to use their current CPD portfolio for, perhaps linking with a lower perceived ability to perform the portfolio building task (Cassidy & Eachus, 2000). They also felt the portfolio had significantly less impact on practice. This may have been because of how they use their current portfolio, and the questionnaire results suggested a trend towards but a non-significant difference in how the portfolios were used between the two groups ( $p=0.053$ ). Those physiotherapists without a student portfolio were more confident that they could implement changes generated from CPD into practice and this may be linked to the fact that these physiotherapists were significantly older ( $p<0.001$ ) and in more senior or private practice roles ( $p<0.001$ ), where they have greater ability to influence practice more effectively, suggesting a stronger internal locus of control (Cassidy & Eachus, 2000) or a stronger sense of work security (Herzberg, 1968). The requirement for a student portfolio had no influence on the students' attitudes to CPD or LLL in the questionnaire.

The results from this study suggest that completion of a student portfolio does influence physiotherapists' motivation towards using a portfolio once qualified, and, to a lesser extent,

their motivation towards CPD and LLL, although it is important to remember there were demographic differences between the physiotherapists in these two groups, as described in Chapter Six. From a student perspective, an unrequired student portfolio has more positive influences on motivation to use a portfolio in the future than one that is required, but this had no influence on students' motivation towards CPD or LLL.

### 8.3.2 – The Influence of the Structure of the Student Portfolio on Motivation towards Portfolios, CPD and LLL.

The examination of the literature in Chapter Three was unable to find any influences of structure of the portfolio on students' feelings towards using a portfolio (see Section 3.6.2.1) and this study supports the findings from the research. The structure of the student portfolio had no impact on physiotherapists motivation towards current portfolio use, CPD or LLL, and while structure did appear to influence student attitudes towards using a portfolio in the future, with those having a very structured or semi-structured portfolio being more positive about continuing to use a portfolio after graduation, this was the only difference found. It is possible that structure itself does not generate attitudes, but rather the impact of the structure translates into comments relating to guidance or usefulness, and this is something that was found in the literature review, with students finding the portfolio ambiguous (Ashcroft & Hall, 2006b), irrelevant (Cross, 1997), or complaining when evidence didn't fit (Urish, 2005).

Perceptions of the impact of structure of the portfolio on how they used it, however, did influence physiotherapists' motivation towards current portfolio use. If physiotherapists did not feel their use of the student portfolio was influenced by its structure, they were significantly more positive about using their current portfolios, in terms of it helping them to recognise their values and be aware of their learning needs, gaining personal satisfaction and improving their reflective and critical thinking. Those who perceived they were influenced by structure had significantly more negative views about their current portfolio, thinking it had only been beneficial at the start of their careers, that it didn't represent the full scope of their competence and that no-one was interested in looking at it. These findings were echoed by the students, with those feeling that structure of the student portfolio did not influence them being significantly more positive about use of their student portfolio and towards portfolio use in the future. These findings suggest that perception of structure has a greater influence on attitude and motivation towards portfolio use than structure itself. One explanation for this may be that if students (or the physiotherapists when they were students) found the portfolio structure ambiguous, irrelevant or difficult to use (Ashcroft & Hall, 2006b; Cross, 1997; Urish, 2005) their perceived ability to complete the task is reduced (Cassidy & Eachus, 2000) and they

develop negative attitudes towards the portfolio as a means of learning. This perception of the experience of using a portfolio as a student, then influences their internal motivation to use a portfolio currently or in the future (Knowles, 1988; Kantar, 2018). This attitude and response was reflected by Penny in her interview, who commented that she thought a lot of her student portfolio was irrelevant and she had a negative attitude to this, which translated into a lack of motivation towards using her current portfolio.

The perceptions of physiotherapists regarding the influence of portfolio structure did not appear to influence their motivation towards CPD and LLL, but students who did not perceive the portfolio structure to be influential had significantly more positive attitudes to CPD and LLL, particularly in terms of the value they placed on the process of LLL and the portfolio having inspired them to continue their development and increased their confidence in their ability to continue to learn following graduation. It is unclear why students' perceptions of the influence of structure on their use of a student portfolio have impacted on their motivation towards CPD, but physiotherapists' perceptions have not. It may be that following graduation other factors begin to affect physiotherapists' motivation towards CPD and LLL, and length of time since using the student portfolio has diminished its influence, while for students this is still a significant part of their consciousness and activity, therefore explaining the greater effect. These differences may be explained by maturity of the physiotherapists, including less emotional intensity in response to experiences or tasks (Barrick, Hutchinson & Deckers, 1989), or by differences in cognitive appraisal of situations (Lazarus, 1991), however the links to this research are tenuous in the current context of portfolio use, CPD and LLL.

### 8.3.3 – The Influence of Support and Feedback on the Student Portfolio on Motivation towards Portfolios, CPD and LLL.

It is difficult to determine the levels of support, guidance or feedback for portfolio development for the physiotherapists as they were not specifically asked about this, either in the questionnaire or in their interviews, and none of the interviewees commented on this. Receiving support and/or feedback on their portfolios had no influence on how students felt about using portfolios, CPD or LLL moving forwards into their careers. However, similarly to perceptions of the influence of structure of the portfolio on how it was used, students who perceived support and feedback for their portfolios positively felt the portfolio had helped them to identify their strengths and weaknesses and develop the skills required for SDL. Those perceiving feedback positively also felt that the portfolio was a useful place to explore their feelings and emotions. While there should be advantages of possessing the ability to identify strengths and weaknesses, being able to self-direct learning and being conscious of affective factors on their future ability in using a portfolio, as supported by Ryan and Deci's (2017)

cognitive evaluation theory, these benefits did not translate into any significant differences in their attitudes towards using a portfolio in the future, or towards CPD and LLL. It is unclear why this might be, as there was no correlation between positive perception of support or feedback for the portfolio and requirement ( $p=0.191$  for support, all students giving positive or negative perception of feedback had a required portfolio) or assessment ( $p=0.442$  for support,  $p=0.299$  for feedback) of the portfolio, which may have negated the positive effects of this perception. The only seemingly transferable benefit was that those positively perceiving feedback felt that the portfolio had improved their confidence in their ability to continue their development after graduation. This was reflected by Gail, who talked in detail about the support, encouragement and feedback she received on her portfolio, which seemed to stimulate Gail to see her portfolio as a learning tool, and to be able to recognise how this would help her to continue learning throughout her career. It also appeared to have given her a sense of personal agency that she could take responsibility for her own development after graduation (Ryan & Deci, 2017) and had inspired her to do this. Support, guidance and feedback are external motivators, part of the nature of the learning provision as described by Kantar (2018), often provided by influential people. However, in the case of Gail, this external motivation appears to have provided her with internal motivation to continue to learn independently, and this is supported by Myers (2010), who suggested that external motivators work to enhance internal motivation by improving student confidence in their ability, building positive ABS (Cassidy & Eachus, 2000) and influencing the students' perception of themselves as a learner (Kantar, 2018; Ryan & Deci, 2017). These findings regarding perception of support and feedback also corroborate the findings of Zubizarretta (2008) and Driessen et al (2005), who both suggested that collaboration between the student and the tutor is needed for deep learning to occur through using a portfolio.

It is unclear why the perception of the influence of structure, support and feedback have greater influence over attitude and motivation of physiotherapists and students, than the reality of structure, support and feedback themselves. However, Epstein (1990) proposed that perception is more valuable to the individual than reality, because we do not see or inhabit reality, we perceive it in the context of experience. This personal knowledge of reality is translated into individual theories about reality, generating beliefs, values and attitudes. These influence our perception, evaluation and memory of events, by creating individual cognitive filters through which we view the world, and ultimately, they determine our cognitive, affective and physical responses to different situations. It is therefore through our perception of the world around us that we define our attitudes, and unsurprising that a perception that portfolio structure limits the usefulness we get from it, or perceiving support and feedback as

unhelpful, will result in a more negative attitude and loss of external motivation towards the portfolio, through our perception of the learning provision (Kantar, 2018).

#### 8.3.4 – The Influence of Assessment of the Student Portfolio on Motivation towards Portfolios, CPD and LLL.

Those with unassessed portfolios felt building their portfolio was significantly more worthwhile than those with assessed portfolios, although the interview findings from Bridget suggested that an unassessed portfolio had a demotivating effect, because no-one was interested in looking at it, suggesting a negative influence of influential people affecting external motivation (Kantar, 2018). Because of this, Bridget did not prioritise her portfolio and was only externally motivated by the external reward of the achievement of course completion. Similarly, Gail's interview contradicts the findings from the questionnaire, although in a different way. She had an assessed portfolio but felt great benefit from using it in terms of her current development. It is possible in Gail's case that the positive external motivation of excellent guidance, support and encouragement, provided by influential people, outweighed the negative impact of assessment, felt by others responding to the questionnaire, on her internal motivation.

The questionnaire results showed that those with an unassessed portfolio valued the process of LLL significantly more than those with an assessed portfolio. The interviewees provided some interesting findings here. Ruth's assessed portfolio did not appear to motivate her to be a lifelong learner and her drive for CPD following graduation seemed very externally motivated by the threat of HCPC audit (Festinger, 1964) and influenced by the opinions of influential people (Kantar, 2018), concurring with the questionnaire findings. Gail had a positive attitude to using a portfolio and towards CPD and LLL in her future career and appeared internally motivated, even though her portfolio was assessed, potentially because of the stronger influence of support and feedback as described above. Bridget had an unassessed portfolio, and appeared to be motivated towards CPD, but not because she had developed a portfolio as a student; her motivation appeared to come from being a mature student, recognising her own ability and potential, stemming from experiences in a previous career where development was rewarded with progression, providing external reward (Festinger, 1964). Lowman (1990) suggested that ungraded work encourages learning, however all apart from one of the student portfolios reviewed in Chapter Three were summatively assessed. In comparison, only 47% of the questionnaire sample of students had an assessed portfolio, so it is possible that course teams have adapted their curricula based on the principles of self-assessment and regulation that are fundamental to self-directed learning and LLL (Bonham, 1991; Chiang et al, 2013; Devlin, 2002; Higgs et al, 1999; Hunt et al, 1998; Livneh & Livneh, 1999), although these principles have been established for two decades, so it is questionable whether this is the case.

Considering this, and the variety of responses from the questionnaire and the interviewees, assessment appears to carry weight in terms of motivation for using a portfolio, CPD and LLL, but its influence seems to be mediated by other factors.

#### 8.3.5 – The Influence of Attitude to the Student Portfolio on Motivation towards Portfolios, CPD and LLL.

It is unsurprising that analysis of the student's attitudes to their student portfolio had an influence on their attitudes to using a portfolio moving forwards, in that those with a positive attitude to their portfolio thought a CPD portfolio would be a good way of monitoring and organising their CPD and that using it would have benefit to the patient. However, this positive attitude also translated into greater motivation for CPD and LLL post-graduation, with greater value placed on the process of LLL, and feeling more inspired to continue their development; alongside this they also had greater confidence in their ability to continue to learn after graduation, as the portfolio had helped them to identify how they learned best and how to best approach learning in the future. This improvement in ability to select appropriate learning strategies and increased confidence in ability to learn, not only demonstrates development of the skills of LLL, but improves the perception of psychological capability (Kantar, 2018) improves their image of themselves as learners (Ryan & Deci, 2017) and strengthens their ABS (Cassidy & Eachus, 2000) increasing internal motivation. This attitude was echoed by Gail in her interview, but a counter-argument was demonstrated by Ruth and Bridget, who did not see the benefit of their student portfolios and had largely negative attitudes towards them. Despite this, both students were motivated to continue their development, but not by the internal curiosity and internal reward that Gail demonstrated (Ryan & Deci, 2017; Festinger, 1964), but rather by the potential for external reward in Bridget's case, or the consequences of non-action for Ruth, in that if she didn't complete CPD she would not be able to meet the requirements of HCPC audit, both demonstrating the external influence of cognitive and achievement theory (Festinger, 1964).

In the interviews with the physiotherapists, Gareth presented a similar picture to Gail, demonstrating a deep learning approach and internal motivation towards his student portfolio. He stated that he had understood what he had to do with his student portfolio, why he was doing it and found this beneficial to his learning. This fits with the adult learning principle that learners need to understand and value the purpose of learning before they will be motivated to undertake it (Knowles, 1984). This has transferred into his current practice, where he uses his portfolio as a learning tool and is internally motivated towards CPD and LLL. Gareth's description of his portfolio is one of the cake mix model (Webb et al, 2002; see Figure 2.5), in that he integrates elements of his portfolio to produce a cake that is bigger than the

sum of its ingredients. Penny commented that she didn't understand why she was completing a student portfolio, demotivating her towards its use, again, demonstrating the opposite influence of adult learning theory (Knowles, 1984). This has translated into a negative attitude towards her current portfolio, which she doesn't use often, because she struggles to know what is relevant. There appears to be a lack of knowledge of how to use a portfolio and a lack of belief in her ability to use it, reflecting a low sense of personal agency (Ryan & Deci, 2017) as well as low perception of her ability to perform the task of portfolio building (Cassidy & Eachus, 2000). These could be generated from the lack of guidance as a student, or an ambiguous portfolio structure, as described above. Although she gives the impression that she would like to know what to do and how to get benefit from her portfolio, she currently only uses it if she is going for an interview. Brian and Owen both stated that they were not motivated to complete their student portfolios, they didn't understand why they were doing it and only did so because they were a required part of the course. These views again, reflect the influence of adult learning theory (Knowles, 1984), as well as a negative influence of the learning provision (Kantar, 2018). It is unclear whether Richard wanted to complete his student portfolio or understood its purpose. All three now tend to use their portfolios for storage, rather than for learning, with Brian and Richard adopting the shopping trolley model and Owen using a spinal column model, linked to his personal development review objectives (Webb et al, 2002). This is in concurrence with Haywood et al (2013) who found that appraisal was the main driver for CPD and portfolio use, in an interdisciplinary musculoskeletal context. Brian gave the impression that he still doesn't see the point of a portfolio, possibly reflecting the adult learning theory principle that learning needs to be immediately relevant for a learner to engage (Knowles, 1984), and also suggesting that internal motivation for using a portfolio is low, as he displays no evidence of guilt or anxiety over the lack of action (Festinger, 1964). Owen can now see the benefit of building a portfolio, and communicates this and encourages portfolio development in others, but has not changed his own behaviour even though his attitude seems to have changed. This lack of change of behaviour can potentially be explained by the fact that although attitudes may change, behaviour change does not always follow, as the internal cognitive change is mediated by external factors such as cultural and social norms, practical circumstances and organisational factors (Bohner & Dickel, 2011).

The attitudes of these physiotherapists towards their student portfolios does not seem to have had such a significant effect on their motivations towards CPD, as it has towards their current portfolios, and many other factors appear to influence attitudes towards CPD and LLL as compared with using a portfolio. Gareth, who was positive about his student portfolio, appeared to be highly motivated towards CPD, seeing life as a learning journey, and he wanted

to learn about himself in his role. The CPD that he wants to undertake fits his role and his employers' goals, and consequently he feels supported to undertake CPD that he feels is meaningful to his development. This alignment is supported by Herzberg's Motivation-Hygiene Theory (1968), where the factors of satisfaction (or motivators) of achievement, recognition, the work itself, responsibility, advancement and growth are providing Gareth with motivation for CPD, while the dissatisfaction (or hygiene) factors of company policy (in this case related to CPD being beneficial for the service), relationships with supervisors or managers, and status are positively influential. Penny clearly stated in her interview that her student portfolio had given her a negative spin on CPD, because she felt the portfolio was something she had to do, rather than something she wanted to do. This battle between want and need has transferred into her attitude to CPD, causing frustration that she cannot focus her CPD on subjects that she wants to invest herself in, and must undertake CPD that fits with her employers' goals. Even where CPD meets her personal goals, she is also influenced by how much investment this is going to require, both in terms of time and cost. Penny wants to use the traits of a strategic learner (Entwistle, 2000; Biggs, Kember & Leung, 2001; Schmeck et al, 1977; Vermunt, 1992) and focus on her own goals, potentially demonstrating the immediate need for relevant learning discussed in adult learning theory (Knowles, 1984), but is also clearly displaying the characteristics of one motivated by Porter and Lawler's (1968) expectancy theory, weighing up the perceived value of the outcome of learning (where employer driven learning has a low value, and personal interest learning has a high value), against the effort required to achieve the reward. The differences between Penny and Gareth in terms of their alignment of personal and employer goals, may be related to the difference in point on career path, with Gareth settled in a band 7 post, working in an area which provides personal satisfaction, and where he has the ability to influence development for himself and within the team that is relevant to service need, demonstrating a strong internal locus of control. Penny, on the other hand, is in a band 6 post, which, although it is in the clinical field of her interest, is still feeling the external locus of control of other more senior members of the team and has less personal control over what happens in the work environment (Cassidy & Eachus, 2000).

Brian didn't see the point of his student or current portfolio, but seemed highly motivated towards CPD and LLL, stating that he wants to learn because he wants to stay good at his job, but his approach to CPD appeared to be about learning "in the moment", asking questions of more experienced colleagues to find an immediate solution to a clinical problem. Brian displays the need for learning that has immediate impact (Knowles, 1984). Owen's attitude to his student portfolio was like Brian's, and his motivation towards CPD is very influenced by whether he can see benefit from his learning, particularly to the patient. External factors such

as being at the top of his pay scale, and the professional culture towards CPD and personal circumstances all appeared to influence Owen more than his student portfolio. Brian and Owen both appear to take a strategic approach to their CPD, in that it must be focussed on achieving a specific goal (Entwistle, 2000; Biggs et al, 2001; Schmeck et al, 1977; Vermunt, 1992).

Richard's attitude to CPD appeared to be strongly related to compliance to Trust and regulatory requirements. He seemed to be particularly worried about the threat of HCPC audit, displaying some non-action guilt, unlike Brian (Festinger, 1964), but also appeared to display some apathy towards CPD (Entwistle, 2000), being at the top of the career ladder, with little opportunity to progress, and in an isolated niche clinical field, with little chance of sideways movement to rekindle his motivation, which is reflective of the findings of Johnson (2008). The limited contact with other physiotherapists because of his role could have led to demotivation if he prefers a participant-collaborative learning environment (Reichmann & Grasha, 1974), although this is speculative, and not explored with him in depth in his interview.

#### 8.3.6 – The Influence of Career Point on Motivation towards Portfolios, CPD and LLL.

With respect to CPD portfolios, the results of the physiotherapist questionnaire found that newly qualified band 5 physiotherapists used their current portfolios for a significantly broader range of activities than bands 6, 7 and 8a. Bands 5 and 8b used the portfolio as a learning tool (identification of strengths and weaknesses, recording learning objectives) significantly more than bands 7 and 8a. In terms of attitudes towards portfolios, physiotherapists at either end of the banding scale (bands 5 and 8b) seemed to be most positive. Regarding band 5s, this could reflect the fact that they have more recently been in education, where portfolios often form a significant component of their course and are therefore continuing to use this in their practice post-graduation. It could also reflect the fact that they are still developing in their careers, and so find the portfolio a useful place to reflect on their experiences and record their learning. At the opposite end of the scale, Band 8b physiotherapists were also positive about using a portfolio, and this could reflect either highly specialised clinical positions (e.g. consultant physiotherapists), where critical reflection on experiences is perceived to be more valuable, or managerial positions, where staff take a more global view of using a portfolio to record and recognise their values. The data analysis showed that those staff working in the middle bandings of the career path (bands 6 and 7) were least confident about using a portfolio and see the least value in it, reflected by Penny and Brian in their interviews. This could reflect the findings of Miller and Tuekam (2011), that if recording activities does not translate into changes in practice, motivation for recording will decrease. It could also reflect a general demotivation of band 6 physiotherapists for CPD in general, translating through into their use

of a portfolio, although this was not reflected by the interview participants, who both seemed motivated towards CPD. Similarly, band 7 physiotherapists are often in static posts, and are experts in their fields, who perhaps do not see the value of portfolios, since they are not looking for career progression, and have already reflected on experiences and learning. This would concur with findings by Cole et al (2008) who found that senior physiotherapists did not see CPD as integral to their existence. This potentially reflects Owen and Richard's attitudes to their portfolios, but Gareth does not fit this picture, where he continues to use his portfolio, but with a broader focus on softer skills, rather than the clinical skills he is expert in.

In terms of CPD and career level, there was a significant difference between the groups in terms of the amount of CPD done in the last six months, with those in band 8a posts having done significantly more CPD than either band 6s or band 7s. There were no significant differences in terms of the activities they deemed appropriate for CPD or in the number of benefits of CPD identified by the different groups. Band 5 and 6 physiotherapists identified significantly more barriers than those at band 8a, and band 6s identified significantly more barriers than those in band 8b posts. When analysing specific questions, more junior staff felt that patient care being prioritised over CPD, and a lack of information regarding CPD opportunities were barriers significantly more than senior staff. Study results showed that staff in lower bands have a higher percentage of clinical workload (means by band – 5=84%, 6=78%, 7=64%, 8a=38%, 8b=14%), which helps to explain the impact of prioritisation of patient care on these physiotherapists.

Band 6 physiotherapists had significantly less positive attitudes to CPD than any other bands. This appeared to be in relation to internal factors (e.g. motivation, enjoyment, value), as well as external factors (e.g. professional culture, implementing change into practice, and drivers for undertaking CPD). One possible explanation for this is the position of band 6 physiotherapists in the hierarchical structure of the profession. For newly qualified physiotherapists (band 5), CPD usually focusses on developing their clinical skills, while for more experienced staff (bands 7-8b), their CPD is likely to focus on leadership or management tasks, or on highly specialised clinical skills. In both cases, CPD is aligned to daily practice and therefore fits with both personal and service need, ensuring maximum benefit (Gunn & Godling, 2009), improving internal motivation and reducing any negative organisational influences. This was the case with Gareth, as described above. Band 6 physiotherapists have usually developed an idea of where they want to specialise within the profession, but are often still employed in rotational posts, where the CPD they are required to undertake for the service may not fit with their personal area of interest, reducing internal motivation, and this was reflected by Penny, a band 6, in her interview, even though she was no longer rotational.

Because of the nature of their role, they may not feel in a position to influence practice as significantly as higher banded staff, which could in turn, make them feel that the culture of the profession does not value their CPD activity. Although Herzberg's (1968) motivation-hygiene theory is aimed at motivation to work, rather than to learn, the band 6 physiotherapists in this study appeared to be demotivated towards CPD by many of the hygiene (or external) factors included, such as organisational policy for CPD to be aligned with service need, and status within the organisation. The reduction in their internal motivation could potentially stem from a reduced sense of personal agency (Ryan & Deci, 2017), or a poor internal locus of control (Cassidy & Eachus, 2000), feeling that their power over choices is limited by the constraints of the workplace environment. It is worth noting that these attitudes towards CPD, particularly the barriers to undertaking CPD, are easily transmitted to students, as demonstrated in the interviews with Ruth and Gail. Both students felt that their clinical educators (likely to be bands 6 and 7) had given them the impression that CPD was difficult to do, because of lack of time and support. It is important that clinical educators recognise that they are role models not only for the clinical and organisational skills involved in being a physiotherapist, but also for professional aspects and attitudes which are easily picked up on by students (Veerapen and McAleer, 2010). It may be that this lack of motivation for CPD, or the communication of powerlessness to overcome barriers is why Kell and van Deursen (2003) found students' perceived ability for SDL fell during clinical placements, as educators were communicating that the locus of control for learning is "out of their hands".

Band 5 and 6 physiotherapists felt that they do more CPD because they may be audited by the HCPC significantly more than the higher bands of staff. This could be explained by the fact that these physiotherapists are likely to have been educated since the introduction of audit and their courses may have placed emphasis on this as a driver for CPD activity, and HCPC audit was mentioned by all three students in their interviews. This emphasis during pre-registration education may lead to the development of graduates who are externally motivated to undertake CPD, rather than instilling in them the professionally intrinsic desire for LLL and continual improvement of the self. This lack of internal motivation could be augmented by the fact that HCPC CPD audit is a negatively driven process, with loss of licence a consequence of failing the audit, rather than reward for demonstration of excellent CPD (Festinger, 1964), operating a sanctions model of CPD as described by Jones and Jenkins (2006).

#### 8.3.7 – The Influence of Employment Type on Motivation towards Portfolios, CPD and LLL.

Regarding use of CPD portfolios, NHS physiotherapists used their portfolios for a broader range of activities than those working in private practice. The fact that NHS physiotherapists use their portfolio more broadly could reflect the more rigorous appraisal systems that are likely to

be in place in a large institution as opposed to small private physiotherapy practices. There is also more staff mobility within the NHS, requiring staff to utilise their portfolios for applications and job interviews. In terms of the 17 likert questions regarding attitudes towards portfolios, there were no significant differences between the groups, suggesting nature of employment does not affect attitudes towards CPD portfolios.

In terms of CPD, the physiotherapist questionnaire results showed no significant difference between NHS and private physiotherapists in the amount of CPD done in the last month, although there was a non-significant indication that those working in the NHS have done less than those working in private practice. Although there were no differences between the groups in terms of the number of benefits of CPD identified, there were significant differences in the barriers to CPD identified by the two groups, with the NHS physiotherapists identifying significantly more barriers than those working in private practice. It is unsurprising that private practice physiotherapists found being an isolated worker a barrier significantly more than those working in the NHS, as they are more likely to be lone practitioners. Equally, it is unsurprising and reflects previous research (Johnson, 2008; Gunn & Godling, 2009; Haywood et al, 2013) that NHS physiotherapists found lack of protected time, lack of employer support and financial constraints, lack of cover and patient care being prioritised over CPD as barriers significantly more than those working in private practice, since their work schedule is more likely to be constrained by organisational structure and requirements, reflecting the hygiene factors Herzberg (1968) describes in an organisation.

Physiotherapists working in the private sector appeared to have more positive attitudes towards CPD than those working in the NHS, being more motivated to undertake CPD, and gaining more enjoyment and job satisfaction from it. This is also reasonable, given the autonomy of the work environment and therefore the ability to choose and undertake CPD as and when is appropriate, in comparison with those working in the NHS, where CPD may be driven by service need rather than personal desire. Having said all of this, there was no significant difference in the amount of CPD undertaken by the two groups in the last month, suggesting that despite the potential for a negative impact of organisational factors (Herzberg, 1968) in the NHS, internal motivation for CPD remains high.

#### **8.4 – Developing a Model of Motivation for CPD portfolios, CPD and LLL**

Based on the findings discussed in this chapter, a diagram was built to display all the factors influencing motivation towards CPD portfolios, CPD and LLL (see Figure 8.1). In this diagram, internal motivators are shown in blue, and external motivators in yellow. Influencing factors, such as the requirement and assessment of the student portfolio, completion of a student

portfolio, the structure of the student portfolio, attitude to student portfolio, career point and benefits of CPD are shown in grey. Outcome of the motivations (motivation towards CPD portfolio, CPD and LLL) are shown in pale blue. Green arrows indicate a positive influence on the motivations, red arrows a negative influence. The dotted arrows represent a suggested influence that has not been explored thoroughly in this study.

It can be seen from this diagram that the motivation of physiotherapists towards CPD portfolios, CPD and LLL is complex and influenced by many factors, both internal and external. It is also clear that internal and external motivations can influence both positively and negatively on each other. The factors shown in Figure 8.1 were combined and condensed, grouping together internal motivation factors, such as achievement, satisfaction and improved confidence, personal learning factors, and employment factors, to provide a simpler model (see Figure 8.2).

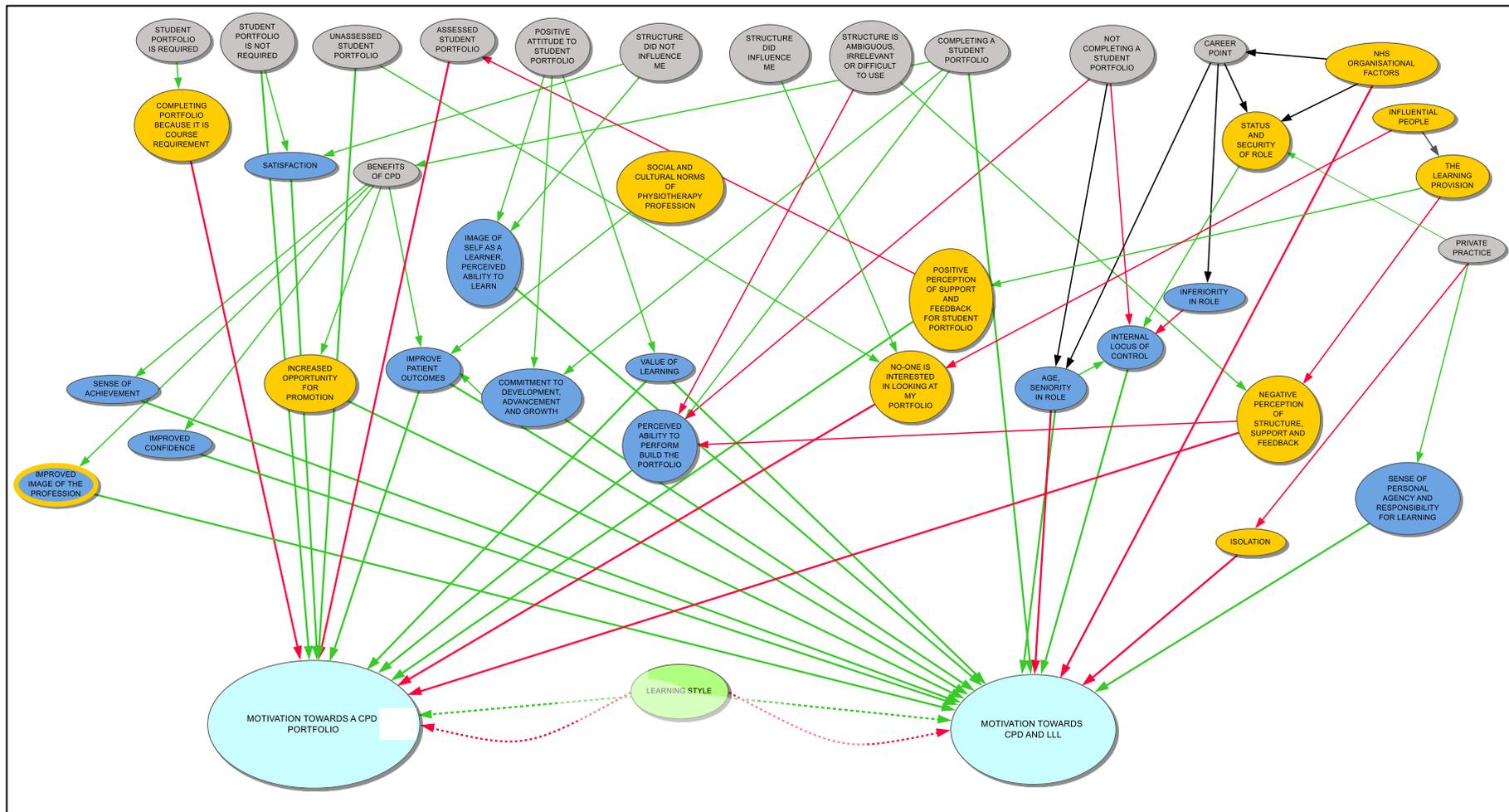


Figure 8.1 – Diagrammatical Representation of the Findings from the Research.

This model uses ideas from many of the motivational theories and models described in Chapter Two, however, it uses terminology that is more specific to physiotherapy education and practice, therefore making it more accessible to those interested in improving students' and physiotherapists' motivation towards CPD portfolios, CPD and LLL. The model includes eight internal motivators and 10 external motivators. The physiotherapist is positioned centrally within the model, surrounded most closely by the internal motivators (IMs) on the blue circle, with external motivators (EMs) shown on the outer circle (coloured yellow). Internal and external motivators are related to each other using colours, to show where the research findings indicated influence or links between these.

Improved confidence in role (IM1), and satisfaction and sense of achievement (IM2) derived from learning were internal motivators that came through strongly in both the questionnaire and interview findings and were recognised as internal motivators by Festinger (1964), Herzberg (1968) and Ryan and Deci (2017). Both are affective measures of the success of learning and can generate significant internal motivation for further learning. Ryan and Deci (2017) also suggested that internal motivation can be increased if learning is valued for its own sake in their autonomy orientation component of self-determination theory. Several of the interviewees (both physiotherapists and students) reported a value in learning for its own sake and this forms IM3. These three IMs are coloured pink in the model, reflecting that where motivation for learning is internally driven and providing internal reward in the form of confidence, satisfaction and value (Festinger, 1964), the effort to undertake learning is seen as being acceptable despite barriers to learning (Porter and Lawler, 1968). These IMs are linked with EM1, external reward for undertaking CPD or punishment as a result of lack of engagement, also coloured pink. From a student perspective, reward comes in the form of passing CPD portfolio assessments and resultant successful completion of their course, raised by all of the interviewees as a significant influencer on their levels of motivation. The physiotherapists who were interviewed related more to external punishment, in the forms of loss of increment if learning goals were not achieved for annual performance review meetings, but also in terms of HCPC audit, which holds the potential punishment of removal from the register if CPD requirements are not met. This external motivator reflects the motivational theories of Cognitive Achievement Theory (Festinger, 1964), Expectancy Theory (Porter & Lawler, 1968), Control Orientation (Ryan & Deci, 2017) and Human Motivation Theory (McClelland, 1985) – all externally focussed on achievement of goals and rewards.

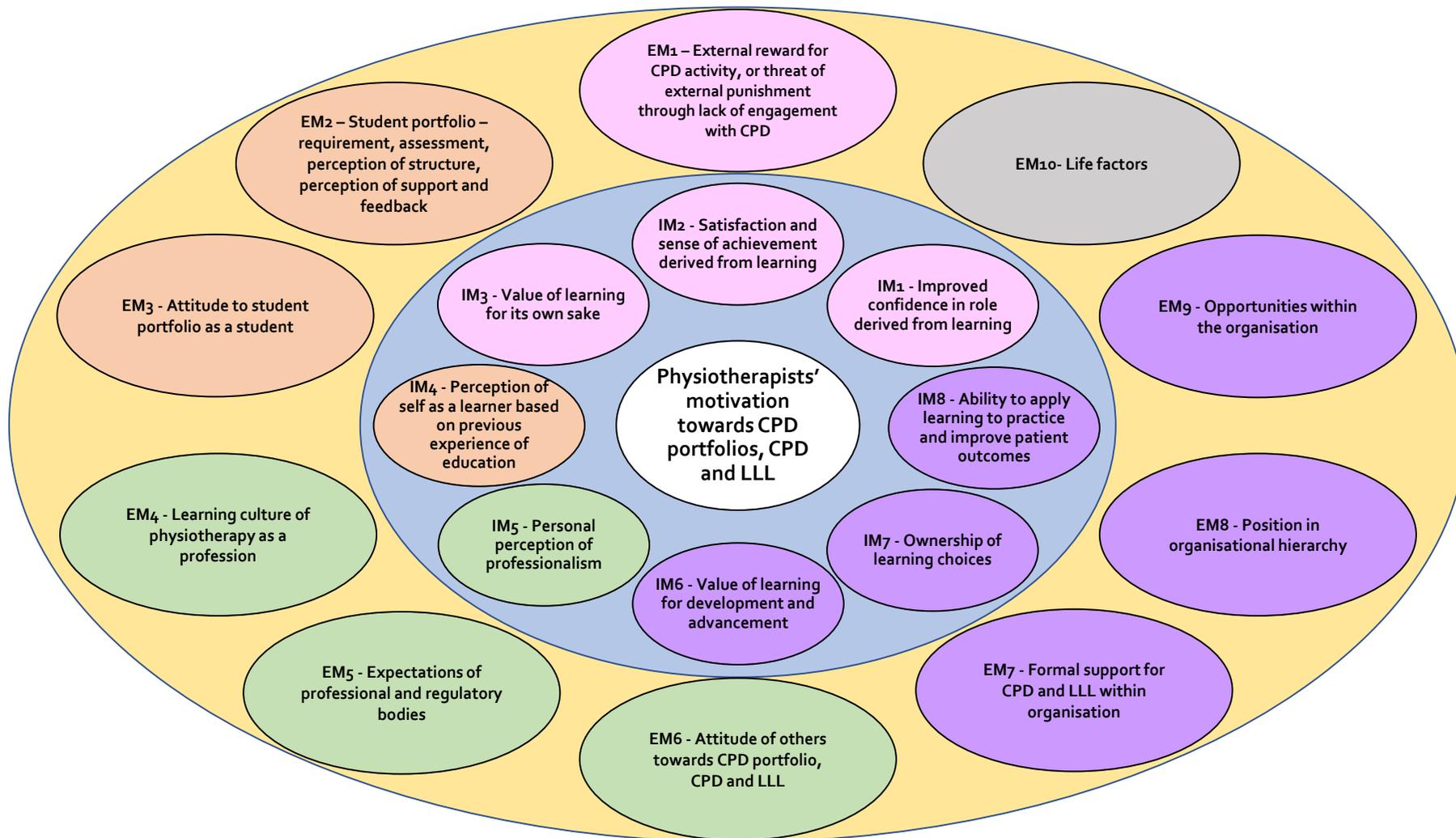


Figure 8.2 – Model of Motivation for CPD Portfolios, CPD & LLL

Perception of self as a learner generally based on previous experiences of education forms the fourth IM in the model and is linked with the external motivators of the student portfolio (EM2) and attitudes to the student portfolio as a student (EM3), both forming previous experiences of education examined in this study (all shown in brown in the model).

Requirement and assessment of a student portfolio, as well as perception of the structure, feedback and support for portfolio development were the key influencing factors in whether these were received positively by students. Several of the interviewees reported negative experiences of and feelings towards their student portfolios, which in turn had influenced their beliefs about their ability to successfully and effectively use a CPD portfolio in their careers. These findings support those of Bandura (1994), who suggested that those who perceive themselves capable of learning using a particular approach, are more likely to apply effort and perseverance to the task and are less likely to be put off by negative external factors. Those with negative experiences of portfolios as students are less likely to engage with this learning strategy in their careers (Cassidy and Eachus, 2000).

All the participants in this study were either physiotherapists or student physiotherapists, bound by the same professional framework (CSP, 2013a) and regulatory standards (HCPC, 2013; HCPC 2018). Despite this, the diversity of findings from the research in relation to professionalism and CPD and LLL, suggests that personal perception of professionalism is an IM (IM5), with these rules being interpreted by the individual in the context of their own personal beliefs and values. Having said this, the research findings suggest that personal perception of professionalism, and how this relates to personal drivers for CPD and LLL, is strongly linked to the EMs of the learning culture of the profession (EM4), the expectations of professional and regulatory bodies (EM5) and the attitudes of others towards CPD portfolios, CPD and LLL (EM6) (all coloured green in the model). Particularly for students, role modelling by physiotherapists in educational and clinical settings can result in the development of their own understanding of the shared beliefs of the profession. The need of students to “fit in” with the culture of the profession as they see it, or need for affiliation (McClelland, 1985), results in students absorbing the opinions and attitudes of others into their own perceptions of how learning fits into the social and cultural norms of the profession (Kantar, 2018).

The IMs of value of learning for development and advancement (IM6), ownership of learning choices (IM7) and the ability to apply learning to practice and improve patient outcomes (IM8) are linked with the EMs of formal support for CPD and LLL within the organisation (EM7), position within the organisational hierarchy (EM8) and opportunities within the organisation (EM9), all coloured purple in the model. The findings from this study suggested that

physiotherapists are keen to improve their knowledge and skills and therefore to develop in their careers. The ability to apply new learning to practice and improve patient outcomes came through strongly in the findings from both students and physiotherapists and is in keeping with previous research as being a key internal motivator for learning within the profession (Johnson, 2008). However, it was also clear that the interviewees wanted to be able to make their own decisions about what learning was important and to not be dictated to in terms of what, how or when they should learn, demonstrating a sense of personal agency (Ryan and Deci, 2017) and a desire to have a strong internal locus of control (Cassidy and Eachus, 2000). However, these reports of being internally motivated to choose learning, develop from it, and apply it to practice were clearly impacted by organisational factors of support, position or role and opportunities. This section of the model links closely with Herzberg's (1968) two-factor theory of motivation within the workplace.

The final EM is life factors (EM10), coloured grey in the model. Balancing the desire for learning against the costs to the individual, both in terms of time and potentially finances, is recognised by Kantar (2018) and Porter and Lawler (1968) as a challenge for all adult learners. Life factors appeared to influence all interviewees, as well as featuring in the questionnaire results from the physiotherapists as a barrier to undertaking CPD and are likely to impact on many of the IMs in the model. Perception of self as a learner may be reduced due to the limited time one can commit to learning, satisfaction and value derived from learning may be lower, due to the conflict with other personal commitments, when time spent learning is time away from family or other priorities, and on this basis, development and advancement within a career may become less significant.

## **8.5 – Strengths and Limitations of the Study**

### **8.5.1 – Strengths of the Study**

Considering the study in its entirety, there are several strengths that can be identified. Firstly, the professional and political culture was explored in depth in Chapter Two, and the previously published literature on the topic was thoroughly analysed in Chapter Three. These provided a solid basis for the research design and methods, as well as framing the questionnaire and interview questions. Secondly, an appropriate research paradigm was chosen to answer the exploratory research question. Thirdly, there is transparency of processes and procedures throughout, which has allowed the reader to see all the decisions and steps that were taken through the research journey.

Fourthly, although the samples of the questionnaires were small in comparison to the total populations of physiotherapists and final year physiotherapy students in the UK, the

physiotherapist sample was broadly like that of the full population, with a wide geographical spread, and participants from all bands within the NHS as well as private physiotherapists. The student sample was not indicative of the full sample of student physiotherapists in the UK, as far as it is possible to tell, however, it also had a wide geographical spread and included students on all types of pre-registration programmes, across a wide range of age bands. Because of this, it can be assumed that the findings are transferrable to the general populations of physiotherapists and student physiotherapists in the UK. Finally, the large amount of data produced, its analysis and interpretation has led to a significant contribution to knowledge about the influence of a student portfolio on motivation towards CPD portfolios, CPD and LLL, something that had not been previously investigated.

### 8.5.2 – Limitations of the Study

It is also important, however, to note that there are some limitations to this study. Firstly, although reviewed and critiqued thoroughly, the literature review was limited to research investigating the use of portfolios and attitudes to CPD and LLL in healthcare, and this may mean that potentially useful information from research in other fields of education and professional practice have been missed. The decision to limit the literature review to healthcare related research was made so that the findings were focussed in a healthcare setting, but also from a pragmatic point of view, that including research from other areas may have produced too much information, making synthesis more difficult. The literature review also excluded any research where the primary focus was on the method of recording, for example electronic, paper or video portfolios, and any studies that focussed primarily on the portfolio as a means of assessment, which may have excluded some potentially relevant information. At the time of undertaking the literature review, the method of recording did not seem relevant to the research question, although this may have some impact on perceived influence of structure on motivation towards using a portfolio. Similarly, while this study has shown an influence of assessment of the student portfolio on motivation, the research was not interested in how to use a portfolio to assess students' performance, and so this literature was not included.

Secondly, although an idealistic research paradigm, constructivist ontology and interpretivist epistemology, with an inductive methodology were all appropriate for answering the research question, there were other options that could have been taken in terms of how the research topic was explored. Chapter Four has given some description of these and why certain methodologies were rejected, but it is important to consider how the research findings may have been different, if a different approach was chosen.

The option of a longitudinal study could have produced some interesting results. This would have allowed the researcher to follow students on their journey with their portfolios and into their careers and may have provided the opportunity for the researcher to explore how and why motivations and attitudes changed as they progressed, something that this study has only done in a limited fashion, mainly through the interviews with the physiotherapists. Even so, these physiotherapists were only interviewed at one point in time, so the stories they tell of how they felt in the past are coloured by their experiences and the powers of memory. Exploration of how motivation changes over time, might allow the identification of which internal and external motivating factors have greatest influence at different points in a physiotherapists' career, potentially allowing motivation to be facilitated more effectively at different stages.

It would potentially have been possible to take a grounded theory approach, considering the findings from the research without using the theoretical frameworks created from the literature. However, although explicit use of the frameworks could have been avoided, it would have been impossible to remove the implicit knowledge that had been gained from the analysis of the literature and creation of the frameworks, from the researcher's mind, making this challenging.

Thirdly, any research study is limited by the data collection methods that are chosen. Again, Chapter Four justifies the choices that were made, within the context of the philosophical underpinning and the constraints of a PhD study. Focus groups with students and physiotherapists may have been a different way of exploring the research question. The strength of a focus group is that it allows the members of the group to facilitate and explore their ideas collectively, potentially prompting thoughts and feelings that an individual questionnaire, interview or the researcher do not stimulate. Because of a physical presence in the group, the researcher can also gain useful insights from non-verbal behaviour, again not possible with a telephone interview or online questionnaire. One of the pragmatic reasons for not selecting this as a method of data collection, was the time and geographical challenges of getting groups of students and physiotherapists from different areas of the country together, not only on the part of the researcher, but also from the perspective of commitment required from the participants. One possible way to manage this, may be to undertake focus groups at events where the participants are already potentially gathered, for example the CSP's yearly congress, however this would create bias in the sample, as only those interested in attending the conference (which has time, geography and financial implications) would be able to be involved. A second option would be to only recruit from a regional geographical area, where getting participants together would be easier, but this would still need a greater commitment

from physiotherapists and student physiotherapists than an online questionnaire or telephone interview and would limit the generalisability of the findings.

Fourthly, there are some limitations to the design of the questionnaire. Although the criticisms of questionnaires used in previous research were considered and the researcher tried to avoid these, as described in Chapter Five, the question statements were still biased towards being positively framed. While the researcher attempted to write these so that there was an equal balance of positive and negative statements in each section of the questionnaire, the statements became clumsy and were not true to what was being measured. Another limitation of the questionnaire was that it was built based on the findings from the literature review and in some areas, this may have limited the participants' ability to give the responses they wanted to. For example, ten benefits and seven barriers were identified in the research, and participants were asked whether these applied to them personally but had no option to include any other benefits or barriers that were not on the lists. At the time of writing the questionnaire, basing the questions on the research findings felt like a strength in that it added validity to the data collection, however, this highlights researcher inexperience and may have limited the generation of new knowledge in this specific area.

Finally, only eight interviews were undertaken in total, five with physiotherapists and three with students. There was also some gender bias within these, with four of the five physiotherapists being male, and all the students being female. It is unclear whether this limited the findings from the research, although all the interviews were quite different, suggesting that data saturation was not reached, potentially affecting content validity (Fusch and Ness, 2015). A future study could be designed differently, to attempt to achieve more exhaustive opinions. Attempts were made to recruit further interviewees, within the boundaries of ethical approval, however no further interviewees volunteered to participate.

### **8.6 – Reflexivity Statement**

*In Chapter One, I introduced myself as a physiotherapist who has been qualified since 1990 and working in higher education since 2001. Chapter One also described how the research question arose, through facilitation of portfolio learning with physiotherapy students and providing guidance to physiotherapists who had been called for HCPC audit. Chapter Four presented the ontological, epistemological and methodological position of the research, in terms of the exploratory nature of the research question, the complexity of motivation, CPD and student portfolios, and the social and cultural contexts in which physiotherapists and the student physiotherapists sit. It also provided justification for the methods of data collection that were chosen for this study, within the limitations of a PhD timeframe, and a pragmatic standpoint.*

*However, this chapter did not describe my personal positioning within the research process, or give any suggestion as to how I, as a person with experience, values, beliefs and opinions, may have shaped both the decisions made prior to undertaking the research, the data collection processes themselves, the analysis of the data and the interpretation and representation of findings. Schutt (2012) stated that confidence in findings from qualitative research is strengthened if the researcher provides an informative and honest account of how they interacted with their participants, and how any problems encountered were resolved, to allow the reader to evaluate the findings in light of this. Consequently, a reflexivity statement has become commonplace within qualitative research and is provided here.*

*I was born and brought up as the third daughter in my family, the youngest by some years. My dad was an engineer and my mum a midwife. My upbringing was happy, if somewhat undemonstrative and short on outward affection, revolving significantly around the Methodist Church, including Sunday School, Church Youth Club, and Youth Fellowship. Home life was well-ordered, reflecting my dad's OCD tendencies - I remember that all the forks had to line up in the cutlery drawer (and I still do this now, 17 years after his death!) My closest friends were all friends from church, although the town I grew up in was small and so friends at church were also friends at school. My best friend's father was a head master, and I spent a lot of my childhood and teenage years in his presence – a strong, intellectually challenging and yet encouraging man, who had a big influence on me. All of this meant I developed a strong sense of right and wrong, a desire to toe the line and to be “good” (although I had the odd rebellious moment, one resulting in a broken window and a very angry dad). Because my mum (retired from midwifery), spent most of her time organising a toddler's club at the church, baking for church coffee mornings and cake sales, and supporting the more elderly members of the church community, I grew up with a strong sense that helping others was of primary importance. I inherited some of my dad's logical and systematic approaches to everyday tasks, handling my homework and preparation for O and A level exams in an ordered fashion, but also his short fuse, easily getting frustrated if I couldn't solve a problem quickly.*

*Being part of this small community and mixing with the same kids at school from the day we started until the day we left, gave me an impression of where I sat on the intellectual hierarchy. I was musical, playing the piano and cello, and being able to read music before I could read a book, I was in the top stream in school in all subjects, chosen to be a school prefect, often played a lead role in school productions, and liked by all the staff. I think this gave me an unrealistic sense of my own importance and meant that I struggled to see my own weaknesses in a situation and blamed others if things did not go to plan. Balanced against this, however, was the fact that I was following my eldest sister through school, who would have been called a*

*child genius today, and many of the teachers commented that I wasn't up to her standard, giving me a sense of inadequacy. This only motivated me to strive to do better to improve my status in the eyes of the school staff. Moving to a sixth form college with the top students from a range of local schools was an eye opener as well, as suddenly I was in the middle of the pack and had lost my status as one of the top dogs in my class.*

*My career choice of physiotherapy seemed a logical one for me. I loved biology and science, but equally felt that I wanted a career where job satisfaction would come from seeing improvement in others' health and well-being. For some time, I toyed with the idea of studying medicine, but the dip in confidence in my academic ability I suffered at the start of sixth form college, as well as work experience within a physiotherapy department, changed my mind. I was attracted by the problem-solving nature of the role, the hands-on approach and the fact that every day would present different challenges. Although there was one point during my physiotherapy studies where I questioned this decision, I persevered and was delighted to be awarded my Graduate Diploma of Physiotherapy in the summer of 1990.*

*I loved my clinical career as a physiotherapist, although my sense of right and wrong and feeling like an advocate for the patients occasionally created challenges for me with colleagues, who I felt were not doing the best they could, and I would find myself speaking out and getting into trouble. Moving from a fast-paced acute hospital, to work in a general hospital where each day started with a half-hour coffee break and a browse through the paper frustrated me, as this felt like time wasted and unprofessional behaviour. Gaining a static position within critical care, where I was the sole physiotherapist responsible for these seriously ill patients, gave me that sense of importance back, but also that I could really make a difference to the outcome for these people, as part of a like-minded team. However, the fact that the patients were generally unconscious and unresponsive meant I didn't have to deal with their emotions or feelings, something I preferred. In this environment, I felt like my opinion was valued and that colleagues were prepared to have open and frank discussions about the best way forwards. Critical care was an environment where taking a problem-solving approach was key, and where problem-solving required a systematic and logical approach to large volumes of scientific patient-related information, but also where swift action and thinking on your feet was often needed and this suited me down to the ground.*

*Supervising students on placement also provided me with a great sense of satisfaction - to watch the lightbulb come on in their eyes, as they grasped a concept that had baffled them in university and seeing the sense of achievement they felt when their input had a positive effect on patient outcomes was fantastic. This became one of the highlights of my role and prompted*

*the decision to undertake an MSc in Allied Health Practice, as preparation for a move into higher education in the future.*

*In 2001, I took a full-time post in higher education, and found this a challenging but rewarding change. Seeing students achieve to the best of their ability took the place of patient recovery in terms of my job satisfaction, and I threw myself into the process wholeheartedly. As I continued in education, I found I had a talent for the more mundane aspects of the job – allocation of clinical placements, timetabling, workload balancing and other tasks that required a logical and systematic approach to large amounts of information, but that my sense of right and wrong, and that of being an advocate made me fair, objective and unemotional when managing student issues and situations affecting their full commitment to their studies.*

*Working in an educational environment also resulted in me becoming a more reflective person, with time (if limited) to consider how teaching had gone, and how it could be improved to make it more appropriate for students, but I also found myself examining and considering the affective aspects of being a student, and how their emotions played on their abilities to engage and study, facilitated by a small cohort who I got to know well. Despite my enjoyment of my role, and my interactions with students, there were frustrations in the academic environment, that sometimes university policies and procedures appeared driven by organisational factors rather than a desire to improve the student experience, and where logic seemed to be ignored when decisions were made. Again, as in the clinical situation, I found myself speaking out and attempting to rock the boat, to point out the errors in judgement that were being made by individuals who were not at the coal face and seeing the impact of these on students and lecturers. Over time, and after getting my fingers burnt on several occasions, I have learnt that one person cannot overturn a cruise ship and have developed a more mature and pragmatic view to university policy changes, recognising that my role is to manage these changes the best I can, to minimise their impact on the students. This also influenced my choices in terms of my PhD, as I wanted the outcomes of my study to have practical application to the student experience.*

*When I commenced my PhD journey, I was relatively confident that I would get to the end of it, since perseverance is a trait that I have always had, but also because I intended to break the journey down into logical steps and sequences, rather than thinking about six years of work and writing 80000 words. I knew what I wanted to know, and I thought I knew how I wanted to get there. Since this PhD is focussed on portfolios and their usefulness, it will most likely be unsurprising to learn that, as part of this process, I have kept a reflective diary in the CSP's e-portfolio. While I have not done this religiously, or particularly regularly, when key stages of the process happened, I reflected on these, in terms of how I felt and what I thought my mistakes*

*or strengths had been at these times. Some of these reflections will be integrated into this reflexivity statement.*

*It is clear that my research question emerged over a period of time, following reflection on both student experiences of using a student portfolio and on clinicians' approaches to CPD.*

*Fundamentally, my clinical training had given me a focus on the application of any new knowledge. In the same way as the physiotherapists in this study wanted to see the application of their CPD into their practice, so I wanted my research findings to have a useful application in physiotherapy education and potentially beyond. This reflects my generally pragmatic approach to life – if it isn't broken, don't fix it, but if it is, work out how to make it better. Based on the reflections on student comments about their portfolios as outlined in Chapter One, the portfolio, to me, felt broken, and I didn't see the point of using it in the physiotherapy programme, if it wasn't doing what we wanted. And yet, theoretically I could see that it should be having an influence, and this was frustrating - and I wanted it to make a difference.*

*The starting point for this journey was my literature review. Having undertaken a systematic review for my MSc dissertation, I was confident in my skills to do this thoroughly, logically and without too much heartache. However, my MSc dissertation investigated the use of protocols for weaning from mechanical ventilation, a very quantitative topic, where the research presented facts and figures, making it easy to synthesise and reach conclusions. The nature of the research around CPD and student portfolios, and the fact that the research question at this stage was about exploring attitudes of health professionals and students, meant that a very different, narrative approach needed to be taken. As can be seen from the PowerPoint presentation in Appendix 6a, in my haste to get started and perhaps my lack of focus, because the topic was broad and exploratory, my search process brought up large numbers of studies that were not relevant to my topic. This was frustrating, as this was the bit of the PhD I thought I was going to be good at. Once I had retrieved relevant research, I then took a logical, if somewhat time-consuming approach to the analysis and synthesis of the findings (see Appendix 6b). Although this process may look like overkill to some, the process of reviewing the literature several times, and in several different formats, allowed me to immerse myself in the research findings, which made writing the literature review relatively straightforward, and which, in hindsight, allowed me to develop skills that were beneficial when approaching the thematic analysis of data in this study.*

*The next stage in my PhD journey was my transfer viva from Mphil to PhD. I found this meeting challenging, although I felt comfortable in the environment, and felt like the questions I was asked were to help me, rather than to be critical of me. Being asked what my theoretical worldview was as part of this viva made me realise that I had not clearly thought through my*

*philosophical standpoint at the time of commencing my journey. I had approached the PhD in the same way that I had approached any other questions in my life – I wanted to know the answer and I would try to do that in the most direct and logical way. I had decided that I wanted to collect data through a questionnaire, thinking this would give me a broad perspective on physiotherapists' and students' attitudes, as well as some more detailed opinions through telephone interviews, but I had not considered which research paradigm I sat in and in some ways, I didn't really understand why this was important. "Fundamentally, I am a physiotherapist, and as long as I get an answer to my question, I don't mind how I get there" was my answer in the viva, but I could tell from the expressions on the examiners' faces that I needed to go away and consider this in a lot more detail. I reflected in my diary how frustrating this was for me, as I found the terminology confusing, and different authors used alternative words to describe what sounded to me like the same thing! Much soul searching, reflection and significant reading, as well as discussions with my supervisors, led me to the decisions that I have described in Chapter Four, and because of this, I feel like I have a better grasp of the underpinning philosophies of research processes and can now justify the choices I made initially in the context of these theoretical frameworks.*

*I was excited to start my data collection, the first phase of which was sending out the physiotherapist questionnaire. Reviewing my reflection on this process, I can see the pragmatic side of my nature coming through in comments such as "I decided to stop trying to find anymore contact details for managers – enough is enough!" and "I couldn't find anyone to show me how to do a mail merge, so I just decided to send the emails out to 'Dear Manager' or 'Dear Physiotherapist'. This means losing the personal touch, but I just want to get on with it". It is impossible to know whether these decisions significantly impacted on the response rate to the questionnaire, although it is suggested that using someone's name when approaching them increases the likelihood of them taking part in your research (Ross, 2014).*

*As I moved forwards into the interview phase with the physiotherapists, I reflected on each of the interviews immediately after the event, to capture my emotions, thoughts and feelings about the experience. I had experience of interviewing, both for prospective students and staff but also as part of a small research project with my own students several years previously. Growing up in a church community and many years in clinical practice and academia, also meant that I generally felt comfortable having a conversation with anyone, and the thought of undertaking the interviews did not cause me any anxiety. The first interviewee was female, and not long out of university. I wasn't nervous about undertaking the interview and I think this was because I had no expectations of how it was going to go. The conversation flowed well, and it felt like I was talking to one of my own students; we developed a rapport quickly. I used*

techniques such as reflecting back, to clarify what had been said and to encourage the interviewee to explore the subject in more detail, a skill I had learned as part of a leadership and coaching programme at the university. After the interview, I was worried that I had veered away from my questions, but this was because I was excited about what the interviewee had said, and I wanted to know more. I didn't make any changes before I undertook the second interview, which was very different. I didn't feel like the interview made much progress from the start to the finish, and that perhaps I laboured the questions too much, and it felt a little like the interviewee felt he had to justify his answers to me. I couldn't understand why it was so different, as a lot of the points he made were like those of the first interviewee. I questioned whether it was because he was male but didn't think this was likely. Reflecting on this interview a few days later, I decided to include a sentence at the beginning of the next interview, explaining that my study was exploratory in nature, and that I didn't have any preconceived ideas about what people should or shouldn't be doing or thinking. However, considering this later, once all interviews were completed, I realised that of course I have preconceived ideas. One of my strengths in this research project is that I have been in the situation of the physiotherapists I interviewed – I had worked in the NHS, I had felt the pressures of patient prioritisation, and yet had still had the internal motivation to want to be good at my job. However, my experiences were not their experiences, and they did give me ideas and beliefs about the value of CPD and portfolios, which if I didn't have them, I wouldn't have been undertaking this study. Giltrow, Gooding, Burgoyne & Sawatsky (2009) considered that it is impossible for the researcher to be disembodied from the research process, and it was foolish of me to think that my own values and beliefs and shaping as a clinical and academic professional would not influence the research process, even if I am a fair and objective individual, who likes to think that everyone's opinion is of equal value.

The third interview went well, and I felt very relaxed talking to this participant. I wondered after the interview whether this was because of similarities in our career paths, as he was a senior physiotherapist in a busy critical care environment, and it emerged that we had several professional colleagues in common, however, I also wondered whether this was because he had positive attitudes to his student portfolio, his current portfolio and CPD, and so perhaps reflected my own values and beliefs about the importance of these. Interview four was with a clinician of a similar age and career path to interviewee three, and yet it didn't feel as relaxed and conversational, suggesting to me that his responses, and my responses to these, were the thing that made it different. Interview five was different again, and my comment in my reflection shows my frustrations here – "I didn't manage his waffling very well, it was difficult as it felt like he might be going somewhere but then he didn't. I felt myself switching off at

*times.” Reviewing the interview transcript, I don’t think this can have come across to the interviewee, as my responses to him were always appropriate, but this reflects one of the challenges of undertaking interviews in the evening, at the end of a busy day of teaching, and is perhaps something to consider if this method was used in future research.*

*When the student questionnaire went live, I was confident that I would get a good response rate – the contact details for course leaders had been easy to find, and I felt there would be a professional courtesy to pass these on to their students (I have done this on numerous occasions myself). However, the response rate was poor, with only 27 questionnaires completed after several weeks. Discussion with my supervisors, and with some of my own students, suggested that more up to date measures needed to be used to get the questionnaire “out there” – one of my students commented that she never looked at any emails that came through that were not addressed to her by name! I decided that I needed to go back to ethics to get approval to advertise the questionnaire on Twitter and on the CSP student network. The Twitter circulation helped to increase numbers, and although I wasn’t happy with the final number, my pragmatic side shone through again in my reflection - “you can only work with what you have got!”*

*Approaching the student interviews, I was worried that there may be some influence of a power relationship between myself and the students I interviewed, if they were aware of my position as a physiotherapy course leader. On this basis, the emails that were sent to potential interviewees did not contain my email signature, only my name. My experiences of interviewing all the students were positive, and I reflected “it felt very relaxed but also professional, the student talked freely and easily on the subject, and didn’t seem bothered when I asked a more probing question”. Looking back on my reflective diary, there was less reflection on the student interviews than on the physiotherapists’ interviews. I think that there were two reasons for this. Firstly, because I had learned and refined my interview skills during the interviews with the physiotherapists, but also because I was more comfortable talking to the students, as that is something I do on a regular basis, and as such, it felt easier to illicit their views.*

*The next step on the PhD journey was data analysis, and my sense of urgency and “wanting to get to an answer” came through in my reflections on these processes, as well as my frustration that despite this, I also needed to take a logical approach. I analysed the data from the questionnaires using SPSS and had great support for this from an experienced colleague, and I enjoyed the step by step nature of this process. On reflection on this, however, I did think that perhaps a bit more time spent planning what I wanted to learn from the analysis, even before I wrote my questionnaires, would have been beneficial. I commented in my reflective diary that “some of the questions didn’t really tell me anything; even when there was a significant*

*difference I was still left wondering 'so what?'. My inexperience as a researcher meant that I had thought I knew what I wanted to know, but in fact I hadn't asked all the right questions. There were huge amounts of data, which at times was overwhelming, but I gained a great sense of satisfaction when I could see the results and start to tell the story from them.*

*The content analysis against the frameworks I had designed from the literature involved breaking the interview transcripts up and reforming them into codes and themes. This was like doing a jigsaw puzzle and I thoroughly enjoyed it, even if it took me a long time. Because there was a framework to start on, I felt this made the process easier – in my SWOT analysis relating to the analysis of the interview data, I commented "I am not a creative person – this may hinder me when trying to come up with themes as it feels like there is an element of invention involved". For the thematic analysis however, I found that, having gone through many different processes, mind mapping each individual interviewee, considering larger sections of data, rather than specific words, was more successful in drawing out their feelings, thoughts and emotions on the topics being explored, and this made it easier to represent them in the results and discussion sections of the thesis (see Appendix 6c for a flowchart of my processes in thematic analysis, Appendix 6d for an individual mind map, and Appendix 6e for a combined mind map).*

*I feel as though I have grown significantly as a researcher during this journey, and this particularly struck me, when I came to consider the research findings in the context of the theories of motivation. At the beginning of the process, I think I would have felt worried that I wasn't "allowed" to do this - to interpret and present other researcher's findings in a different way, and that I might be stepping outside of the bounds of the interpretive rules of qualitative research analysis. By the end of this PhD, this process felt natural, and the best way to explain how the complexities of internal and external drivers influenced students' and physiotherapists' motivation towards CPD portfolios, CPD and LLL.*

*To summarise, and to provide confidence in the results of this study, research suggests that "there are four characteristics that are necessary to assess the trustworthiness of the researcher" (Krefting, 1991, p220). Firstly, I am familiar with the phenomena under study, and have experience of the setting of the phenomena, both for the student and for the physiotherapist. Secondly, I have a strong interest in the theoretical knowledge on the subject, the research that has previously been published and have been able to conceptualise large amounts of qualitative data as part of this study. Thirdly, I hope to have demonstrated the ability to examine the phenomena from a number of different perspectives, not only by including data from students and physiotherapists, but also by considering the multiple motivational models and adult learning theory when interpreting the results of the study.*

*Finally, although my investigative skills are being developed, I have applied rigorous and transparent processes to my collection, analysis and interpretation of the data. I am human, I do have beliefs, values and opinions that have influenced my approach to this research, but “subjectivity is the strength of interpretive work, and to remove the researcher from it would be undesirable” (Galdas, 2017, p.2).*

## **8.7 – Applications and Implications of Findings**

### **8.7.1 – Applications and Implications of Findings Related to the Research Question.**

There are several key findings from this research in relation to the research question – “Motivation and engagement of physiotherapists as lifelong learners through the use of a student continuing professional development (CPD) portfolio”. These will now be discussed in terms of the implications within physiotherapy education, although these findings are potentially generalisable to portfolio use in other healthcare pre-registration programmes.

Firstly, the results show that a student portfolio improves physiotherapists’ motivation towards using a CPD portfolio and towards CPD and LLL. These results suggest that educators should include a student portfolio as part of the curriculum for physiotherapy students. However, there are some caveats to this as explained below.

Secondly, the results suggest that one of the key factors in generating motivation in physiotherapists towards CPD portfolios, CPD and LLL in terms of the student portfolio, is positively engaging the student in the portfolio building process. There are several factors that have been highlighted through the research which may have positive effects on student engagement and their motivation to learn through using a portfolio. An unrequired portfolio has a greater motivational influence towards CPD portfolios than a required portfolio, and this would suggest that a portfolio should be encouraged, but not a necessity. The danger here is that students will choose not to keep a portfolio, reducing the overall burden of their workload during their studies, and losing the benefits that can be gained from portfolio building in terms of developing strong ABS, internal locus of control, development of SDL skills and the influence of these on internal motivation. It is unclear from this study, however, how educators would foster enough value in the portfolio process for students to be internally motivated to engage with this activity, independently, and without it counting for any credits within their programme of studies. It may be that support and guidance from academic staff for portfolio building, including discussions that promote the portfolio as a tool for LLL, rather than focussing on HCPC CPD audit, may increase the value students place on the student portfolio, as is suggested in this study. In a similar way, and with some of the same challenges, an

unassessed portfolio is more motivating for students towards using a portfolio in the future, but also towards CPD and LLL. The challenges here again relate to value, and students will often perceive that if work is not assessed, the university and the course team do not value it, creating a lack of motivation towards the task. A lack of assessment can also result in a lack of support and feedback, something that this study found, with those with assessed portfolios generally receiving more support for the portfolio building process, and as stated previously, perceptions of support and feedback have significant influences on student internal motivation. Finally, allowing students to structure their portfolio in a way that suits their learning preferences, and how they want to record, reflect on and review their experiences, is most likely to reduce the undesirable influence of negative perceptions of structure on motivation to use the student portfolio, and impact positively on motivation towards future portfolio use, CPD and LLL. If the portfolio is unrequired and unassessed, it may be simple to allow this flexibility and freedom, but if the portfolio remains a requirement of the programme or is still assessed, there are challenges for educators, firstly in ensuring that all staff involved in portfolio support and feedback are happy to encourage the creativity that may emerge, but also in terms of standardisation and transparency of assessment, matching varied portfolio styles to strict university marking criteria.

The research suggests that the most effective way to internally motivate students to use a portfolio, and to engage positively with the process, is through an unrequired and unassessed portfolio, with a structure of the student's choosing. It is also important that the portfolio is introduced from a position of value and that is supported and guided through discussion with a valued member of the academic team. These factors will increase the likelihood of transferable motivation to CPD portfolios, CPD and LLL following graduation. However, enabling such levels of support, guidance and feedback for a piece of work that is unrequired and unassessed may pose challenges for those working in higher education, in terms of justifying the staff time and effort entailed, into something that ultimately does not affect degree classification.

The BSc (Hons) physiotherapy programme at the University of Central Lancashire is due for re-approval and revalidation by the University, the CSP and the HCPC in 2020, which provides a timely opportunity to make changes to the way a portfolio is incorporated into the course structure, based on the findings from this study. The portfolio will be introduced to students in their first year of the course, using the findings from this study, as well as previous research, to demonstrate the value that a portfolio can have in terms of developing skills for LLL. The portfolio will not be a requirement of the programme, and it will not be assessed, and students will be able to structure their portfolio in a way that suits them. Support and guidance for portfolio development will be provided at several stages during the programme, particularly

on reflection days after each placement, where tutors will encourage students to consider their experiences and what they have learnt from these. At the beginning of semester 2 of the third year, students will be required to deliver a presentation on their development across the programme, to encourage them to be able to articulate their strengths, particularly in preparation for writing job applications and attending interviews. This presentation will be assessed, and students will be encouraged to use evidence from their portfolios to demonstrate their development. The course team hope that by introducing an assessment that is related to the portfolio, students will see the value of it throughout their studies and be able to justify the time spent reflecting on their experiences. It is hoped that the new portfolio process can be evaluated through some further qualitative research.

#### 8.7.2 – Additional Applications and Implications for Practice

The study also found other factors that influenced physiotherapists' motivation towards portfolios, CPD and LLL, which are not directly related to the research question, and these will now be discussed in relation to the implications in physiotherapy clinical practice, although these may also be applicable outside of the discipline. The research findings suggested that newly qualified band 5 physiotherapists or those experienced in their careers, in managerial or consultant type posts, were most motivated to use a CPD portfolio, although the interviews showed that other grades of staff are motivated to use a portfolio. Some potential explanations are given for this, including the nature of the role, and the learning that is occurring at these points in a career may be more applicable to recording and reflecting on experiences in a portfolio, using the portfolio as a learning tool. Despite this higher level of motivation, only 10% of the questionnaire respondents did not have a portfolio, suggesting that physiotherapists keep a portfolio, even if their motivation to do so is low. Career point also influenced motivation towards CPD and LLL, with staff in middle grades (bands 6 and 7) undertaking less CPD and those in band 6 posts being least motivated, although junior staff (bands 5 and 6) identified significantly more barriers than those in higher positions. Again, there has been some explanation of why this might be earlier in this chapter, and what factors may be affecting the motivation of the band 6 physiotherapists. The key implication of these findings, is that even though band 6 physiotherapists are still progressing in their careers, they are demotivated by many of the organisational factors in the workplace, which then impact on their internal motivation to undertake CPD. Those who are responsible for these staff need to recognise the challenges facing physiotherapists in this position within the organisation, and use the appraisal process, not only to ensure that staff are meeting their obligations towards mandatory training and the needs of the service, but that some flexibility is available to ensure that personal CPD goals are also being addressed. In the current climate of staff shortages,

employers who are openly supportive of staff to undertake CPD that is focussed on their personal as well as service goals (even if these are not the same) are likely to be able to recruit and retain staff more effectively, as well as having a higher level of staff morale and greater commitment to the service, as they will feel valued and personally supported.

The final factor worth considering in terms of its implications to practice, is the influence of the clinical educator and future employer on students' motivation and perceptions of CPD and LLL in the workplace. Physiotherapists acting as clinical educators can, either consciously or inadvertently, influence students' perceptions of CPD portfolios, CPD and LLL through role modelling their attitudes and opinions towards these practices while students are on placement. It is unsurprising that hearing senior and respected staff talking negatively or with anxiety about support for CPD and the ambiguity of HCPC audit, transfers into the students' own perceptions, but the impact of this can be significant. The lack of interest in a student portfolio during the interview process can be equally as demoralising and demotivating. Based on this, even before the student enters the workplace as a graduate, they have begun to develop their beliefs about systems and processes, which they perceive will be negative, and over which they will have little control. Those involved in training of clinical educators, as well as those going out to visit students on placement and therefore interacting and liaising with clinical educators, need to be aware of the impact of this unconscious transfer of values and beliefs and raise awareness of this with potential clinical educators. Equally, academic staff need to be aware that their values and opinions about CPD, LLL and portfolios, possibly displayed by lack of support, guidance and interaction with students about their portfolios, will be absorbed by students and taken with them into the world of work.

### 8.7.3 – Areas for Future Research

There are several possible areas for research on this subject in the future. As discussed previously, a longitudinal study, investigating students' motivation towards a portfolio from its introduction to them in their programme of studies, and following them through into their careers, may give some further insights into how and why motivation towards a portfolio, CPD and LLL changes over time, allowing more effective facilitation of engagement with these processes. A longitudinal study could be used to examine any of the issues that have been raised as questions from this research, for example, the effects of a portfolio that is a requirement but not assessed, or a portfolio that is not required or assessed, or a portfolio that is both required and assessed but the student chooses what the portfolio structure is like. Focussing this type of research at one institution may allow some control over variables such as the level of support, guidance and feedback, as well as ensuring that requirement and

assessment demands of the portfolio, or the lack of these, are the same for all students. Alternatively, the use of an unrequired, unassessed portfolio with a flexible, student-led structure could be examined over time to see whether this type of portfolio is more effective in engaging and motivating students towards portfolio use, CPD and LLL. There would be several challenges with a longitudinal study of this type. With any longitudinal study there is the risk of attrition, and in this case, this would likely happen as students graduate and move into their careers and contact details change as they move from one post to another. There are potential issues with bias, if students at the researchers' own university are studied, as students may respond in the ways they think the researcher wants them to, as well as potentially feeling like they must take part because of the power relationship between students and academic staff. There is also the risk of the Hawthorne effect, where merely being part of a study, and being interviewed or part of a focus group on several occasions, can result in a change of opinion or attitude to the phenomenon under study (Rajulton, 2001). One final issue is that identification of problems with the portfolio, from the perspective of the students, may cause the researcher, as part of the course team, to want to adjust the portfolio, or the advice and guidance given, while the study is on-going, which would threaten the validity of findings from the research.

Another possibility is an investigation that is solely focussed on the structure of the portfolio, with different groups of students asked to complete portfolios that have different structures, and investigation of their attitudes and motivations towards these portfolios. There would be several ways to undertake this kind of study, such as introducing new portfolios with different structures at a number of different HEIs (to allow for consistency between students at the same institution), or by examining the portfolios that are already in use at various institutions and finding those that have different structures, then inviting students using these different portfolios to take part in the study. There are some challenges to each of these methods, such as agreement between HEI's to change their portfolio structures or to allow a researcher from another institution access to the portfolio that they use with their students.

Finally, there is scope to investigate further the effect of career point on engagement and motivation towards CPD portfolios, CPD and LLL. Although differences were found in this study, the researcher did not set out to investigate this area, and as such, the questionnaire and interview questions were not designed to investigate the factors influencing levels of motivation at different points on the career path. Having discovered that there appears to be a difference, a study could be designed specifically exploring the internal and external motivations of physiotherapists at different stages in their careers.

## **8.8 – Conclusion**

Chapter Eight has discussed the results from this study in the context of previously published literature on the topics of CPD and the use of student portfolios. Several similarities and differences have been highlighted between the findings of this study and previous research. There appears to be little change in the identified benefits and barriers to CPD, and attitudes towards CPD also seem unchanged. However, this study found that CPD is valuable, even if there are no opportunities for progression, and that CPD has an impact on practice, in contrast to the literature review findings. It is clear that patient benefit remains a key focus of physiotherapists' motivation to undertake CPD. As was found in the literature review, portfolios post-graduation are mainly used for storage, although the physiotherapists in this study appeared to get more learning benefit from the portfolio than was found in previous research.

The student results from this study present a more positive picture of attitudes towards a student portfolio than the previous research, although they still see it as creating extra workload and are still unsure of what to put in it. The benefits of a student portfolio appear to remain the same – helping students to identify their strengths and weaknesses develop skills for SDL, but the students in this study were not worried about writing about their mistakes in their portfolios, in contrast to the previous research.

The chapter has presented the original contribution to knowledge from this study, and there are several key points emerging –

- Completing a portfolio as a student results in greater motivation towards the current CPD portfolio, but also towards CPD and LLL
- An unrequired student portfolio results in greater motivation towards using a portfolio following graduation
- If the portfolio structure is not perceived to have caused issues with the use of the portfolio, physiotherapists and students are more motivated towards using a CPD portfolio, and students are more motivated towards CPD and LLL
- A positive perception of the support and feedback provided on the student portfolio results in students being more motivated to use the student portfolio, but this did not translate into greater motivation for CPD portfolios, CPD or LLL
- An unassessed portfolio appears to create a more positive attitude to the student portfolio and a greater value of LLL
- A positive attitude to the student portfolio results in a greater motivation towards using a portfolio post-graduation, and increased motivation towards CPD and LLL

- Band 5 and band 8b physiotherapists are most motivated to use a portfolio as a learning tool, rather than for storage
- Band 6 physiotherapists are least motivated towards CPD and LLL
- Physiotherapists working in private practice are more motivated towards CPD and see fewer barriers to CPD than those working in the NHs, but this does not affect the amount of CPD undertaken.

The findings from the study have been analysed in the context of adult learning and motivation theories, and a new model of motivation for CPD portfolios, CPD and LLL has been proposed. This model should allow physiotherapy academic teams to recognise the complexity of motivational factors influencing student engagement with portfolio learning and promote more effective facilitation of student engagement with the process.

The strengths and limitations of the research have been presented in this chapter, along with a reflexivity statement from the researcher, where she recognises her own influences, and how her beliefs, values and experiences may have influenced the research process.

The chapter then gives the applications and implications of the research, both to physiotherapy pre-registration education, but also to physiotherapy clinical practice. It is hoped that the findings from this study, although they are from a physiotherapy perspective, may be transferable outside of the discipline, to other healthcare pre-registration programmes where portfolios are used, but also to other healthcare professionals in the work environment. Finally, further areas for research have been proposed, considering the potential benefits of these to the body of knowledge but also some of the barriers to undertaking these proposals.



## CHAPTER NINE – CONCLUSION

### 9.1 – Summary of Findings

Portfolios are widely used within healthcare pre-registration education, but personal experience has shown that some physiotherapy students find their portfolios a burden, and are unclear about the purposes of it, apart from meeting course requirements.

Physiotherapists also appear to use their portfolios for storage, rather than to improve their reflective and critical thinking skills and have anxiety when called for audit by the regulatory body that they will not have enough evidence or the correct type of evidence to satisfy audit requirements.

A review of the literature found that there was significant research investigating healthcare professionals' CPD behaviours, use of portfolios and attitudes towards CPD and portfolios. This research showed that there were several benefits of CPD as well as a number of barriers to undertaking CPD, but despite these barriers, healthcare professionals were motivated to undertake CPD. The literature review found that healthcare professionals use their portfolios as repositories of evidence, rather than as tools for learning, and did not value the portfolio building process due to its limited ability to represent their full scope of competence and its minimal influence on their practice. There was also a large volume of research investigating student attitudes to their portfolios. That research demonstrated that student portfolios within healthcare pre-registration programmes had varied aims, purposes and structures, all of which had an influence on student attitudes to their use. Students generally reported positively in terms of the portfolio helping them to develop self-awareness, reflective and thinking skills, and cultivating skills required for future CPD requirements. However, the students questioned in these studies were negative about reflective writing, the influence of the portfolio on practice, and the levels of stress and anxiety that portfolio building had caused them.

There was a paucity of literature investigating whether there was any influence of the student portfolio on attitudes or motivation towards CPD portfolios, CPD and LLL following graduation. Since students spend significant amounts of time developing their portfolios, and academic teams spend time supporting students to develop these and marking portfolios, it was deemed appropriate to investigate their influence on motivation, since if there was little effect, the use of portfolios in education of healthcare professionals could be called into question. This led to the research question – “How may we motivate and engage physiotherapists to be lifelong learners through a student continuing professional development (CPD) portfolio?”

This current study used a mixed methods case study approach to collect data from physiotherapists and student physiotherapists.

The data analysis from the physiotherapists in this study showed that they had varying levels of CPD activity, were generally motivated towards CPD and LLL, but less motivated towards using a portfolio. Completion of a student portfolio appeared to have a positive effect on attitudes towards portfolios, CPD and LLL, although this could have been influenced by different demographics between those completing or not completing a student portfolio and these findings were supported by only one of the interviewees. The data suggested two other factors that influenced physiotherapists' motivation towards CPD, LLL and CPD portfolios. Physiotherapists in band 6 and 7 posts appeared to be less motivated towards portfolio use, and band 6 physiotherapists were least motivated towards CPD. Physiotherapists working in the NHS identified considerably more barriers to CPD than those working in the private sector, although this did not influence CPD activity.

The data analysis from the students who participated in the study showed that a portfolio was a requirement for most students, and that they generally thought the portfolio was worthwhile, although this was only supported by one of the interviewees. The results suggested that a student portfolio that is not required or assessed is more likely to generate positive attitudes towards using a portfolio following graduation. Students' motivation towards portfolio use in the future, CPD and LLL was influenced by their perception of the limits of its structure, their perceptions of the usefulness of support and feedback, and their opinions about portfolio assessment. While the students were positive about continuing their development after graduation and felt the portfolio had helped them to value the process of lifelong learning and develop skills required to use a portfolio, there was limited influence of the portfolio on their ability to identify how they learn best or how to approach learning.

The findings from this research, when analysed in the context of motivational theories, highlighted eight internal and 8 external motivating factors that influence physiotherapists' motivation and engagement with CPD portfolios, CPD and LLL. Perceptions of the self as a learner generally, and in own ability to undertake specific tasks, previous experiences of education, satisfaction, sense of achievement and improved confidence derived from learning, as well as valuing learning for its own sake are the first four internal motivations. Valuing learning for development, advancement and growth, an ability for learning to impact on patient outcomes, the ability to take responsibility for learning choices and apply learning into practice and personal perceptions of professionalism form the other four internal motivations. External motivations that were found from the study are the student portfolio, including requirement, assessment, and perception of structure, support and feedback, attitudes of

others towards portfolios CPD and LLL, the learning culture of physiotherapy, and expectation of professional and regulatory bodies. Other external motivations are the attitude to the student portfolio whilst a student, the chances of reward or punishment, personal life factors, and finally employment, including opportunities, security of role, position in the organisational hierarchy and support for CPD and LLL.

The identification of these internal and external factors that influence physiotherapists' motivation towards CPD portfolio use, CPD and LLL, allows educators to influence external motivation by manipulation of how a student portfolio is included into a programme of pre-registration study. Internal motivations are key to overcoming the potential negative influences of external motivators, and by acknowledging this, educators can help students to develop belief in themselves as learners, to value learning for its own sake, as well as building confidence in their ability to take responsibility for their learning and teach strategies for implementing changes from learning into their practice. The attitudes of educators towards CPD portfolios, CPD and LLL have a significant impact on students' attitudes and motivation, and educators need to be aware of their role in influencing these internal motivations, early in the physiotherapists' learning journey.

These internal and external motivators also allow managers in clinical practice to be aware of influences on physiotherapists and how they approach their learning. Again, attitudes of others are key, but external organisational factors also play a large role in influencing internal motivation. Recognising that high levels of internal motivation can overcome negative external influences is important, and managers should utilise this when engaging staff with planning their development during appraisal processes. Although it may be impossible to allow all physiotherapists to undertake the CPD that they are personally motivated towards, during work time, or with financial support from the employer, it is important to recognise these personal goals and try to work these into a personal development plan that acknowledges them within the context of current and future service needs, to prevent reduction in internal motivation. Physiotherapists themselves, by being aware of these factors that influence motivation, can be more aware of why they make the decisions they do about portfolio use, CPD and LLL, and can use these to influence managers to potentially recognise the benefits to service of personally motivated learning goals.

As with any research, although this study has added to the body of knowledge on this topic, it has also raised more questions that need to be addressed, including the specific influence of portfolio structure, requirement and assessment on motivation towards CPD portfolios, CPD and LLL and exploring why attitudes and motivation towards CPD and LLL change during the career of a physiotherapist.

## **9.2 – Key Take Home Messages**

- Completing a student portfolio appears to have a positive influence on motivation towards CPD portfolios, CPD and LLL.
- Student portfolios that are required and/or assessed reduce the positive influence of completing a student portfolio.
- Positive perceptions of the structure of the student portfolio, and the support and feedback provided on the process or portfolio development, enhance the positive influence of completing a student portfolio.
- Personally-driven learning has a higher perceived benefit than externally driven learning.
- Physiotherapists' motivation to learn is ultimately influenced by positive and negative internal and external motivating factors.
- Physiotherapists can use the internal and external motivating factors identified in Figure 8.2 (page 260) to consider the key driving forces for learning in their own personal contexts, enabling effective learning to be planned and undertaken
- Physiotherapists and physiotherapy students will only engage in learning when the perceived benefits of it outweigh the perceived costs.

## **9.3 – Dissemination of Findings**

Some of the work from this thesis has already been disseminated, with part of the literature review from Chapter Three published in *Physical Therapy Reviews Journal*, in 2017 (*The Influence of portfolio aims and structure of student attitudes towards portfolios as a learning tool: a scoping review*; Appendix 7a). A poster at The Scientific conference: From Research to Practice: Across Nursing, midwifery and Health Sciences, Bochum Germany, in September 2018, presented the findings from the physiotherapists interviews, under the title *Attitudes to Continuing Professional Development (CPD) in Healthcare – It's All About Motivation!* Appendix 7b). A second poster presentation was presented at the World Confederation for Physical Therapy (WCPT) congress in Geneva, Switzerland in May 2019. That poster presented the findings from the student questionnaire and interviews, under the title *The influence of student portfolios on attitudes towards continuing professional development in physiotherapy: insights from a mixed methods study*; Appendix 7c). Finally, the results from the physiotherapist questionnaire, in relation to the influence of career point and type of employment on attitudes to CPD is currently under review for publication in the *International Journal of Therapy and Rehabilitation*. It is planned that other aspects of this work, including

the new model of motivation for CPD portfolios, CPD and LLL will be disseminated in the near future.



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## APPENDICES

### APPENDIX 1 – ETHICS DOCUMENTS

#### Appendix 1a – Original Study Ethical Approval 14.3.2017



14 March 2017

Hazel Roddam / Heather Stewart  
School of Health Sciences  
University of Central Lancashire

Dear Hazel / Heather

**Re: STEMH Ethics Committee Application**  
**Unique Reference Number: STEMH 586**

The STEMH ethics committee has granted approval of your proposal application 'An evaluation of the influence of Physiotherapy student use of a Continuing Professional Development (CPD) portfolio on student and graduate perceptions of CPD, and graduate CPD behaviours.'. **Approval is granted up to the end of project date\*.**

It is your responsibility to ensure that

- the project is carried out in line with the information provided in the forms you have submitted
- you regularly re-consider the ethical issues that may be raised in generating and analysing your data
- any proposed amendments/changes to the project are raised with, and approved, by Committee
- you notify [roffice@uclan.ac.uk](mailto:roffice@uclan.ac.uk) if the end date changes or the project does not start
- serious adverse events that occur from the project are reported to Committee
- a closure report is submitted to complete the ethics governance procedures (Existing paperwork can be used for this purposes e.g. funder's end of grant report; abstract for student award or NRES final report. If none of these are available use [e-Ethics Closure Report Proforma](#)).

Yours sincerely

A handwritten signature in black ink, appearing to read "A Chohan".

Ambreen Chohan  
Chair  
STEMH Ethics Committee

\* for research degree students this will be the final lapse date

**Appendix 1b – Amended Ethical Approval 4.12.2017**



04 December 2017

Hazel Roddam / Heather Stewart  
School of Health Sciences  
University of Central Lancashire

Dear Hazel / Heather

**Re: STEMH Ethics Committee Application**  
**Unique Reference Number: STEMH 586 Amendment Nov 17**

The STEMH Ethics Committee has approved your proposed amendment to your application 'An evaluation of the influence of Physiotherapy student use of a Continuing Professional Development (CPD) portfolio on student and graduate perceptions of CPD, and graduate CPD behaviours'.

Yours sincerely

A handwritten signature in black ink, appearing to read 'A Chohan', is written over a light blue horizontal line.

Ambreen Chohan  
Chair  
STEMH Ethics Committee

## APPENDIX 2 – QUESTIONNAIRES

### Appendix 2a – CPD Questionnaire Full Version

#### PHYSIOTHERAPY CONTINUING PROFESSIONAL DEVELOPMENT SURVEY

Thank you for taking the time to complete this online survey about your continuing professional development.

The purpose of this survey is to collect information about your understanding of Continuing Professional Development (CPD) activities and portfolios in Physiotherapy practice, from your perspective as a qualified Physiotherapist, and to consider how these activities have influenced your attitudes to CPD, and your CPD behaviours.

The data collected will be used to create a picture of what Physiotherapists in the UK think about CPD, and alongside data collected from undergraduate Physiotherapy students, will be used to potentially identify changes that could be made to undergraduate education of Physiotherapists in the future.

This survey is aimed at Physiotherapists working in a wide range of environments and posts. It is acknowledged that many staff will be working in clinical posts and so some of the questions may appear biased towards this. I am interested in the views of ALL Physiotherapists, whatever your job role. Please answer all questions to the best of your ability.

The survey should take no more than 20 minutes of your time to complete.

All of your answers will be kept anonymously, and will only be used for the purposes of this study.

#### Firstly we would like to collect some general information about you and your Physiotherapy education.

##### Gender

Male  Female  Prefer not to say

##### Age

20-21  22-25  26-30  31-35  36-40  
 41-45  46-50  51-55  55+

##### How long have you been qualified as a Physiotherapist?

More than 30 years  Between 21 and 30 years  Between 11 and 20 years  Between 5 and 10 years  Less than 5 years

##### What qualification did you achieve to gain registration as a Physiotherapist?

UK Graduate Diploma in Physiotherapy  UK Full time BSc Hons  UK Part time BSc Hons  UK Full time MSc pre-registration  UK Part time MSc pre-registration  Other

If other please give details of your Physiotherapy registering qualification here

---

##### What is your highest level of Physiotherapy related qualification

Diploma  MPhil  
 Degree  PhD  
 Masters

Now we would like to gather some information about your current role.

Which geographical area of the UK do you work in?

- |  |   |
|--|---|
| <input type="checkbox"/> South West              | <input type="checkbox"/> North West       |
| <input type="checkbox"/> South East              | <input type="checkbox"/> North East       |
| <input type="checkbox"/> East Anglia             | <input type="checkbox"/> Scotland         |
| <input type="checkbox"/> West Midlands           | <input type="checkbox"/> Wales            |
| <input type="checkbox"/> East Midlands           | <input type="checkbox"/> Northern Ireland |
| <input type="checkbox"/> Yorkshire / Humbershire |   |

Please select the option that best describes your primary employment (choose only one option)

- NHS Trust
- Private Hospital
- Private Practice
- AQP/Competitive Tender Company
- University
- Sports Club
- Industry
- Other

If other, please give details, without revealing the name of your employer for anonymity purposes.

How many other Physiotherapists do you work with on a daily basis?

- None     
  One     
  Two     
  Three     
  More than three

How many AHP's do you work with on a daily basis?

- None     
  One     
  Two     
  Three     
  More than three

What is your current job banding?

- Band 5                     
  Band 6                     
  Band 7
- Band 8a                     
  Band 8b                     
  Other

If you have answered "other" please give details below.

Considering your full working week (include all of your jobs if you have more than one when considering this question), please indicate below the percentage of your role spent undertaking the following activities. You will need to make a selection for each, even if this is 0%. As you select each one, the % will appear to the left of the bar. Please try to ensure that these numbers total 100%.

	0	10	20	30	40	50	60	70	80	90	100
Clinical	<input type="checkbox"/>										
Managerial	<input type="checkbox"/>										
Education (including formal or informal education of less experienced staff and/or students)	<input type="checkbox"/>										
Research	<input type="checkbox"/>										

This section of the questionnaire is going to explore your understanding of CPD and the types of CPD you undertake.

How much CPD have you undertaken in the last month?

None     
  1-2 hours     
  3-4 hours     
  5-6 hours     
  7-8 hours  
 9-10 hours     
  11-15 hours     
  16-20 hours     
  21-25 hours     
  over 26 hours

Which of the following do you consider to be CPD activities?

	Yes, this could be done for CPD purposes	No, this is not CPD
Appraisal/Personal Development Planning	<input type="checkbox"/>	<input type="checkbox"/>
Audit	<input type="checkbox"/>	<input type="checkbox"/>
Working with other disciplines	<input type="checkbox"/>	<input type="checkbox"/>
Clinical updates	<input type="checkbox"/>	<input type="checkbox"/>
Clinical supervision (your own)	<input type="checkbox"/>	<input type="checkbox"/>
Clinical supervision (of others)	<input type="checkbox"/>	<input type="checkbox"/>
Job shadowing	<input type="checkbox"/>	<input type="checkbox"/>
Case based discussions	<input type="checkbox"/>	<input type="checkbox"/>
Outside speakers	<input type="checkbox"/>	<input type="checkbox"/>
In-house service training	<input type="checkbox"/>	<input type="checkbox"/>

MDT meetings	<input type="checkbox"/>	<input type="checkbox"/>
Conference attendance	<input type="checkbox"/>	<input type="checkbox"/>
Involvement with Professional Associations	<input type="checkbox"/>	<input type="checkbox"/>
Teaching	<input type="checkbox"/>	<input type="checkbox"/>
Research activities	<input type="checkbox"/>	<input type="checkbox"/>
Journal clubs	<input type="checkbox"/>	<input type="checkbox"/>
Management responsibilities	<input type="checkbox"/>	<input type="checkbox"/>
Social media use	<input type="checkbox"/>	<input type="checkbox"/>
Awareness of changes to policy	<input type="checkbox"/>	<input type="checkbox"/>
External courses	<input type="checkbox"/>	<input type="checkbox"/>
Work-related reading	<input type="checkbox"/>	<input type="checkbox"/>
E-learning activities	<input type="checkbox"/>	<input type="checkbox"/>
Reflection	<input type="checkbox"/>	<input type="checkbox"/>
Workshops	<input type="checkbox"/>	<input type="checkbox"/>

Of the list given above, please list up to 5 activities that you undertake most frequently for your own CPD.

---

If there is anything else that you do, that you consider to be CPD, please give information here.

---

**Below are listed ten benefits of undertaking CPD as reported in current research.** Please indicate whether these benefits are important to you at the present time.

	Yes, for me this is an important benefit of undertaking CPD	No, for me this is not an important benefit of undertaking CPD
Promotion/Career trajectory	<input type="checkbox"/>	<input type="checkbox"/>
Networking	<input type="checkbox"/>	<input type="checkbox"/>
Motivation/satisfaction	<input type="checkbox"/>	<input type="checkbox"/>
External approval	<input type="checkbox"/>	<input type="checkbox"/>
Keeping up to date with knowledge and/or skills	<input type="checkbox"/>	<input type="checkbox"/>
Improved confidence	<input type="checkbox"/>	<input type="checkbox"/>
helps to solve work-related problems, or to view situations differently	<input type="checkbox"/>	<input type="checkbox"/>
Improves reflection	<input type="checkbox"/>	<input type="checkbox"/>
Improved image of the profession	<input type="checkbox"/>	<input type="checkbox"/>
Maintains registration	<input type="checkbox"/>	<input type="checkbox"/>

**Similarly, below are listed ten barriers to CPD as reported in current research.** Please indicate whether these are barriers to you undertaking CPD at the present time.

	Yes, this is a barrier for me	No, this is not a barrier for me
Isolated worker, no-one to undertake CPD activities with	<input type="checkbox"/>	<input type="checkbox"/>
No protected time during work hours	<input type="checkbox"/>	<input type="checkbox"/>
Employer financial constraints	<input type="checkbox"/>	<input type="checkbox"/>
Patient care is prioritised over CPD	<input type="checkbox"/>	<input type="checkbox"/>
Lack of information about CPD opportunities	<input type="checkbox"/>	<input type="checkbox"/>
Lack of employer support for CPD	<input type="checkbox"/>	<input type="checkbox"/>
Lack of cover for time out from work to attend CPD activities	<input type="checkbox"/>	<input type="checkbox"/>
Personal financial constraints	<input type="checkbox"/>	<input type="checkbox"/>
Geography/access issues to attend CPD activities	<input type="checkbox"/>	<input type="checkbox"/>
Available CPD is not relevant to my practice	<input type="checkbox"/>	<input type="checkbox"/>

**In this next section of the questionnaire we are interested in finding out more about your current opinions of CPD, what you think about it, and how you feel about it.**

	Strongly agree	Agree	Mildly agree	Mildly disagree	Disagree	Strongly Disagree
I am motivated to undertake CPD activities	<input type="radio"/>					
CPD is worthwhile	<input type="radio"/>					
I have started undertaking more CPD since the introduction of HCPC CPD audit	<input type="radio"/>					
I get enjoyment from undertaking CPD	<input type="radio"/>					
Lifelong learning is an expected part of my professional status	<input type="radio"/>					
CPD is only relevant for those still developing in their professional careers	<input type="radio"/>					
I feel a sense of achievement when i have completed some CPD	<input type="radio"/>					
Employer support (financial/time/cover) for CPD has improved since the introduction of HCPC CPD audit	<input type="radio"/>					
Undertaking CPD gives me job satisfaction	<input type="radio"/>					
CPD is a chore	<input type="radio"/>					

Undertaking CPD has helped to improve client/patient outcomes	<input type="radio"/>					
I do not need to undertake CPD to maintain my professional competence	<input type="radio"/>					
I undertake CPD because i might be asked to submit for HCPC CPD audit	<input type="radio"/>					
There is value in undertaking CPD	<input type="radio"/>					
I do not need external prompting to undertake CPD	<input type="radio"/>					
I am unsure of what constitutes CPD	<input type="radio"/>					
It is difficult to implement changes generated from CPD into practice	<input type="radio"/>					
I cannot maintain my professional status unless I undertake CPD activities	<input type="radio"/>					
The culture of Physiotherapy as a profession doesn't recognise the value of CPD	<input type="radio"/>					
I should only have to undertake CPD if there is no opportunity for career progression for me	<input type="radio"/>					

In this next section of the questionnaire, we would like to ask you some questions about use of a portfolio.

Did you complete a portfolio as part of your pre-registration studies?

- Yes  No  Can't remember

Was this a compulsory part of your course?

- Yes  No  Can't remember

What was the format of your portfolio?

- Paper based portfolio  
 Electronic portfolio via University platform e.g. Blackboard, Moodle, ELearn  
 Electronic portfolio via CSP Pebblepad  
 Electronic portfolio via an external web host  
 Other

If other, please give details

---

How structured was your student portfolio?

- Very structured - I was told exactly what pieces of evidence I should include at each stage of the portfolio process  
 Structured around standards or criteria - I had specific standards or criteria to meet, but how I demonstrated this was up to me  
 Semi structured - I was given some guidelines as to how to complete my portfolio, but no specific criteria or standards to meet  
 Unstructured - my portfolio could include anything I wanted and be designed how I chose  
 I can't remember

What types of documents/evidence did you collect in your student portfolio? We are interested in what you *actually* collected. Select as many responses as apply to you.

- Assessed course work e.g. Assignments, presentations, practical exam feedback

- Unassessed course work e.g. class notes  
 Reflection on classroom learning/University assessments  
 Research papers  
 Reflection on reading research papers  
 Records of any mandatory training undertaken e.g. Basic Life Support, Manual Handling Training, Infection Control Training  
 Notes from meetings with members of the academic course team e.g. personal tutor, academic tutor, disability tutor, library advisor  
 SWOT analyses  
 Personal development plan  
 Clinical placement assessment documents  
 Learning agreement/learning objectives from placement  
 In service training notes  
 Anonymous patient records  
 Thank you letters/cards from patients  
 External course or conference attendance certificates  
 Reflection on placement experiences  
 I can't remember what I collected in my portfolio

Did you include anything else in your portfolio? If so, please write it here.

---

Were your choices of what to put in your portfolio influenced by the structure/design of the portfolio? Please select the response which best applies.

- Yes - I only collected what I was told to collect  
 Yes - I only included what I thought the tutors wanted to see in my portfolio  
 Yes - I was restricted in what I included in my portfolio by its structure/design - I would have included different things  
 Yes - I was restricted in what I included in my portfolio by its structure/design - I would have included more things

- Yes - I would have included less if I could  
 No - the structure/design of the portfolio did not influence what I included in my portfolio  
 I can't remember whether the structure or design of the portfolio influenced me

**This final section of the questionnaire is going to explore your current use of a portfolio, and how you feel about using a portfolio.** For the purposes of this section, a portfolio is any collection of evidence of learning, learning experiences or CPD activities, no matter the format of this (we are going to ask you about that within the questions).

Do you currently keep a portfolio?

- Yes  No

How would you best describe how you do this?

- I don't have any hard evidence, it is in my head, but I know what I have done  
 I keep it all electronically, but it is not particularly organised in any way  
 I keep it all electronically, and this is quite organised (e.g. different things in different folders; chronological)  
 I keep it all in paper format, and this is organised into different sections in a folder or drawer  
 I keep it all in paper format, but it is not really organised, I just put new stuff in as I do it  
 I have it all very organised, either in electronic or paper format, and I review it regularly and reflect on it to draw things that I have done or learnt together, generating new learning  
 I have stuff in lots of different places, and in lots of different formats

Have you kept a portfolio in the past?

- Yes  No

What factors influenced your decision to stop keeping a portfolio? Please give as much information as you like.

---

What have you used your portfolio for in the last 6 months? Select as many answers as apply to you.

- A tool to aid my learning  
 A method of identifying my strengths and weaknesses  
 A method for identifying future learning needs  
 A place to store my CPD records  
 A place to record my learning objectives  
 A place to consider my personal development planning

- Somewhere to reflect on day to day happenings at work  
 To help me to complete an application for a different job  
 Other

Please give details of any other uses of your portfolio below.

---

**Finally, for each of the statements below, please respond with the answer that best fits how you currently feel about using a portfolio.**

	Strongly agree	Agree	Mildly agree	Mildly disagree	Disagree	Strongly disagree
I like compiling my portfolio	<input type="checkbox"/>					
My portfolio has helped me to develop my self-awareness of my learning needs	<input type="checkbox"/>					
A portfolio is only beneficial when you are starting out in your career	<input type="checkbox"/>					
A portfolio does not reflect the full scope of my competence as a Physiotherapist	<input type="checkbox"/>					
Using a portfolio has helped me to think more reflectively	<input type="checkbox"/>					
Using a portfolio has helped me to think more critically about my practice	<input type="checkbox"/>					
Building the portfolio has improved patient care	<input type="checkbox"/>					
I value the portfolio as somewhere i can consider who I am as a Physiotherapist	<input type="checkbox"/>					
Recording my learning in a portfolio has helped me to implement this in practice	<input type="checkbox"/>					

Using a portfolio has helped me to recognise my personal and professional values	?	?	?	?	?	?
No-one is interested in looking at my portfolio	?	?	?	?	?	?
Keeping a portfolio has not changed my practice	?	?	?	?	?	?
I don't need to keep a portfolio to be able to reflect on my practice	?	?	?	?	?	?
My portfolio is a safe place for me to examine my practice	?	?	?	?	?	?
I am not sure what to use my portfolio for	?	?	?	?	?	?
My portfolio truly reflects who I am as a Physiotherapist	?	?	?	?	?	?
I am confident that i have sufficient evidence in my portfolio to meet HCPC requirements	?	?	?	?	?	?

Thank you for taking time to complete this questionnaire.

All of the answers you have provided in the questionnaire will be kept anonymously, and analysed along with other participants' responses to create a picture of Physiotherapist's CPD attitudes and behaviours.

The next phase of this research process will be to undertake some one-to-one interviews, in order to explore the issues raised in this questionnaire in more detail. The aim is to complete these interviews by telephone or Skype, in the Spring/Summer of 2017. These interviews will be recorded, but the data collected would be anonymous. If you are selected for interview, you will be contacted at the email address you provide, to arrange a convenient time for the interview to take place. It is anticipated that the interview will take no longer than 45 minutes. If you provide your email details below but then change your mind, you will still have the choice to decline to take part when contacted to arrange the interview.

If you are interested in taking part in this next phase of this research, please enter your preferred email address below.

\_\_\_\_\_

## Appendix 2b – Student Portfolio Questionnaire Full Version

### UNDERGRADUATE PORTFOLIO ONLINE SURVEY

Thank you for taking the time to complete this online survey about your undergraduate portfolio.

The purpose of this survey is to collect information about the nature and use of Continuing Professional Development (CPD) activities and portfolios in undergraduate Physiotherapy education, from your perspective as a Physiotherapy student, and to consider how these activities have influenced your attitudes to CPD.

The data collected will be used to create a picture of what student physiotherapists in the UK think about CPD and undergraduate portfolios, in order to potentially identify changes that could be made to undergraduate education of Physiotherapists in the future.

The survey should take no more than 20 minutes of your time to complete.

All of your answers will be kept anonymously, and will only be used for the purposes of this study.

Firstly we would like to collect some general information about you, your course and your place of study.

Gender

- Male  Female  Prefer not to say

Age

- 20-21  22-25  26-30  31-35  36-40  40+

What type of Physiotherapy course are you studying?

- Full time BSc Hons  Part time BSc Hons  Full time MSc pre-regis tration  Part time MSc pre-regis tration

What is the previous highest qualification that you hold?

- A levels  BTEC  previous degree  previous higher degree  foundation degree  access course  other

Which area of the UK are you studying in?

- |                          |                         |                          |                  |
|--------------------------|-------------------------|--------------------------|------------------|
| <input type="checkbox"/> | South West              | <input type="checkbox"/> | North West       |
| <input type="checkbox"/> | South East              | <input type="checkbox"/> | North East       |
| <input type="checkbox"/> | East Anglia             | <input type="checkbox"/> | Scotland         |
| <input type="checkbox"/> | West Midlands           | <input type="checkbox"/> | Wales            |
| <input type="checkbox"/> | East Midlands           | <input type="checkbox"/> | Northern Ireland |
| <input type="checkbox"/> | Yorkshire / Humbershire |                          |                  |

This section of the questionnaire is going to ask you about the use of a portfolio as part of your studies, and the assessment of your portfolio. For the purposes of this questionnaire, a portfolio is a record of professional development that you may currently keep.

Are you required to keep a portfolio as part of your course?

- Yes  No

Is your portfolio assessed as part of your course?

- Yes  No

How is your portfolio assessed?

- The portfolio does not contribute to the assessment of any modules in terms of passing or failing the module or the grade of the module
- The portfolio is marked at several time points, but only contributes to the assessment of modules some of these times
- The assessment of the portfolio always contributes to the assessment of the modules it is part of
- The portfolio counts for the whole grade for a module(s) on its own
- I am not sure how my portfolio is assessed

How is your portfolio graded?

- pass-fail at all submissions
- pass-fail for some submissions, graded by % or banding (e.g. A, B, C, etc.) at other submissions
- always graded by % or banding (e.g. A, B, C, etc.)
- i am not sure how my portfolio is graded

How often is your portfolio assessed?

- Once  Twice  Three times  Four times  Five times  More than 5 times  Don't know

When is your portfolio assessed over the duration of your course? E.g. at the end of each year, at the end of each placement, only at the end of the course? please give as much detail as possible.

---

Are your choices of what to put in your portfolio influenced by the assessment of the portfolio? You may select as many responses as you think apply to you.

- Yes - I do not feel I can be totally honest in my portfolio evidence because it is assessed
- Yes - I am restricted in what I include in my portfolio because it is assessed - I would include different things
- Yes - I am restricted in what I include in my portfolio because it is assessed - I would include more things
- Yes - I would include less if I could
- No - the fact that my portfolio is assessed does not influence what I include in my portfolio

Are there any other ways that the assessment of the portfolio influences what you collect and put in your portfolio? Please also give further detail here if you wish to expand on your choice in the question above.

---

The following statements relate to the portfolio as a means of assessment. Please select the response that best fits how you feel about each statement.

	Strongly Disagree	Disagree	Mildly Disagree	Mildly Agree	Agree	Strongly Agree
The portfolio only assesses what I write about my practice, not my actual practice	<input type="checkbox"/>					
I find this type of assessment too undirected	<input type="checkbox"/>					
Because my portfolio is personal, I am not sure how it can be marked	<input type="checkbox"/>					
I think that all the work I do should be assessed, including the portfolio	<input type="checkbox"/>					
I prefer this type of assessment to an assignment or an examination	<input type="checkbox"/>					
Competence cannot be assessed by a portfolio	<input type="checkbox"/>					
The portfolio is the best way to assess my professionalism	<input type="checkbox"/>					
Knowing my portfolio was going to be marked affected what I included in it	<input type="checkbox"/>					
I don't think the portfolio should be assessed	<input type="checkbox"/>					
Feedback on the portfolio is more helpful for my development than getting a mark for its completion	<input type="checkbox"/>					

This section of the questionnaire asks you to describe your portfolio in more detail.

What is the format of your portfolio?

- Paper based portfolio
- Electronic portfolio via University platform e.g. Blackboard, Moodle, ELearn
- Electronic portfolio via CSP Pebblepad
- Electronic portfolio via an external web host
- Other

How structured is your portfolio? With this question, we want to find out how much control YOU have over the way your portfolio is created and built, and how much is controlled by your course team.

- Very structured - I am told exactly what pieces of evidence I should include at each stage of the portfolio process
- Structured around standards or criteria - I have specific standards or criteria to meet, but how I demonstrate this is up to me
- Semi structured - I am given some guidelines as to how to complete my portfolio, but no specific criteria or standards to meet
- Unstructured - my portfolio can include anything I want and be designed how I choose

What types of documents/evidence do you collect in your portfolio? We are interested in what you *actually* collect, not what you *think you should* collect. Select as many responses as apply to you.

- Assessed course work e.g. Assignments, presentations, practical exam feedback
- Unassessed course work e.g. class notes
- Reflection on classroom learning/University assessments
- Research papers
- Reflection on reading research papers
- Records of any mandatory training undertaken e.g. Basic Life Support, Manual Handling Training, Infection Control Training
- Notes from meetings with members of the academic course team e.g. personal tutor, academic tutor, disability tutor, library advisor
- SWOT analyses
- Personal development plan
- Clinical placement assessment documents
- Learning agreement/learning objectives from placement
- In service training notes
- Anonymous patient records
- Thank you letters/cards from patients
- External course or conference attendance certificates
- Reflection on placement experiences

Do you include anything else in your portfolio? If so, please write it here.

---

Are your choices of what to put in your portfolio influenced by the structure/design of the portfolio? You may select as many responses as you think apply to you.

- Yes - I only collect what I am told to collect
- Yes - I only include what I think the tutors want to see in my portfolio
- Yes - I am restricted in what I include in my portfolio by its structure/design - I would include different things
- Yes - I am restricted in what I include in my portfolio by its structure/design - I would include more things
- Yes - I would include less if I could
- No - the structure/design of the portfolio does not influence what I include in my portfolio

Now we are interested in how your tutors have supported you in the development of your portfolio.

How is your portfolio learning supported by the course team? Please choose the response that best fits how you feel about each statement

	Strongly Agree	Agree	Disagree	Strongly Disagree
The portfolio was introduced to me at an appropriate time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The purpose of the portfolio was clearly explained to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The person supporting me in portfolio development understands the portfolio process well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have on-going support for my portfolio development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The level of support I receive for my portfolio development influences the value I place on this process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My clinical educators have been able to help me with my portfolio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Are you provided with feedback on your portfolio by the course team?  
 Yes                       No                       Don't know

Do you find the feedback you receive helpful in terms of the on-going development of your portfolio?  
 Yes                       No                       Don't know

Does the feedback you receive influence the value you place on developing and using a portfolio?  
 Yes - I receive useful feedback and this improves the value of developing and using the portfolio for me  
 Yes - I do not receive useful feedback, and this reduces the value of developing and using the portfolio for me  
 No - I receive useful feedback, but this doesn't influence how I feel about developing and using it  
 No - I do not receive useful feedback, but this doesn't influence how I feel about developing and using it  
 I don't know whether the feedback I receive influences that value I place on developing and using a portfolio

If you have any other comments you would like to make about the support you get for developing and using your portfolio please write them here

---

This next section of the questionnaire is going to ask you what you think about using a portfolio

For each of the statements below, please respond with the answer that best fits how you feel about using a portfolio.

	Strongly agree	Agree	Mildly agree	Mildly disagree	Disagree	Strongly disagree
I like compiling my portfolio	<input type="checkbox"/>					
The process of portfolio building is worthwhile	<input type="checkbox"/>					

The process of building my portfolio is unmanageable

The portfolio has helped me to identify my strengths and weaknesses

The portfolio has helped me to make links between theory and practice

I have been unsure about what to include in my portfolio

Building the portfolio has improved patient care

The portfolio is a good method of developing my knowledge about Physiotherapy

The portfolio is a good method of making me aware of my values

Using a portfolio has allowed me to pull together learning from across all of my modules

Building my portfolio has given me a sense of achievement

Building the portfolio has involved too much work

Building the portfolio has contributed to my development in considering ethical issues in practice

The portfolio provides a useful opportunity to explore my feelings and emotions

I felt uncomfortable writing about my mistakes in my portfolio

My portfolio truly reflects how I have developed during my studies

The portfolio has helped me in self-directed learning

Building the portfolio has improved my clinical practice

Completing the portfolio has caused me a lot of anxiety

My portfolio is easy to use/navigate

This part of the questionnaire is going to ask you about your knowledge and understanding of Continuing Professional Development (CPD)

Are you taught about CPD as part of your course?

Yes

No

Don't know

For each of the descriptions given below, please identify to what degree you think these are descriptors of CPD

	Yes, definitely	Yes, partially	I don't think so	Definitely not
CPD is part of what it means to be a professional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CPD means attending courses following graduation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CPD will help me to maintain my competence after graduation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The CSP regulates how much CPD I will have to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It will be the responsibility of my employer to ensure I undertake the appropriate CPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CPD can be any activity that allows me to learn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CPD is monitored by the Health and Care Professions Council	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important that any CPD I undertake after I graduate is going to benefit the service users I am involved with	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is an obligation of my employer to ensure I have time to complete CPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undertaking CPD might help me to get promoted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Finally, the last section of the questionnaire is going to ask you to about your opinions about CPD, reflection and use of portfolios

For each of the statements below, please answer with the response that best reflects how you feel about the statement

	Strongly Disagree	Disagree	Mildly Disagree	Mildly Agree	Agree	Strongly Agree
I am likely to continue to keep a portfolio after I graduate	<input type="checkbox"/>					
Using a portfolio has helped me to identify how I learn best	<input type="checkbox"/>					
Using the portfolio has inspired me to continue my development after graduation	<input type="checkbox"/>					
Using a portfolio is a good means of documenting my CPD	<input type="checkbox"/>					
I have to undertake CPD following graduation because it might be audited	<input type="checkbox"/>					
The experience of using a portfolio as a student will help me to organise and monitor my CPD after graduation	<input type="checkbox"/>					

I can see the benefit of keeping a portfolio to the quality of patient care	<input type="checkbox"/>					
Using a portfolio as a student has made me value the process of lifelong learning	<input type="checkbox"/>					
I am happy that I will be responsible for my own professional development following graduation	<input type="checkbox"/>					
I do not need to undertake any CPD as I will learn from doing the job	<input type="checkbox"/>					
Using a portfolio has increased my confidence in my ability to continue to learn following graduation	<input type="checkbox"/>					
Keeping a portfolio following graduation will help me to demonstrate my CPD if required	<input type="checkbox"/>					
Using the portfolio has helped me to identify how I can best approach learning in the future	<input type="checkbox"/>					
Lifelong learning is not about proving what you have done but about improving practice	<input type="checkbox"/>					
I am unlikely to look at my portfolio again once I graduate	<input type="checkbox"/>					

If there is anything you would like to add about your portfolio or CPD, that you think you have not had opportunity to say within the questionnaire, we would like you to write it here.

---

Thank you for taking time to complete this questionnaire.

All of the answers you have provided in the questionnaire will be kept anonymously, and analysed along with other participants' responses to create a picture of Physiotherapy students' use of portfolios and their attitudes towards these, and towards CPD.

The next phase of this research process will be to undertake some one-to-one interviews, in order to explore the issues raised in this questionnaire in more detail. The aim is to complete these interviews by telephone, in the Spring/Summer of 2018 (before you graduate). These interviews will be recorded, but the data collected would be anonymous. If you are selected for interview, you will be contacted at the email address you provide, to arrange a convenient time for the interview to take place. It is anticipated that the interview will take no longer than 45 minutes. If you provide your email details below but then change your mind, you will still have the choice to decline to take part when contacted to arrange the interview.

If you are interested in taking part in this next phase of this research, please enter your preferred email address below.

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**APPENDIX 3 – EMAILS SENT TO MANAGERS, PHYSIOTHERAPISTS, COURSE LEADERS AND STUDENTS**

**Appendix 3a – Questionnaire Emails**

**Manager Email**

Dear Physiotherapy Manager

I am undertaking a research study investigating the impact of undergraduate physiotherapy student portfolios on student and graduate attitudes towards CPD, and graduate CPD behaviours. In order to complete this research, I would be grateful if you would send the attached email to all Physiotherapy staff within your employment. The email will ask participants to complete an online survey which should take them no more than 20 minutes to complete. The email asks participants to complete this survey in their own time. All data collected will be anonymised, and no specific employer data is asked for in the survey. The research has been approved by the University of Central Lancashire Ethics Committee.

If you have any questions please do not hesitate to contact me at this email address, and thank you for your co-operation in this matter,

Heather Stewart

**Physiotherapist Email**

Dear Physiotherapist,

I am undertaking a research study investigating the impact of undergraduate physiotherapy student portfolios on student and graduate attitudes towards CPD, and graduate CPD behaviours. You have been sent this email because you are a Physiotherapist working in the UK. All Physiotherapists are invited to complete this survey unless **you are currently undertaking any post-graduate study involving assessment at the University of Central Lancashire.**

In order to take part in this research, I would be grateful if you would complete an online survey in your own time. It should take you no more than 20 minutes to complete.

All data collected will be anonymised, prior to analysis.

The research has been approved by the University of Central Lancashire Ethics Committee.

A participant information sheet is attached to this email which should answer any questions you have, but if not, please do not hesitate to contact me at this email address,

Heather Stewart

### **Course Leader Email**

Dear Course Leader,

I am undertaking a research study investigating the impact of undergraduate physiotherapy student portfolios on student and graduate attitudes towards CPD, and graduate CPD behaviours. In order to complete this research, I would be grateful if you would send the attached email to your final year students, both BSc and MSc pre-registration, as applicable. The email will ask students to complete an online survey which should take them no more than 20 minutes to complete. All data collected will be anonymised, and no specific institutional data is asked for in the survey. The research has been approved by the University of Central Lancashire Ethics Committee.

If you have any questions please do not hesitate to contact me at this email address, and thank you for your co-operation in this matter,

Heather Stewart

### **Student Email**

Dear Physiotherapy Student,

I am undertaking a research study investigating the impact of undergraduate physiotherapy student portfolios on student and graduate attitudes towards CPD, and graduate CPD behaviours. You have been sent this email because you are currently a student in your final year of study on either a BSc or an MSc pre-registration Physiotherapy course in the UK.

In order to complete take part in research, I would be grateful if you would complete an online survey which should take you no more than 20 minutes to complete.

All data collected will be anonymised, prior to analysis.

The research has been approved by the University of Central Lancashire Ethics Committee.

A participant information sheet is attached to this email which should answer any questions you have, but if not, please do not hesitate to contact me at this email address,

Heather Stewart

## **Appendix 3b - Interview Emails**

### **Physiotherapist Interview Email**

Dear Physiotherapist,

I am undertaking a research study investigating the impact of undergraduate physiotherapy student portfolios on student and graduate attitudes towards CPD, and graduate CPD behaviours. You are being sent this follow-up email because you recently completed an online survey and indicated that you would be interested in being involved in the second phase of this research project. I am now interested in exploring your views in more depth, by a telephone interview.

If you are happy to be interviewed on this topic, please complete the consent form attached to this email and return it to the primary researcher at [HcStewart@uclan.ac.uk](mailto:HcStewart@uclan.ac.uk) Once the consent form has been received you will be contacted to arrange a suitable time for the telephone interview to take place. A participant information sheet is attached to this email which should answer any questions you have, but if not, please do not hesitate to contact me at this email address,

All data collected will be anonymised, prior to analysis. The research has been approved by the University of Central Lancashire Ethics Committee.

Heather Stewart

### **Physiotherapist Interview Follow-up Email**

Dear Physiotherapist,

I am undertaking a research study investigating the impact of undergraduate physiotherapy student portfolios on student and graduate attitudes towards CPD, and graduate CPD behaviours. You have been sent this email because you recently completed an online survey and indicated that you would be interested in being involved in the second phase of this research project but did not respond to the initial email regarding this, sent one week ago. I am now interested in exploring your views in more depth, by a telephone interview.

If you are happy to be interviewed on this topic, please complete the consent form attached to this email and return it to the primary researcher at [HcStewart@uclan.ac.uk](mailto:HcStewart@uclan.ac.uk) Once the consent form has been received you will be contacted to arrange a suitable time for the telephone interview to take place. A participant information sheet is attached to this email which should answer any questions you have, but if not, please do not hesitate to contact me at this email address,

If you do not respond to this final email regarding taking part in the study, you will not be sent any further emails, as it will be presumed that you do not wish to take part in the interview after all.

All data collected will be anonymised, prior to analysis. The research has been approved by the University of Central Lancashire Ethics Committee.

Heather Stewart

### **Student Interview Email**

Dear Physiotherapy Student,

I am undertaking a research study investigating the impact of undergraduate physiotherapy student portfolios on student and graduate attitudes towards CPD, and graduate CPD behaviours. You have been sent this email because you recently completed an online survey and indicated that you would be interested in being involved in the second phase of this research project. I am now interested in exploring your views in more depth, by a telephone interview.

If you are happy to be interviewed on this topic, please complete the consent form attached to this email and return it to the primary researcher at [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk) Once the consent form has been received you will be contacted to arrange a suitable time for the telephone interview to take place. A participant information sheet is attached to this email which should answer any questions you have, but if not, please do not hesitate to contact me at this email address,

All data collected will be anonymised, prior to analysis. The research has been approved by the University of Central Lancashire Ethics Committee.

Heather Stewart

### **Student Interview Follow-up Email**

Dear Physiotherapy Student,

I am undertaking a research study investigating the impact of undergraduate physiotherapy student portfolios on student and graduate attitudes towards CPD, and graduate CPD behaviours. You are being sent this follow-up email because you recently completed an online survey and indicated that you would be interested in being involved in the second phase of this research project but did not respond to the initial email regarding this, sent one week ago. I am now interested in exploring your views in more depth, by a telephone interview.

If you are happy to be interviewed on this topic, please complete the consent form attached to this email and return it to the primary researcher at [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk) Once the consent form has been received you will be contacted to arrange a suitable time for the telephone interview to take place. A participant information sheet is attached to this email which should answer any questions you have, but if not, please do not hesitate to contact me at this email address.

If you do not respond to this final email regarding taking part in the study, you will not be sent any further emails, as it will be presumed that you do not wish to take part in the interview after all.

All data collected will be anonymised, prior to analysis. The research has been approved by the University of Central Lancashire Ethics Committee.

Heather Stewart

## **APPENDIX 4 - INFORMATION SHEETS AND CONSENT FORMS**

### **Appendix 4a – Physiotherapy Continuing Professional Development (CPD) Online Survey Information Sheet**

I would like you to take part in my research study. Before you decide I would like you to understand why the research is being done and what it would involve for you.

#### **Why is the research being done?**

There is very little research which considers whether completing an undergraduate portfolio, as a health professional student, has any impact on how someone thinks or behaves in terms of the continuing professional development once they are working. I am exploring this topic to see whether different experiences of portfolios as an undergraduate have led to different outcomes in terms of graduate CPD attitudes and behaviours, so that I can potentially suggest the best type of portfolio for students.

#### **Who is doing the research?**

The research is being carried out by Heather Stewart, as part of a PhD, at the University of Central Lancashire, Preston, UK.

#### **Selection of participants.**

You have been sent this email because you are a Physiotherapist. I am interested in finding out what your student portfolio was like (if you had one), what sort of CPD you undertake, and what you think about CPD. If you didn't have a student portfolio I am still interested in your views too.

#### **Recruitment of participants.**

By sending you this email, I want to recruit you for my study. There is a link to the CPD online survey within the email itself, and this is an opt in research study (meaning that if you choose to complete the survey you have given your consent for the data you provide to be used anonymously within the study).

#### **Who has approved this study?**

The study has been approved by the University of Central Lancashire STEMH Ethics Committee. Officer for ethics: [officerforethics@uclan.ac.uk](mailto:officerforethics@uclan.ac.uk)

#### **What will happen with the information that is collected?**

All of the information collected from the online survey will be analysed anonymously, in order to generate a picture of how much CPD physiotherapists undertake, what influences their choices about CPD, and what they think about CPD. The data will be used within the thesis for this PhD, as well as for publication, and/or presentations at conferences.

#### **How much time will the study take?**

The online survey should take you no more than 20 minutes to complete.

#### **When and where is the research taking place?**

The research is an online survey. You can choose when and where you want to complete this, although the data collection period will end (add date). Because this is an online survey, you will not incur any expenses by taking part.

**What are the risks and benefits of taking part?**

There are not expected to be any risks to you if you choose to take part in this study. The topic is not deemed to be sensitive or controversial. There are unlikely to be any immediate benefits to you if you choose to take part, however I hope the results of the study will allow us to influence future student portfolios in a positive way.

**Do I have to take part?**

No, there is no obligation to you to take part in this research.

**What will happen if I don't want to continue in the study?**

If you start to complete the online survey, but choose not to part way through, your data will be submitted incomplete, and will therefore not be used in the analysis phase of the study.

I hope this has answered all of your questions, but if you have any other questions you would like answering please email me (primary researcher) at [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk)

If you are happy to go ahead, please click on the link in the email to take you to the online survey.

Thank you for your time.

Heather Stewart

## **Appendix 4b - Student Portfolio Online Survey Information Sheet**

I would like you to take part in my research study. Before you decide I would like you to understand why the research is being done and what it would involve for you.

### **Why is the research being done?**

There is very little research which considers whether completing an undergraduate portfolio, as a health professional student, has any impact on how someone thinks or behaves in terms of the continuing professional development. I am exploring this topic to see whether different experiences of portfolios as an undergraduate have led to different outcomes in terms of graduate CPD attitudes and behaviours, so that I can potentially suggest the best type of portfolio for students.

### **Who is doing the research?**

The research is being carried out by Heather Stewart, as part of a PhD, at the University of Central Lancashire, Preston, UK.

### **Selection of participants.**

You have been sent this email because you are currently in your final year of study Physiotherapy on a pre-registration programme. I am interested in finding out what your student portfolio is like (if you have one), what you think about your portfolio, and what you think about CPD. If you don't have a student portfolio I am still interested in your views too.

### **Recruitment of participants.**

By sending you this email, I want to recruit you for my study. There is a link to the student portfolio online survey within the email itself, and this is an opt in research study (meaning that if you choose to complete the survey you have given your consent for the data you provide to be used anonymously within the study).

### **Who has approved this study?**

The study has been approved by the University of Central Lancashire STEMH Ethics Committee. Officer for ethics: [officerforethics@uclan.ac.uk](mailto:officerforethics@uclan.ac.uk)

### **What will happen with the information that is collected?**

All of the information collected from the online survey will be analysed anonymously, in order to generate a picture of what final year physiotherapy student portfolios look like, and what they think about these and about CPD. The data will be used within the thesis for this PhD, as well as for publication, and/or presentations at conferences.

### **How much time will the study take?**

The online survey should take you no more than 20 minutes to complete.

### **When and where is the research taking place?**

The research is an online survey. You can choose when and where you want to complete this, although the data collection period will end on 20<sup>th</sup> December 2017. Because this is an online survey, you will not incur any expenses by taking part.

### **What are the risks and benefits of taking part?**

There are not expected to be any risks to you if you choose to take part in this study. The topic is not deemed to be sensitive or controversial. There are unlikely to be any immediate benefits to you if you choose to take part, however I hope the results of the study will allow us to influence future student portfolios in a positive way.

**Do I have to take part?**

No, there is no obligation to you to take part in this research.

**What will happen if I don't want to continue in the study?**

If you start to complete the online survey, but choose not to part way through, your data will be submitted incomplete, and will therefore not be used in the analysis phase of the study.

I hope this has answered all of your questions, but if you have any other questions you would like answering please email me (primary researcher) at [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk) If you are happy to go ahead, please click on the link in the email to take you to the online survey.

Thank you for your time.

Heather Stewart

## **Appendix 4c - Physiotherapy Continuing Professional Development (CPD) Interview Information Sheet**

I would like you to take part in the second phase of my research study. Before you decide I would like you to understand why the research is being done and what it would involve for you.

### **Why is the research being done?**

There is very little research which considers whether completing an undergraduate portfolio, as a health professional student, has any impact on how someone thinks or behaves in terms of the continuing professional development once they are working. I am exploring this topic to see whether different experiences of portfolios as an undergraduate have led to different outcomes in terms of graduate CPD attitudes and behaviours, so that I can potentially suggest the best type of portfolio for students. You have previously completed the online survey, and now I am looking for Physiotherapists to be involved in a 1:2:1 interview by telephone.

### **Who is doing the research?**

The research is being carried out by Heather Stewart, as part of a PhD, at the University of Central Lancashire, Preston, UK.

### **Selection of participants.**

You have been sent this email because you completed the online survey and showed an interest in being involved in the next phase of the research. I am now interested in exploring your views in more detail, by a telephone interview.

### **Recruitment of participants.**

By sending you this email, I would like to recruit you for my study. If you are still happy to be interviewed on this topic, please complete the consent form also attached to this email and return it within 7 days to the primary researcher at [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk) Once the consent form has been received you will be contacted to arrange a suitable time for the telephone interview to take place. One reminder email will be sent if you have not responded after 7 days, but you will not be sent any further emails after that as it will be presumed that you do not wish to take part in the interview after all.

### **Who has approved this study?**

The study has been approved by the University of Central Lancashire STEMH Ethics Committee. Officer for ethics: [officerforethics@uclan.ac.uk](mailto:officerforethics@uclan.ac.uk)

### **What will happen with the information that is collected?**

All of the information collected from the interviews will be analysed anonymously, in order to generate a picture of how much CPD physiotherapists undertake, what influences their choices about CPD, and what they think about CPD. The data will be used within the thesis for this PhD, as well as for publication, and/or presentations at conferences.

### **How much time will the study take?**

The interviews should not take more than 45 minutes to 1 hour to complete.

**When and where is the research taking place?**

Once you have returned your consent form, the researcher will contact you by email to arrange a suitable date and time for the interview to take place. This can be either during the day, in the evening or at the weekend, to make this as convenient as possible for you. Once a date and time has been agreed, the researcher will ask you to share the telephone number you would like to be called on, so that I can contact you at the arranged time. The telephone call interview will be audio recorded.

**What are the risks and benefits of taking part?**

There are not expected to be any risks to you if you choose to take part in this study. The topic is not deemed to be sensitive or controversial. There are unlikely to be any immediate benefits to you if you choose to take part, however I hope the results of the study will allow us to influence future student portfolios in a positive way.

**Do I have to take part?**

No, there is no obligation to you to take part in this research.

**What will happen if I don't want to continue in the study?**

If you complete the consent form, you are agreeing to take part in the study. However if, when the researcher calls you at the time of interview, you have changed your mind, you will not have to take part in the interview. Once the interview is completed, and the call ended, the audio recording will be anonymised, and you will not be able to withdraw from the study.

I hope this has answered all of your questions, but if you have any other questions you would like answering please email me (primary researcher) at [HcStewart@uclan.ac.uk](mailto:HcStewart@uclan.ac.uk)

If you are happy to go ahead, please complete the attached consent form and return it by email to the address above.

Thank you for your time.

Heather Stewart

**Appendix 4d – Physiotherapy Continuing Professional Development Interview Consent Form**

Please complete all sections of the consent form below, by initialling in the boxes next to each statement. Please return the completed consent form by email to [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk)

I have read and understand the participant information leaflet provided, and have had the opportunity to ask questions by email and have had any questions I have asked answered effectively

I understand that my participation in this study is voluntary, and that I am still free to withdraw my consent at the point of being telephoned for the interview

I give consent to the interview being audio-recorded

I understand that once the interview is complete, the audio recording will be anonymised, and I will not be able to withdraw from the study

I give my consent to take part in this study

I agree to anonymised data from the interview being used in reports, publications and/or presentations

Signed

Date

## **Appendix 4e - Physiotherapy Student Portfolio Interview Information Sheet**

I would like you to take part in the second phase of my research study. Before you decide I would like you to understand why the research is being done and what it would involve for you.

### **Why is the research being done?**

There is very little research which considers whether completing an undergraduate portfolio, as a health professional student, has any impact on how someone thinks or behaves in terms of the continuing professional development once they are working. I am exploring this topic to see whether different experiences of portfolios as an undergraduate have led to different outcomes in terms of graduate CPD attitudes and behaviours, so that I can potentially suggest the best type of portfolio for students. You have previously completed the online survey, and now I am looking for final year Physiotherapy students to be involved in a 1:2:1 interview by telephone.

### **Who is doing the research?**

The research is being carried out by Heather Stewart, as part of a PhD, at the University of Central Lancashire, Preston, UK.

### **Selection of participants.**

You have been sent this email because you completed the online survey and showed an interest in being involved in the next phase of the research. I am now interested in exploring your views in more detail, by a telephone interview.

### **Recruitment of participants.**

By sending you this email, I would like to recruit you for our study. If you are still happy to be interviewed on this topic, please complete the consent form also attached to this email and return it within 7 days to the primary researcher at [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk) Once the consent form has been received you will be contacted to arrange a suitable time for the telephone interview to take place. One reminder email will be sent if you have not responded after 7 days, but you will not receive any further emails after that as it will be presumed that you do not wish to take part in the interview after all.

### **Who has approved this study?**

The study has been approved by the University of Central Lancashire STEMH Ethics Committee. Officer for ethics: [officerforethics@uclan.ac.uk](mailto:officerforethics@uclan.ac.uk)

### **What will happen with the information that is collected?**

All of the information collected from the interviews will be analysed anonymously, in order to generate a picture of what final year physiotherapy student portfolios look like, and what they think about these and about CPD. The data will be used within the thesis for this PhD, as well as for publication, and/or presentations at conferences.

### **How much time will the study take?**

The interviews should not take more than 45 minutes to 1 hour to complete.

### **When and where is the research taking place?**

Once you have returned your consent form, the researcher will contact you by email to arrange a suitable date and time for the interview to take place. This can be either during the day, in the evening or at the weekend, to make this as convenient as possible for you. Once a date and time has been agreed, the researcher will ask you to share the telephone number you would like to be called on, so that I can contact you at the arranged time. The telephone call interview will be audio recorded.

**What are the risks and benefits of taking part?**

There are not expected to be any risks to you if you choose to take part in this study. The topic is not deemed to be sensitive or controversial. There are unlikely to be any immediate benefits to you if you choose to take part, however I hope the results of the study will allow us to influence future student portfolios in a positive way.

**Do I have to take part?**

No, there is no obligation to you to take part in this research.

**What will happen if I don't want to continue in the study?**

If you complete the consent form, you are agreeing to take part in the study. However if, when the researcher calls you at the time of interview, you have changed your mind, you will not have to take part in the interview. Once the interview is completed, and the call ended, the audio recording will be anonymised, and you will not be able to withdraw from the study.

I hope this has answered all of your questions, but if you have any other questions you would like answering please email me (primary researcher) at [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk)

If you are happy to go ahead, please complete the attached consent form and return it by email to the address above.

Thank you for your time.

Heather Stewart

**Appendix 4f - Physiotherapy Student Portfolio Interview Consent Form**

Please complete all sections of the consent form below, by initialling in the boxes next to each statement. Please return the completed consent form by email to [HCStewart@uclan.ac.uk](mailto:HCStewart@uclan.ac.uk)

I have read and understand the participant information leaflet provided, and have had the opportunity to ask questions by email and have had any questions I have asked answered effectively

I understand that my participation in this study is voluntary, and that I am still free to withdraw my consent at the point of being telephoned for the interview

I give consent to the interview being audio-recorded

I understand that once the interview is complete, the audio recording will be anonymised, and I will not be able to withdraw from the study

I give my consent to take part in this study

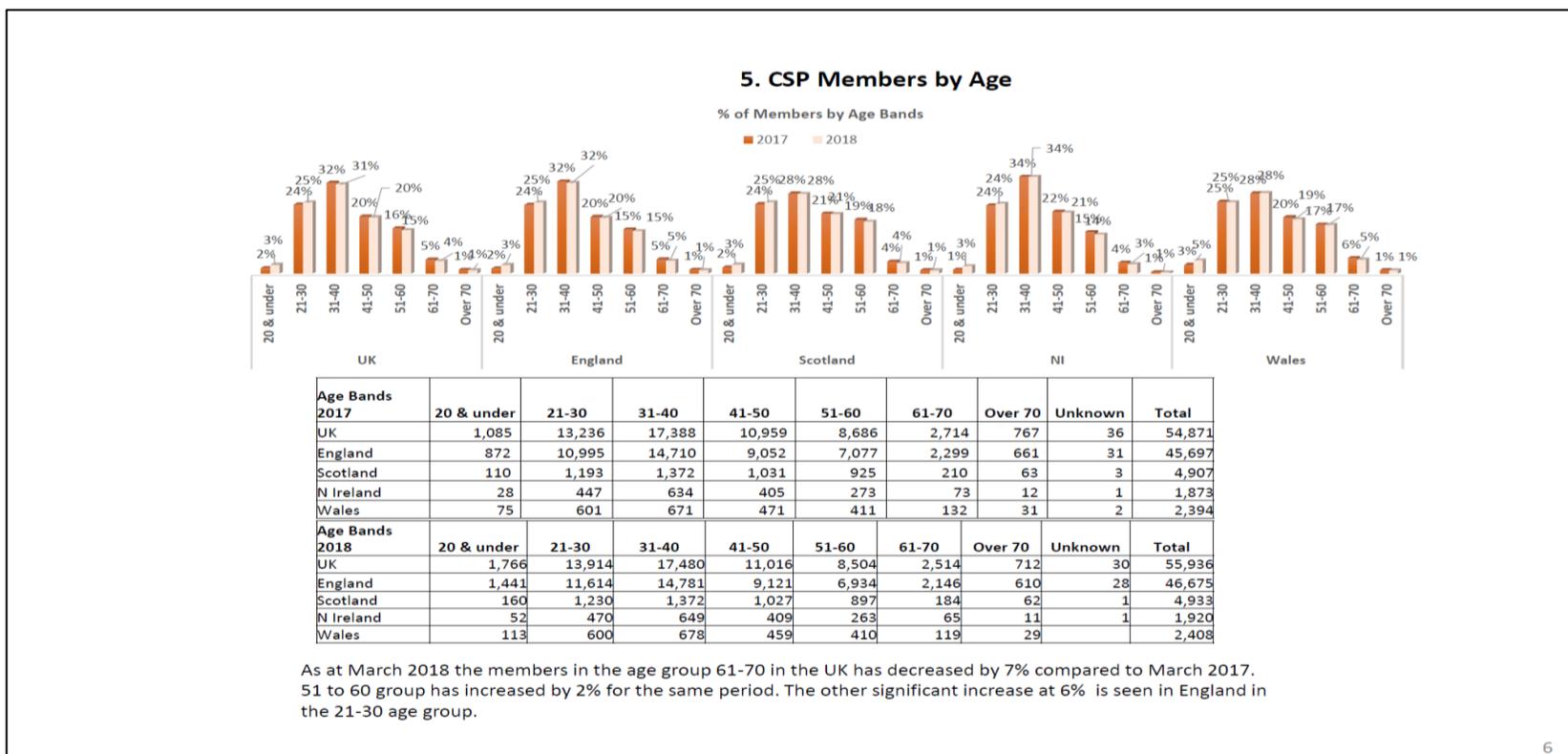
I agree to anonymised data from the interview being used in reports, publications and/or presentations

Signed

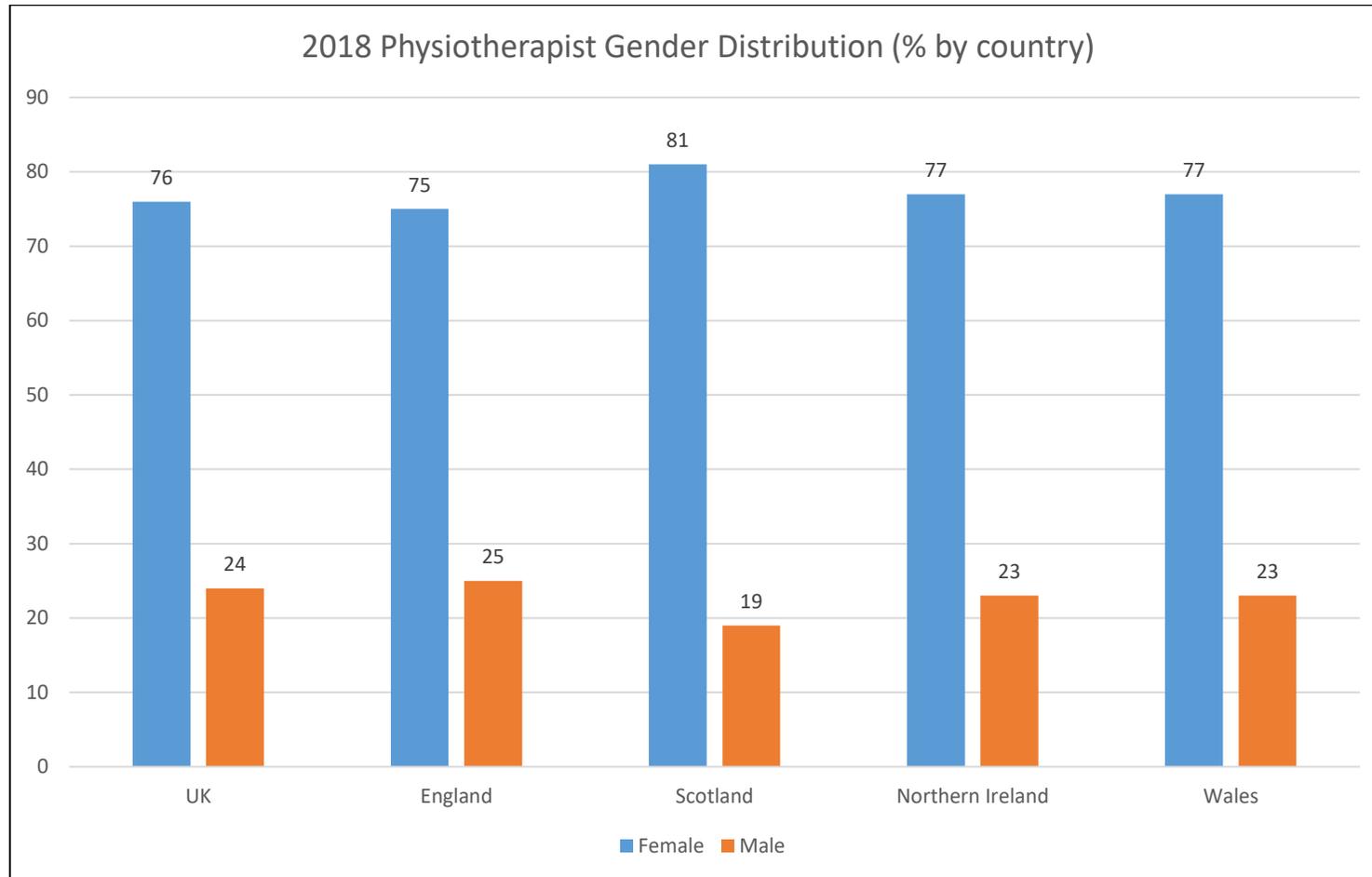
Date

## APPENDIX 5 – CSP DATA AND EMAILS

### Appendix 5a – CSP Data re Physiotherapists’ Age



**Appendix 5b - CSP Data re Physiotherapists' Gender 2018**



## Appendix 5c – CSP Data re Qualifying Programmes

### UK QUALIFIED – QUALIFYING PROGRAMME

<b>Row Labels</b>	<b>Count of Programme</b>
BHSc (Hons) Physiotherapy	322
BSc Hons - Accelerated	62
BSc(Hons) Physiotherapy	19492
MPhys Physiotherapy	3
MSc	32
MSc Physiotherapy (pre-registration)	2219
MSc Pre-Registration	64
MSc Rehabilitation Science	316
PGDip in Physiotherapy	52
BSc(Hons) Physiotherapy (part-time)	913
BSc(Hons) Physiotherapy (practice-based learning)	45
<b>Grand Total</b>	<b>23520</b>

### OVERSEAS QUALIFIED – QUALIFYING PROGRAMME

<b>Row Labels</b>	<b>Count of Qualification Awarded</b>
BSc	457
MSc	134
Other	100
<b>Grand Total</b>	<b>691</b>

## **Appendix 5d – CSP Data re Physiotherapists’ Highest Qualifications**

### HIGHEST QUALIFICATIONS

He has provided a report containing the qualifications given by members on their online profile (see attached). It’s self-selected data so it’s not been validated. Each row represents a member.

We have data for 45,072 practising members and this data set represents the 23,227 of these who have completed the qualifications section of the online member profile.

I tallied up the yes’s for each got this:

GradDipPhys	3279
BSc	2927
BSc(Hons)	16114
PG Dip	1383
MSc Physiotherapy (pre-reg)	1114
Other Master’s degree	3212
Mphil	75
Prof Doc	43
PhD EdD DPhil	289
MSc	2111
MA	100
MRes	53
Med	10
MBA	48
EdD	16
PhD DPhil	253
	31027

To full total is more than 31027 qualifications for 23,227 people.

**Appendix 5e - CSP Data re Physiotherapists' Geographical Location**

**1. CSP Members by Country**



Overall Membership	UK	England	N Ireland	Scotland	Wales
2017	54,871	45,697	1,873	4,907	2,394
2018	55,936	46,675	1,920	4,933	2,408
% increase	1.9%	2.1%	2.4%	0.5%	0.6%

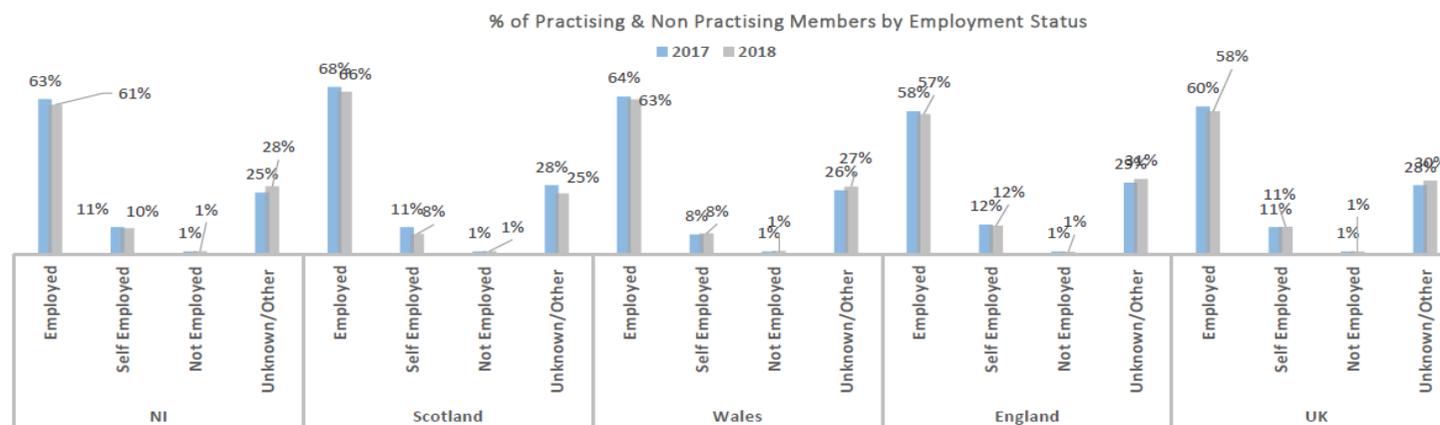
Overall membership numbers exclude overseas members and members whose address is unknown (2% of all members).

There were total of 56,892 CSP members in the UK including overseas and members whose address are unknown at 1<sup>st</sup> March 2018.

The UK membership numbers has increased by 1.9% compared to March 2017. England by 2.1%, NI by 2.4%, Scotland 0.5% and Wales by 0.6% .

## Appendix 5f - CSP Data re Physiotherapists' Primary Employment

### 9. CSP Practising & Non Practising Members by Employment Status



Employment Status 2017	Employed	Self Employed	Not Employed	Unknown/Other	Total	Employment Status 2018	Employed	Self Employed	Not Employed	Unknown/Other	Total
UK	27,158	5,221	424	12,746	45,549	UK	26,935	5,184	464	13,860	46,443
England	22,282	4,559	343	10,961	38,145	England	22,134	4,527	372	11,908	38,941
N Ireland	1,016	174	19	408	1,617	N Ireland	1,013	175	21	459	1,668
Scotland	2,666	333	41	890	3,930	Scotland	2,604	324	47	975	3,950
Wales	1,194	155	21	487	1,857	Wales	1,184	158	24	518	1,884

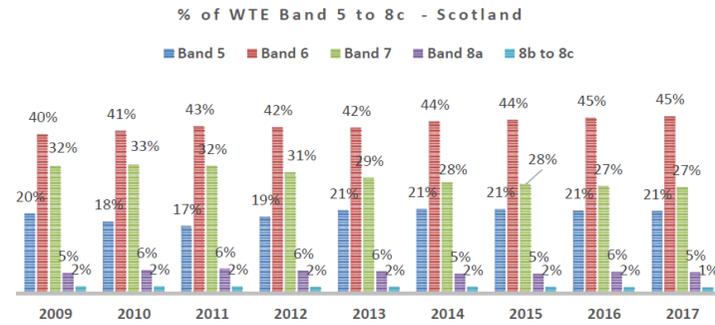
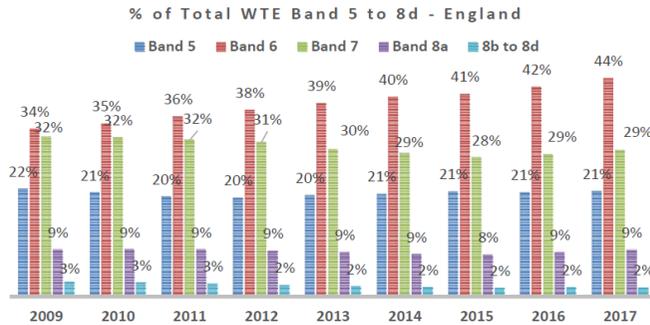
There is a decrease in the Employed status in all the four countries this year compared to 2017. Both N Ireland and Scotland show a decrease in the number of Self Employed members this year compared to 2017. Not Employed remains the same across all four countries.

**Note:**

The data in this chart and table excludes Students, Retired Members and Associate Members. Includes practising and non practising members. Members are able to provide details of their employment status for 2 physiotherapy jobs. For simplicity this table analysis only the primary post for each member. If a member has 2 posts, one of which is employed and the other self-employed then the role with the greater number of working hours is used. Unknown/Other includes those who have not given details of their employer status.

**Appendix 5g - CSP Data re Physiotherapists' Banding**

**11. NHS Health Department – Qualified WTE Physiotherapists in the NHS by Bands**



	Band 5	Band 6	Band 7	Band 8a	8b to 8d	Band 9	Total
2009	3,264	5,083	4,836	1,409	451	4	15,047
2010	3,164	5,261	4,829	1,429	418	3	15,103
2011	3,325	6,004	5,214	1,553	423	3	16,523
2012	3,328	6,291	5,196	1,536	383	5	16,739
2013	3,517	6,694	5,088	1,531	357	3	17,190
2014	3,625	7,056	5,047	1,496	333	5	17,561
2015	3,742	7,220	4,952	1,489	307	4	17,714
2016	3,718	7,484	5,058	1,579	323	2	18,163
2017	3,760	7,777	5,195	1,653	316	2	18,703

WTE Total Band 5 to 8c						
	Band 5	Band 6	Band 7	Band 8a	8b to 8c	Total
2009	467	933	745	120	41	2,305
2010	407	925	731	132	41	2,236
2011	366	912	694	133	39	2,144
2012	424	925	672	127	37	2,185
2013	474	949	660	127	38	2,247
2014	496	1,015	653	115	39	2,318
2015	494	1,022	643	115	37	2,311
2016	493	1,048	639	129	35	2,344
2017	493	1,062	635	126	35	2,351

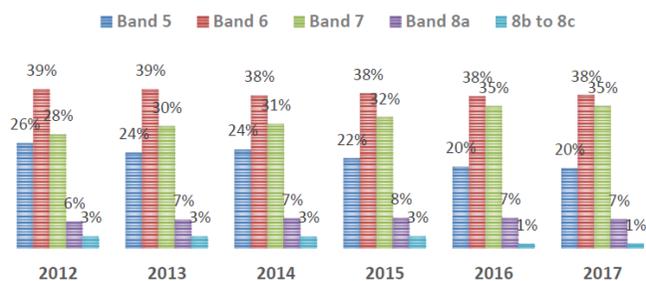
The trend for England shows band 6's are increasing, band 7's, 8a's and 9's are decreasing. While in Scotland although band 6's are increasing over the years, band 7 are decreasing and band 8a stays the same.

Data source: Health Departments in England, Wales, Scotland & N Ireland. Links to this data can be found in the summary. Scotland has no data for band 8d /9 and no data for 2010 and 2011.

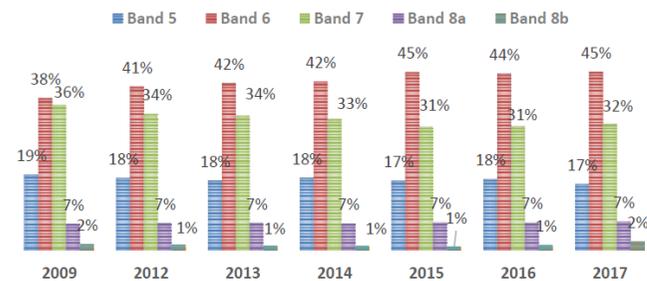
Note: 'Qualified Physiotherapists' is the terminology used by the health department to describe registered Physiotherapists.

## 11 (Cont.) NHS Health Department – Qualified Physiotherapists in the NHS by Bands

% of WTE Bands 5 to 8c - Northern Ireland



% of WTE Bands 5 to 8b - Wales



Total WTE Bands 5 to 8c						
	Band 5	Band 6	Band 7	Band 8a	8b to 8c	Total
2012	230	348	248	57	25	883
2013	210	350	268	61	26	889
2014	226	349	283	65	25	923
2015	207	358	302	66	26	933
2016	188	352	328	66	8	934
2017	196	376	348	70	10	990

Total WTE Bands 5 to 8b						
	Band 5	Band 6	Band 7	Band 8a	Band 8b	Total
2009	226	451	431	79	19	1,187
2012	214	484	403	81	17	1,182
2013	204	487	394	80	14	1,167
2014	214	495	387	79	13	1,175
2015	210	536	373	84	12	1,203
2016	217	538	378	84	15	1,217
2017	206	556	394	89	27	1,246

The trends for Northern Ireland show a drop in band 5 in the last two years. Band 7 and 8a increasing year on year.

In Wales band 6 increases slightly year on year. Band 7 shows a drop in the last 3 years. 8a and 8b remain the same.

Data source: Health Departments in England, Wales, Scotland & N Ireland. Links to this data can be found in the summary. Northern Ireland has no data for bands 8d or 9. Data for 2009 to 2010 is not available. Wales has no data for bands above 8b and no ERS data in 2010 and 2011.

Note: 'Qualified Physiotherapists' is the terminology used by the health department to describe registered Physiotherapists.

## Appendix 5h - CSP Data re Physiotherapy Students' Age and Course Type

Hi Heather

Hope you're well - thank you for confirming.

Please find the Age breakdown for 1<sup>st</sup> years 2017/18 intake

Sum of 17-20	Sum of 21-24	Sum of 25-29	Sum of 30-34	Sum of 35-39	Sum of 40-44	Sum of 45-49	Sum of 50+	Sum of Unknown
1135	621	340	116	54	24	12	3	142

Here is the 2017/18 intake by routes only for the programmes you listed.

Year	1
------	---

Row Labels	Sum of Total year intake
<b>Full-time</b>	<b>2498</b>
BSc/BHSc	1960
MSc	538
<b>Part-time</b>	<b>29</b>
BSc	29
<b>Grand Total</b>	<b>2527</b>

Best wishes

**Appendix 5i - CSP Data re Physiotherapy Students' Gender**

Hi Heather

I hope you're well. Your email regarding student data was forwarded to the Learning & Development team for response. I apologise for the delay.

As we collect the data primarily for the purpose of the annual quality review, I'm able to provide some of the data you require out of courtesy, but unfortunately not all due to its commercial sensitivity.

Regarding age, we only collect age for 1<sup>st</sup> year intake and the breakdown are as follows. Would this be okay? If so, let me know and I can send this for all of the UK.

<b>17-20</b>	<b>21-24</b>	<b>25-29</b>	<b>30-34</b>	<b>35-39</b>	<b>40-44</b>	<b>45-49</b>	<b>50+</b>	<b>Unknown</b>
--------------	--------------	--------------	--------------	--------------	--------------	--------------	------------	----------------

We collect gender breakdown for 1<sup>st</sup> year intake. These are the figures for 2017/18 on all programmes

<b>Sum of Male</b>	<b>Sum of Female</b>	<b>Sum of Not specified</b>
968	1529	36

Regarding the student intake, I am unable to breakdown for each HEI and their programmes, but I can give you the total student intake for BSc, MSc and Integrated Masters, if helpful?

Please let me know and I'll see what I can provide. I'm out of the office tomorrow and Friday, but I will pick up your email early next week.

Best wishes

## APPENDIX 6 – EVIDENCE OF REFLEXIVE PROCESS

### Appendix 6a – Selected Content from Presentation at Faculty Research Meeting, 2015.

# LITERATURE SEARCHING – PROCESS AND REFLECTION

HEATHER STEWART, Year 1 PhD  
Supervisors – Prof. James Selfe; Dr. Hazel Roddam; Dr. Deborah Wisby

## WHY DID MY SEARCH PULL UP SO MANY RESULTS THAT WERE NOT DIRECTLY RELEVANT TO MY QUESTION?

Search terms not specific enough to find highly relevant literature – in a hurry to get on with it, so didn't consider this for long enough

Too many different avenues being explored in one search process – would it have been better to focus on each part separately?

Use of abbreviations brought up some very random results i.e. CPD does not just stand for continuing professional development

Search terms too broad and therefore could relate to a number of different subjects – e.g. use of terms like "values", "behaviours"

Only combined two terms at any one time – should I have combined more terms to narrow down the search?

Very early in my PhD process – maybe I wasn't sure what I was looking for.....

## LEARNING – WHAT WOULD I DO DIFFERENTLY?

- Consider search terms more carefully before starting the search process
- Consider the process of searching – focus on one topic at a time
- Try to narrow search to produce highly relevant research by combining more terms

## THE POSITIVES

- Identified most useful databases to use
- Purpose of literature review has become more focussed in my mind
  - know where I am going
  - becoming more decisive about which category the research falls into as I am reading papers
- Very little literature which has looked at the transition from student to clinician in terms of CPD/portfolios/lifelong learning

## Appendix 6b – Selected Content from Presentation at Faculty Research Meeting, 2016.

# LITERATURE REVIEW – PROCESS AND REFLECTION

HEATHER STEWART, Yr 2, PhD  
Supervisors – Dr. Hazel Roddam, Dr. Debbie Wisby

- FOR EACH PAPER!
  - Created a word document
    - Full reference of the article
    - Study population e.g. medicine, nursing, physiotherapy etc
    - Geographical location of research
    - Notes regarding the aims/purpose and structure format of the portfolio
- Analysis of the research in a table

SECTION	MY NOTES
Objectives	What did the study hope to achieve?
Population	Including sample size
Methods of data collection	With details of survey instruments /interview questions if provided
Statistics	If appropriate
Results	
Discussion	
Conclusion	

- My comments regarding the strengths and weaknesses of the study
- Traffic light system
  - Comments regarding positive aspects of the study
  - Things that I was questioning about the study or that I thought were unclear
  - Criticisms of the study

## Then came the magical thing that is an excel spreadsheet..... COLLATION OF DATA

- Positive comments
- Positive data
- Negative comments
- Negative data
- My comments re strengths/weaknesses
- For example.....

Cross	1997	UK	structured personal development diary	37 physiotherapy students	discussion session	critical incidents instigate reflective thinking
Cross	1997	UK	structured personal development diary	37 physiotherapy students	discussion session	a practical way to record learning experiences leading to professional development
Cross	1997	UK	structured personal development diary	37 physiotherapy students	discussion session	has potential to be a good tool for collating experience
Cross	1997	UK	structured personal development diary	37 physiotherapy students	discussion session	a useful tool once mastered
Dolan et al	2004	UK	structured portfolio	219-200 nursing students	questionnaire	helped with referencing and reflection
Driessen et al	2003	Netherlands	reflective portfolio	38242 first year medical students.	semi structured interviews	structure was good, gave a clear picture of what was expected but freedom to do this personally
Eggleton et al	2011	UK	not clear	pharmacy students and tutors	interviews with 6 students and 5 tutors	identified the portfolio role in demonstrating development of competence
Eggleton et al	2011	UK	not clear	pharmacy students and tutors	interviews with 6 students and 5 tutors	helped to reflect on activities
Eggleton et al	2011	UK	not clear	pharmacy students and tutors	interviews with 6 students and 5 tutors	had a role in preparing for CPD
Eggleton et al	2011	UK	not clear	pharmacy students and tutors	interviews with 6 students and 5 tutors	tutor is important in supporting students with portfolio learning
Eggleton et al	2011	UK	not clear	pharmacy students and tutors	interviews with 6 students and 5 tutors	portfolio key to recognition of what was still needed to be learnt

- Identified themes and subthemes from the data collected

## Back to the spreadsheets.....

- Cut and pasted all lines where comments/data related to the same theme, into a new spreadsheet
- Resulted in one spreadsheet for each theme, with positive and negative comments and data
- Allowed construction of the literature review

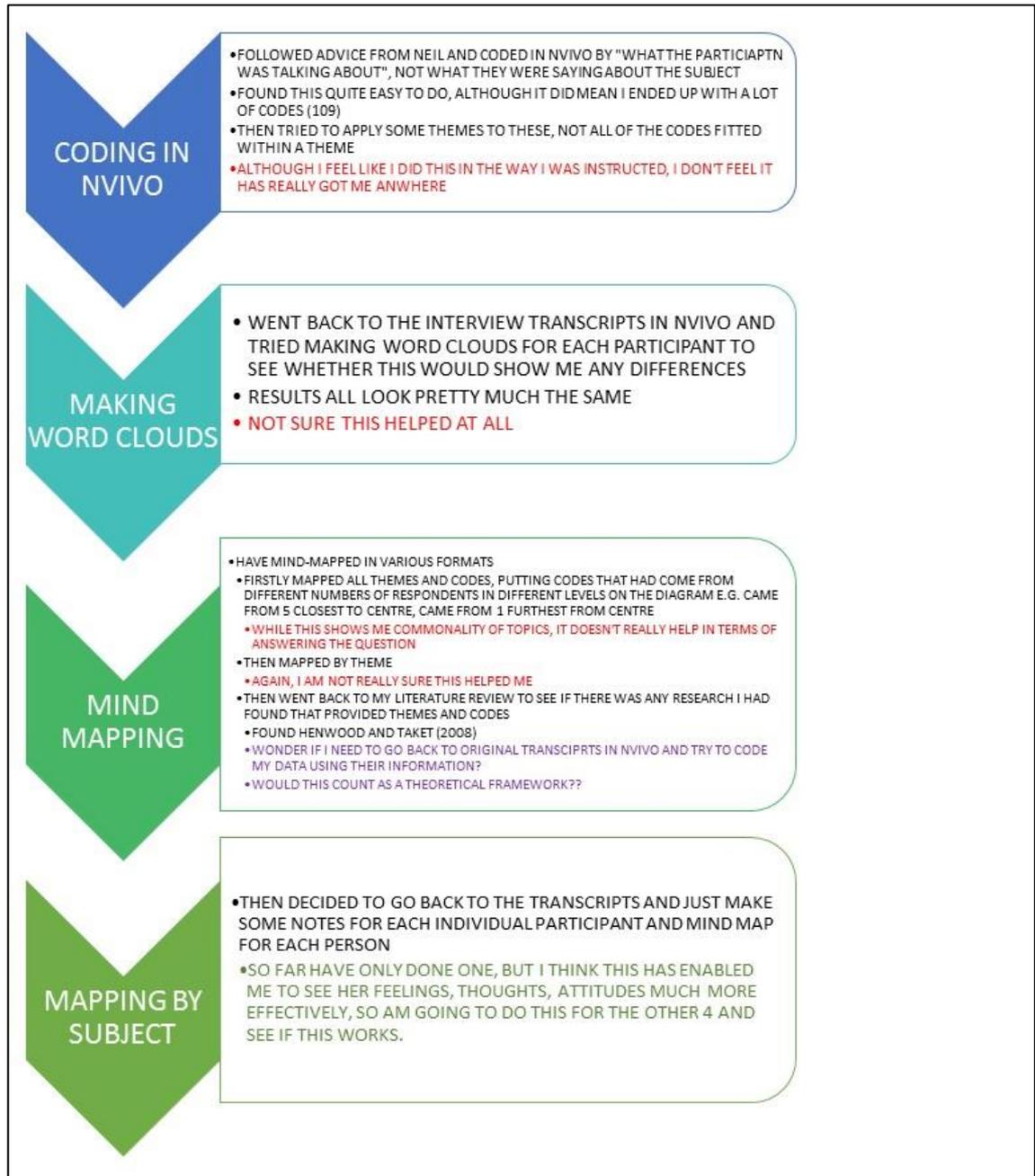
## Positives of my methods

- Logical – suited my need for order!
- Allowed me to think about and absorb the findings of the research, and generate my arguments, as I was looking at it several times over
  - Word document
  - First spreadsheet
  - Second spreadsheet
- Allowed "easy" writing of the literature review, as all information together – formed the sections and subsections of the chapter

## Criticism of my methods

- Lengthy
  - Took time to create the word documents
  - Took time to create the spreadsheets
- Not following any recognised process of analysis
  - How am I going to justify this within my thesis?
  - Can I relate my process to a model of data analysis retrospectively????

## Appendix 6c – Flowchart of Reflection on Thematic Analysis Processes



**Appendix 6d - CPD Interview Thematic Analysis Example Individual Mind Map**





## APPENDIX 7 – DISSEMINATION

### Appendix 7a - Physical Therapy Reviews Publication



Physical Therapy Reviews



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## The influence of portfolio aims and structure on student attitudes towards portfolios as a learning tool: a scoping review

Heather Stewart , Hazel Roddam , Deborah Wisby & James Selfe

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Date: 11 July 2017, At: 12:12

# The influence of portfolio aims and structure on student attitudes towards portfolios as a learning tool: a scoping review

Heather Stewart<sup>1</sup> , Hazel Roddam<sup>1</sup> , Deborah Wisby<sup>2</sup> , James Selfe<sup>3</sup> 

<sup>1</sup>School of Health Sciences, University of Central Lancashire, Preston, UK, <sup>2</sup>College of Health and Wellbeing, University of Central Lancashire, Preston, UK, <sup>3</sup>Faculty of Health, Psychology and Social Care, Manchester Metropolitan University, Manchester, UK

**Background:** Portfolios are widely used in undergraduate health professional education, however the majority of literature suggests that these are poorly received by students, in terms of being an effective learning tool.

**Objectives:** To evaluate whether the aims/purpose or structure/level of standardisation/content of student portfolios influences their attitudes to and perceptions of its use as a learning tool.

**Major findings:** Aims/purpose and structure/level of standardisation/content of portfolios were analysed in relation to student responses in order to determine any relationship between these. The level of information provided in the studies was variable, making analysis difficult, however there appeared to be no clear link between any of these factors and student responses. The interplay of level of support and guidance, the time required for completion of the portfolio, and the role of assessment appear to have the greatest influence on student views.

**Conclusions:** Considering the wide use of portfolios in health professional education, student support for these is limited and further research is required to determine if alternative approaches to portfolio learning can positively influence student attitudes and perceptions.

**Keywords:** Portfolio, Professional education, Student, Attitude and perceptions, Influence on learning

## Introduction

The evidence for the use of portfolios within education began to appear in the 1990s, in teacher education,<sup>1</sup> the arts,<sup>2</sup> nursing,<sup>3</sup> and medical education.<sup>4</sup> The first published evaluation of portfolio use in Physiotherapy education was in 1997.<sup>5</sup> There are many varied definitions of a portfolio,<sup>6–9</sup> with two clear types of portfolios identified – that of the portfolio as a tool to demonstrate achievement, or a best work portfolio,<sup>10–13</sup> and the portfolio that is used to aid progress and growth, or a learning portfolio.<sup>11,14,15</sup>

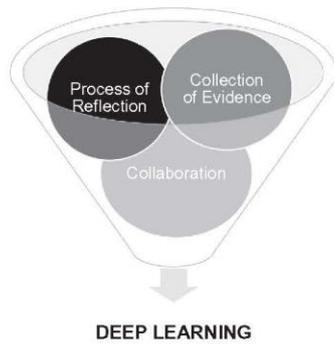
The reported key benefits of a portfolio within health care education, are that it encourages personal reflection on experiences, learning and development,<sup>16</sup> provides a useful link between academic knowledge and clinical practice,<sup>17</sup> makes students more aware of their own learning,<sup>18</sup> and promotes critical thinking.<sup>19</sup> Portfolios should also encourage students to develop the abilities they will need to become independent and self-directed learners.<sup>20</sup> Personal experience of using portfolios over many years and in different formats with undergraduate Physiotherapy

students, suggested that despite the reported benefits listed above, students did not perceive the portfolio to be useful, or to value its completion.

A relatively recent portfolio model by Zubizarretta suggests that three key components need to be included in portfolio development, if students are to learn at a deep level through their use (see Figure 1).<sup>21</sup> The first component is the inclusion of evidence, followed secondly by the process of reflection, which has been noted to be critical to the success of learning through use of a portfolio.<sup>22,23</sup> Finally, the inclusion of collaboration recognises that although professional development is the responsibility of the individual, students beginning this process need guidance, feedback and advice from more skilled and knowledgeable professionals,<sup>21</sup> and it is suggested that this process of mentoring is the most decisive factor in portfolio success.<sup>24</sup>

In order to consolidate the knowledge and research findings on the use of portfolios in undergraduate health education, as well as to identify gaps within the research, a scoping review was undertaken as part of a course of study at doctoral level. The doctoral review aimed to investigate factors influencing student perceptions of and attitudes to

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**Figure 1** Diagrammatic representation of Zubizarreta's model of portfolio learning

**Table 1** Databases searched

Databases searched
Academic search complete
Amed
Biomed central
British education index
Cinahl complete
Embase
Maternity and infant care
Medline
ProQuest hospital collection
PsychArticles/PsychInfo
Science direct
Sports discus

use of undergraduate portfolios in the broadest context. In order to focus the findings for this publication, findings from the review will be discussed in relation to the following two questions:

- (1) Do the aims/purpose of the portfolio influence the students' perceptions of and attitudes towards portfolio use?
- (2) Does the structure/format or required content influence the students' perceptions of and attitudes towards portfolio use?

**Table 2** Search terms and search combinations

Theme 1 – portfolio	Theme 2 – student	Theme 3 – learning	Theme 4 – attitude
Portfolio	Student	Continuing professional development	Perception
	Undergraduate	CPD	Attitude
		Lifelong learning	Preferences
			Views
			Behaviours
			Evaluation
			Purpose
Theme 1 AND Theme 2			
Theme 1 AND Theme 3			
Theme 1 AND Theme 4			
Theme 1 AND Theme 2 AND Theme 4			
Theme 2 AND Theme 3			

**Methods**

As this research is a scoping review, ethical approval was not needed. Literature searches took place between 10th September and 6th October 2014, using 12 databases (see Table 1); each was searched from the oldest issue available up to August 2014.

Search terms were identified through previous background reading, and were categorised into four themes. Both continuing professional development and its abbreviation, CPD, were included as search terms, in order to broaden the findings from the literature search. Search terms were combined using the Boolean operator AND (see Table 2), and where possible, searches were performed within Title, Abstract or Keywords to limit the number of hits and improve relevance of results.

Articles retrieved had to be published in the English Language and provide data on student perceptions or attitudes towards use of a portfolio to be included in the review. Hand searching of references lists also produced some included papers.

The initial sample included 147 scientific articles, editorials, commentaries and opinion pieces. Papers were excluded from this sample, by the first author, using the criteria outlined in the flowchart in Figure 2. The final sample included in the review was 41.

**Analysis of literature**

All papers were assessed for quality using a systematic and consistent approach. One author analysed the research, as this was undertaken as part of a programme of doctoral study, however the analysis was discussed with all authors as part of the supervisory process. On initial reading of the research studies, the first author became familiar with the key ideas and recurrent topics being raised, either from the qualitative comments made by student participants during interviews or focus groups, or from the questions asked and responded to in questionnaires. Following a process of qualitative data analysis as described by Bryman and Burgess,<sup>25</sup> these key ideas and topics were then developed

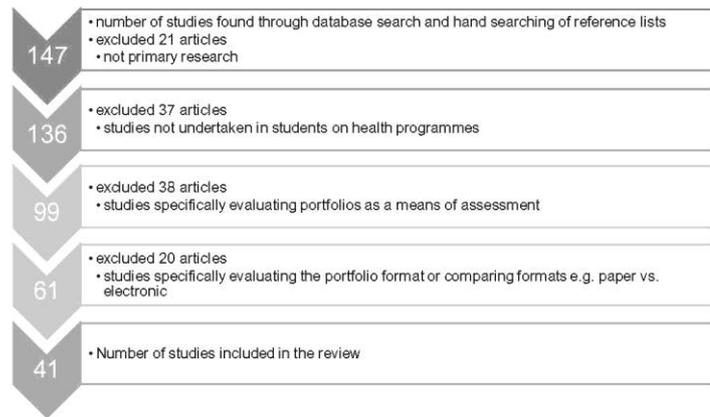


Figure 2 Literature search process

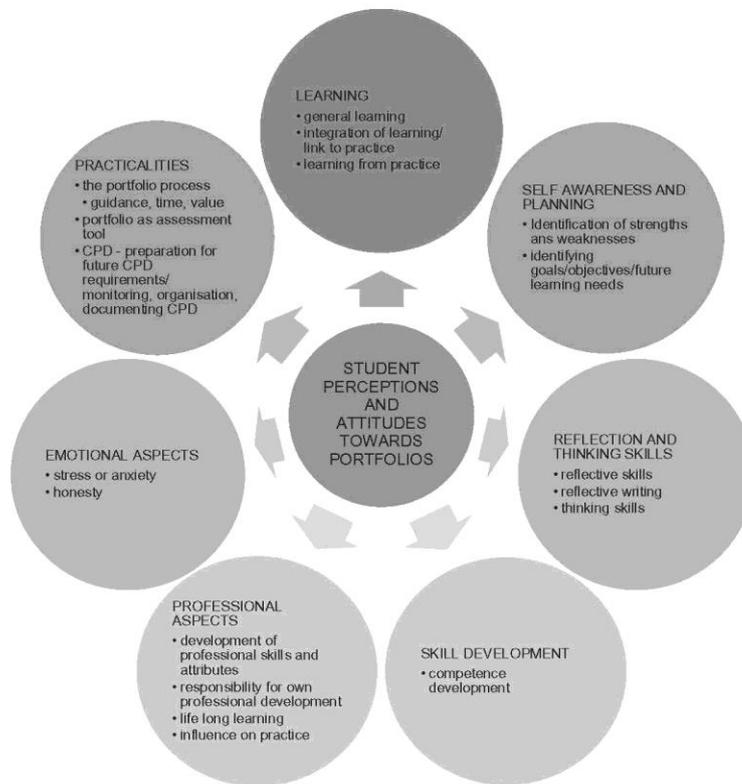


Figure 3 Themes emerging from analysis of qualitative and quantitative data

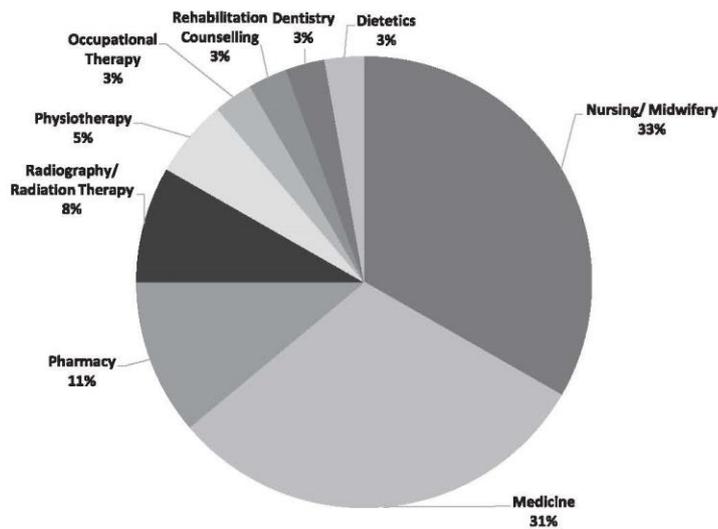


Figure 4 Distribution of research from different professional groups

into a theoretical framework (see Figure 3), which was discussed and finalised by all authors. Indexing and charting of the empirical data then took place in relation to this framework, with the reported data from each individual study charted as either positive or negative in relation to the student's perception of each of the topics identified in Figure 3. These results were then mapped against the identified possible influencing factors – portfolio aims/purpose (see Appendix 1); level of standardisation of the portfolio (see Appendix 2); the basis or format of the portfolio; portfolio content – and findings interpreted to draw conclusions.

## Results

### Description of the sample

Of the 41 studies reviewed, 40 were published in peer-reviewed journals, between 1994 and 2014, with the majority published between 2003 and 2012. One study was a thesis, from the University of Iowa.<sup>26</sup> The research was undertaken mainly in the Western world (United Kingdom (UK)  $n = 16$ ; United States of America (USA)  $n = 10$ ; Europe  $n = 8$ ; Australia and New Zealand  $n = 3$ ; Canada  $n = 2$ ;) with only one study from Africa,<sup>27</sup> and one study from the Far East.<sup>28</sup> Distribution of research by profession is shown in Figure 4.

This review included studies with a range of data collection methods. Twenty-four studies used a questionnaire; some of these were postal, or students completed them in a classroom and some were completed electronically. Four studies used interviews and four had a mixed methodology (e.g. a combination of questionnaire and interview,

or questionnaire and focus groups). Three studies analysed the content of the student portfolios as their data collection method, while focus groups, discussion groups, outcome measures or presentation and sharing were each used in one study. Data collection method was unclear in two studies.

Detail regarding the subjects of the studies was limited, with three of the 41 studies provided no information about their student sample.<sup>31,43,50</sup> Thirty four of the 41 studies provided sample sizes, ranging from four<sup>39</sup> to 413.<sup>44</sup> Only three studies<sup>32,33,48</sup> provided information regarding the age of their subjects; the average age of participants in these studies ranged from 25 to 28. Twelve studies provided data regarding the ratio of male to female participants; in all cases, studies had a greater proportion of female subjects. In terms of the stage of study, there was significant variation, and with 11 studies giving detail. Four studies recruited first-year students,<sup>33,34,40,45</sup> three studies included students from across different years of the course,<sup>28,32,38</sup> two studies used students who were partway through their course,<sup>36,46</sup> one included only final-year students,<sup>51</sup> and one study's participants had recently completed their course.<sup>48</sup>

### Aims/purpose of the portfolios

Only 18 of the 41 studies provided information regarding the aims or purpose of their student portfolio. These fell into six categories – a collection of evidence,<sup>29–35</sup> a means of developing reflective skills,<sup>27,30,33–36</sup> to develop self-awareness and professional identity,<sup>30,31,37,38</sup> for the purpose of assessment,<sup>30–32,36,38–41</sup> a communication tool,<sup>32, 35, 38, 42,43</sup> and to develop students' learning processes.<sup>30,32,35,38,42,44</sup> Overall

there was a lack of standardisation of the aims across the portfolios described, and a number of studies' portfolios had more than one aim.

#### **Structure, format and content of the portfolios**

The research found generally lacked detail in terms of the structure, format or level of standardisation of their student portfolios. Sixteen of the 41 studies gave some indication of whether their portfolio was of a standardised structure, semi-standardised or completely flexible. Two early studies, one in Physiotherapy,<sup>5</sup> and one in medicine,<sup>29</sup> presented portfolios at opposite ends of the standardisation spectrum, with one providing a rigid structure<sup>5</sup> and the other no standardised structure at all.<sup>29</sup> More recent studies described portfolios that have reached a semi-standardised compromise, providing some overarching structure in terms of the expectations of the portfolio (for example providing section headings or guidance re formatting), while allowing students flexibility about what evidence they collect, or how this is used to demonstrate achievement of requirements. Eight studies based their portfolio structure on professional standards or competency frameworks,<sup>5,31,32,36,39,45-47</sup> three around programme or module learning outcomes,<sup>40,41,44</sup> and two around theoretical frameworks of learning.<sup>35,43</sup>

The content of the student portfolios varied widely, with 25 of the 41 studies giving information about content. As part of this review, content was grouped into seven broad categories – ethical issues and dilemmas,<sup>28,40,43</sup> reflective elements,<sup>5,31,33,36,38,40,43,44,47,49</sup> academic components such as assignments or classroom notes,<sup>5,28,30,35,38,42,45,49</sup> evidence of working with others,<sup>31,37,40,49</sup> checklists and documents,<sup>5,28,29,32,35,37,42,45,47,49</sup> patient/client related evidence,<sup>5,27,28,30,32,34,35,37,39,40,42,44,46,49</sup> and learning agreements and personal development plans.<sup>5,38,40,42,43,45,46,48</sup> There is a lack of clarity as to whether elements categorised as working with others and patient/client experiences are students' reflections on these experiences or simply descriptive documents evidencing that this was done. Many of the studies described portfolios requiring content from more than one of these categories.

#### **Student perceptions and attitudes towards portfolios**

All 41 studies provided either quantitative and/or qualitative data regarding students' perceptions and attitudes towards the use of a portfolio. A range of data collection methods were used, with no specific method being favoured by authors from any one professional group.

#### **Discussion**

##### ***Do the aims/purpose of the portfolio influence the students' perceptions of and attitudes towards portfolio use?***

Based on the data provided, it is difficult to draw any strong conclusions regarding any relationship between

aims or purpose of the portfolios, and the students' perceptions of and attitudes towards use of a portfolio (see Appendix 1). In general terms, comments relating to the influence of the portfolio on practice, the emotional factors involved in the portfolio, the time taken to complete the work, the link between theory and practice, and the guidance given were negative, irrespective of the aim of the portfolio. The question regarding whether students saw any value to completion of a portfolio was wholly answered negatively across all aims. Interestingly, improvement in reflective skills was reported by the majority of students, and although students did not value their portfolios, they could see that it had prepared them for future practice regardless of its intended purpose.

Students whose portfolio aimed to specifically develop reflective skills,<sup>27,30,31,33,36</sup> responded positively with regard to learning from practice, and the development of self-awareness, reflective skills and thinking skills. These students also appeared to have fewer concerns regarding the time taken to complete the portfolio.

Similarly, students whose portfolio aim was to meet assessment criteria,<sup>29,31,32,36,38,41</sup> also responded positively with regard to reflective and thinking skills, but also felt that the portfolio enabled them to develop their professional skills and attributes, and a responsibility for their own learning. Students in this group of studies were concerned about the guidance given for portfolio completion more strongly than others, and this may have been because of the specific focus on assessment in the aims of the portfolio. These students also reported that they felt unable to be completely honest in the content of their portfolios due to it being assessed. Finally, there were mixed views from students whose portfolio aim was assessment, with regard to the portfolio as an assessment tool, compared with the majority of other studies, where the student opinion was mainly negative.

Studies where collecting evidence was the aim generally found students reported less negatively than in studies with other aims.<sup>29-35</sup> This is perhaps because the lack of requirement for critical thinking, analysis or reflection meant students did not find the task challenging. The overall lack of positive comments from student responders in these studies<sup>29-35</sup> could also suggest that the students found the creation of their portfolio unstimulating.

##### ***Does the structure/format or required content influence the students' perceptions of and attitudes towards portfolio use?***

As with the previous discussion, it is difficult to draw any strong conclusions regarding the relationship between structure, format or content and student responses to the studies (see Appendix 2). Across all formats (level of standardisation; basis, type of content required) of the portfolios described in the research, the general opinion of students was negative in terms of time requirements,

level of guidance provided and the value of completing a portfolio.

Overall, semi-standardised formats received a higher proportion of positive comments,<sup>29,32,36,48</sup> and standardised formats received the highest proportion of negative comments.<sup>5,27,31,33,34,41,43,47,49,50</sup> Semi-standardised portfolios that allowed some flexibility in terms of content or format appeared to encourage students to think more deeply,<sup>51</sup> learn from practice, take responsibility for their own development, and recognise the need for lifelong learning.<sup>30,32,36,48</sup> Both standardised or semi-standardised formats did allow students to see that developing their portfolios had prepared them for future CPD requirements.

In terms of the basis for the portfolio, those based on professional standards,<sup>5,27,32,36,46</sup> generated more positive responses to the themes than those based on either competency standards,<sup>39,45,47</sup> learning outcomes,<sup>40,41,44</sup> or theoretical concepts.<sup>35,43</sup>

When analysing the content of the portfolios against the students' views, similar themes arose, with no particular type of content showing specifically positive or negative comments. Across all the studies giving detail of content, students responded positively regarding development of reflective skills, taking responsibility for their own learning, understanding the role of lifelong learning, and being prepared for the future. Thinking skills received mainly positive responses.

Returning to the portfolio model as described by Zubizarreta, several comments can be made.<sup>21</sup> Firstly, by nature of the definition of a portfolio, all of the studies required the students to collect evidence, although it is not clear in all studies what this included, or whether there was any requirement for critical writing about the evidence collected. The findings from this review of the literature suggest that pure collection of evidence does not elicit strong feelings from students, either positively or negatively, suggesting perceived lack of achievement and lack of stimulation. Secondly, although the aims of only seven studies required the need for reflection, the majority of studies did in fact include this element, and students responded positively in all studies regarding the development of reflective skills. Thirdly, the findings with regard to collaboration are limited, and so it is difficult to draw firm conclusions about how student support in the portfolio-building process influences whether students value their portfolios or achieve deep learning from them. Students completing standardised portfolios felt restrained by having too much guidance,<sup>5</sup> yet not enough guidance left students feeling confused about what was expected.<sup>33,35,36,41,44,49</sup> It is also unclear whether, when answering questions about guidance, students are referring to face-to-face guidance, which would be considered collaboration or mentoring,<sup>21</sup> or whether they are referring to written instruction on how to complete their portfolio. The challenge for educators appears to be creating a balance between enough guidance so that students feel empowered to undertake the task

without stifling their creativity, ensuring all members of the course team involved in student support understand the process, the allowances for flexibility and definitive requirements, whilst also factoring in the need for objectivity and parity if the portfolio is to be assessed.

Considering the current drive by professional and statutory bodies to enforce CPD within qualified health professionals in both the UK and around the world,<sup>52-57</sup> it is encouraging that students felt that using a portfolio prepared them for their future CPD requirements. However, this move to regulation of CPD may have influenced educators to design undergraduate portfolios that allow students to meet these requirements, to the detriment of developing as learners through reflecting on the experiences under the guidance of a more experienced practitioner.

Only one study, by Dolan et al. described a portfolio whose aims incorporated all of these three elements, yet despite this, these UK-based student nurses' attitudes towards and perceptions of their portfolio remained largely negative<sup>35</sup>. While they responded positively regarding its use as a reflective tool, they did not value the portfolio and gave it a low priority, and 63% had never used the portfolio as a result of their clinical experiences. The authors concluded that the lack of value was because the portfolio was not assessed, but rather used to stimulate discussion with tutors relating to progress through the course, and goals for future employment. Although only one study, this throws into question whether the three elements required in a portfolio as described by Zubizarreta actually do produce deep learning.<sup>21</sup>

### Limitations

There are several limitations to this study. Not all of the literature relating to student portfolios were reviewed; as part of the doctoral study, a conscious decision was taken to exclude any papers specifically exploring portfolios as an assessment method or studies comparing different types of portfolios, e.g. paper vs. e-portfolios. This means that some data relating to students' attitudes to or perceptions of portfolios may have been missed. Only one author reviewed and analysed the literature, and therefore this could have introduced bias to the process. Lack of detail within the studies regarding all of the elements considered – aims, purpose, structure, standardisation, content – means that conclusions have been drawn with some missing information.

### Conclusion

Portfolios are widely used within higher education, and particularly in pre-registration education of health professionals. There are several benefits suggested to their use, including encouragement of reflection, providing links between academic knowledge and clinical practice, promoting critical thinking, and development of independent and self-directed learners. One model of portfolio learning suggests evidence collection, reflection and collaboration

with more experienced colleagues are all required for students to achieve deep learning through the use of a portfolio. The evidence from this review suggests that factors such as portfolio aims, purpose, structure, format and content have little influence on students' perceptions of or attitudes to the use of a portfolio as a means of learning, with responses within studies being mainly negative in relation to the value of the portfolio, the time required to undertake portfolio work, and the guidance given related to this work. Students generally reported positively in terms of development of reflective skills and being more prepared for future professional CPD requirements as a result of using a portfolio. While the evidence is limited regarding the three requirements of evidence collection, reflection and collaboration,<sup>21</sup> it is proposed that even the inclusion of all three of these elements does not appear to improve students' generally negative views on portfolios. Despite the positive responses with regard to development of reflective skills as part of using their portfolios, students did not see the benefit of this, and further research should explore whether this is because they do not value reflection, or whether they do not understand the purpose of it, in relation to their practice. It is also evident that portfolios continue to be used by educators, despite the negative attitudes from students regarding their use, and further exploration is required to determine how or if it is possible to enable students to engage in portfolio learning, in order to achieve the benefits that are suggested within the literature.

### Key messages

#### *What is already known on this topic*

Portfolios are widely used within higher education, and particularly within the education of health professionals. There is wide variety within these portfolios, in terms of aims, purpose, structure, format, content, and inclusion in assessment, across and within the disciplines. Despite large volumes of literature evaluating the use of portfolios as learning tools, there has been relatively little discussion regarding the factors influencing student engagement and recognition of value of portfolio learning.

#### *What this study adds*

This study showed that there does not appear to be a clear link between the aims of a portfolio, its structure or content, and students' attitudes to or perceptions of portfolios as a means of learning. Regardless of aims, structure, content, students generally feel the portfolio assists in development of reflective skills and prepares them for the future CPD requirements. However, there appears to be interplay between a number of factors, which impact on the value students place on their portfolios, such as the role of assessment, the guidance and support provided, and the time implications of maintaining and developing their portfolios. Educators need to consider these factors when deciding how to design portfolios within their programmes

of study, and should clearly articulate the purpose of this method of learning to students, in order to try to improve the value given to portfolio use.

### Disclosure statement

No potential conflict of interest was reported by the authors.

### Notes on Contributors

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**Appendix 1 Influence of aims/purpose of portfolio on student responses to themes (number = the number of studies in which students had this response)**

Aims or purpose of portfolios	Collection of evidence (N = 6)		Reflection (N = 7)		Self-awareness (N = 4)		Assessment (N = 8)		Communication (N = 5)		Learning process (N = 7)	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Themes of student responses												
Learning	1	1	1	1	3	2	1	1	1	1	2	2
Theory to practice link				1								1
Learning from practice			1			1						
Self-awareness				1		1						1
Reflective skills	1		2			2			2		2	
Reflective writing				1		1			1		1	
Thinking skills			1			2			1		1	
Skill development				1		1			1		1	
Professional skills and attributes												1
Responsibility for own development			1			1						1
Lifelong learning												1
Influence on practice		1		2		1			1		1	
Emotional aspects, stress, anxiety				1		2			1		1	2
Honesty												1
Guidance given												1
Time taken												2
Value of portfolio		1		2								2
Assessment by portfolio		1										3
Preparation for the future	2		2			1			3		3	

**Appendix 2 Influence of level of standardisation of portfolio on student responses to themes (number = number of studies in which students had response)**

Standardisation of portfolio	Flexible (N = 5)		Semi standardised (N = 4)		Standardised (N = 11)	
	Positive	Negative	Positive	Negative	Positive	Negative
Themes of student responses						
Learning	3	2	1	3	1	3
Theory to practice link						
Learning from practice			1			
Self-awareness	2	1	1			
Reflective skills	1		2		3	
Reflective writing					1	1
Thinking skills	1	1	2		2	1
Skill development						
Professional skills and attributes	1		2			
Responsibility for own development			2			
Lifelong learning						
Influence on practice	1		1			1
Emotional aspects, stress, anxiety	2	2				3
Honesty	1	2				3
Guidance given						4
Time taken			1		1	
Value of portfolio	1	2	1	1	1	
Assessment by portfolio						3
Preparation for the future						

**Appendix 7b - Poster Presentation at the Scientific Conference: From Research to Practice: Across Nursing, Midwifery and Health Sciences. Bochum, Germany, September 2018**

## ATTITUDES TO CONTINUING PROFESSIONAL DEVELOPMENT (CPD) IN HEALTHCARE – IT’S ALL ABOUT MOTIVATION!

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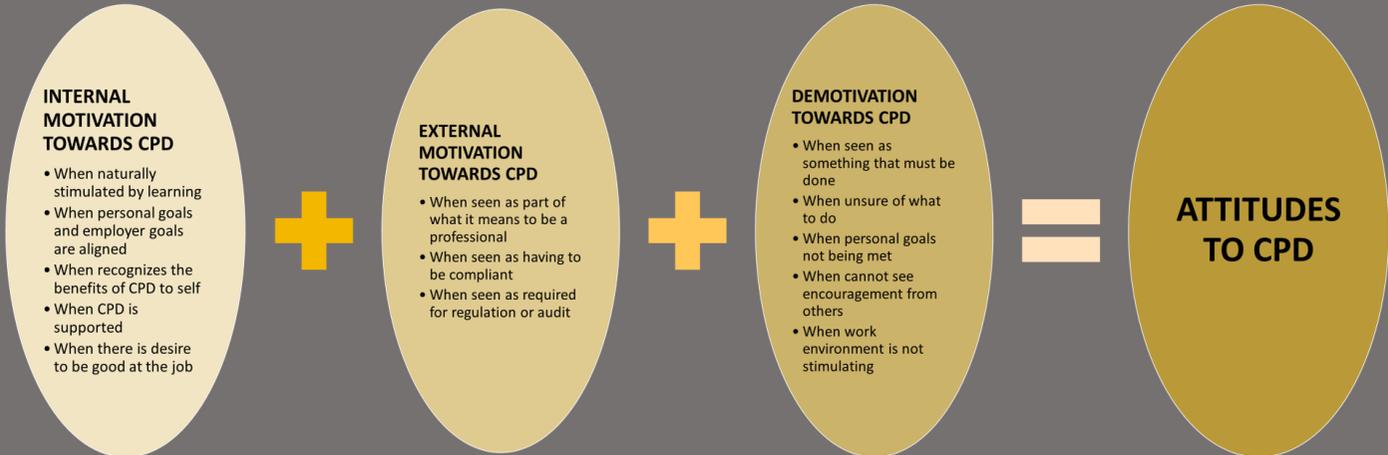


**BACKGROUND** – While research has identified benefits and barriers to CPD and the reasons why Physiotherapists undertake CPD<sup>1-4</sup>, no Physiotherapy specific research has investigated the factors influencing Physiotherapists’ attitudes and motivations towards CPD. Within Radiography, research suggests that internal motivation for lifelong learning is influenced by previous experience, commitment to the profession, a sense of professionalism, self-esteem, job satisfaction and the perceived value of CPD. This internal motivation, however, can be affected by external factors such as professional and regulatory body requirements, but also by the culture for learning in the work place, funding and time support<sup>5</sup>.

**METHODS** - Semi-structured telephone interviews were used to collect qualitative data from five UK Physiotherapists. Participants were recruited following completion of an online questionnaire, which formed part of the larger study, but is not reported here. Interviews were recorded, and transcribed in full by the first author. Cross-case analysis was used to consider each dataset in relation to the others, and to identify similarities and differences between the participants views, while still allowing the uniqueness of individuals to be represented in the results<sup>6</sup>.

**AIM** - The aim of this study was to investigate factors influencing UK Physiotherapists’ attitudes to CPD. This study formed part of a larger piece of work undertaken at doctorate level. Ethical approval for the study was received from the University of Central Lancashire STEMH ethics committee.

**RESULTS**  
Three types of motivation appear to affect Physiotherapists’ attitudes towards CPD. While some participants leaned more towards one type of motivation, there was interplay between all three types of motivation in all participants. While previous research<sup>5</sup> suggests professionalism as an internal motivator, this study found that participants talked about it in an abstract fashion, resulting in it being classified as an external motivator.



INTERNAL  
MOTIVATION  
TOWARDS CPD

- When naturally stimulated by learning
- When personal goals and employer goals are aligned
- When recognizes the benefits of CPD to self
- When CPD is supported
- When there is desire to be good at the job

+

EXTERNAL  
MOTIVATION  
TOWARDS CPD

- When seen as part of what it means to be a professional
- When seen as having to be compliant
- When seen as required for regulation or audit

+

DEMOTIVATION  
TOWARDS CPD

- When seen as something that must be done
- When unsure of what to do
- When personal goals not being met
- When cannot see encouragement from others
- When work environment is not stimulating

=

ATTITUDES  
TO CPD

**IMPLICATIONS FOR PRACTICE**  
Physiotherapists can be internally and/or externally motivated and/or demotivated towards CPD. There appears to be interplay between these, which can lead to internal conflict within the individual, resulting in further demotivation. Attitudes to CPD reflect this internal conflict, with Physiotherapists saying they know they “should” undertake CPD, but generally feeling disempowered to move forwards with stimulating learning and development. Understanding of the factors influencing attitudes to CPD amongst UK Physiotherapists, and why they may be motivated or demotivated to undertake CPD, should allow employers to work with their staff in order to eliminate or reduce demotivating factors, to improve motivation and therefore encourage more positive attitudes towards CPD.

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## The influence of student portfolios on attitudes towards continuing professional development in physiotherapy: insights from a mixed methods study.

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**Introduction**

In the United Kingdom (UK), seeking to continuously improve as a physiotherapist is a standard set by the Chartered Society of Physiotherapy (CSP)<sup>1</sup>. The Health and Care Professions Council (HCPC) audit continuing professional development (CPD) on a two-yearly cycle. With this in mind, CPD portfolios are widely used and often assessed in physiotherapy pre-registration programmes.

Literature reports that health students questioned the validity of portfolio assessment, as each portfolio is unique<sup>2</sup>, or felt that pass-fail assessments caused them to devalue the portfolio process. Students generally commented negatively about guidance and support<sup>3-5</sup>. Research suggests a student portfolio equips students with skills required for using a portfolio post-qualification<sup>6-8</sup>, but none of the literature specifically investigated the influence of guidance, assessment or feedback of a student portfolio on students' attitudes to CPD moving forwards into their careers.

**Purpose**

To explore the influence of student portfolio guidance, assessment and feedback on final year physiotherapy students' attitudes to CPD and CPD portfolios.

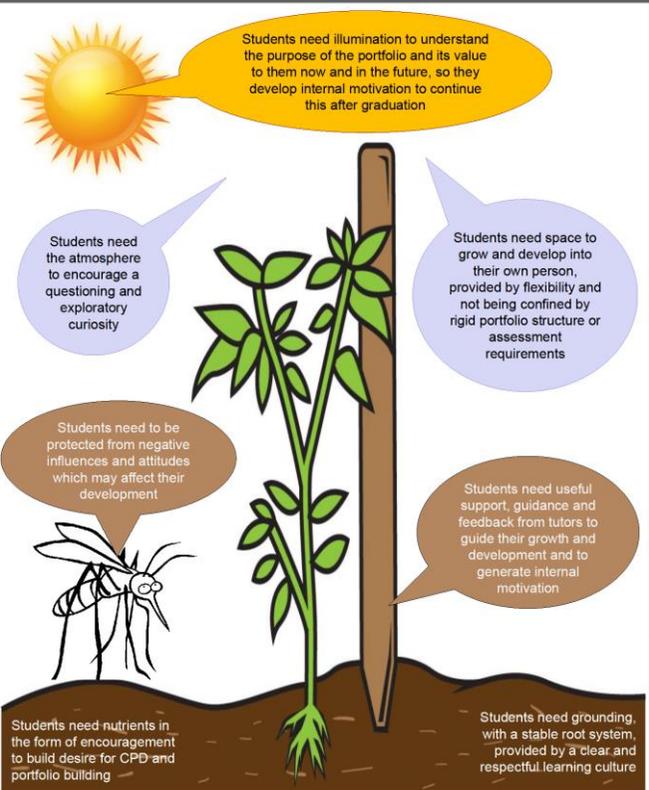
**Methods**

Data was collected from 53 final year physiotherapy students in the UK using an online questionnaire, which was developed following a review of literature on healthcare students attitudes to using a student portfolio. Students were asked to rate their perceptions of the support they were given for portfolio development, the assessment of their portfolios and the feedback they received on their portfolios.

The ordinal likert-style data were analysed using descriptive data for the full group, and then using Kruskal-Wallis or Mann Whitney U Tests as appropriate, with the sample compared in three ways –

- Positive vs. negative perceptions of guidance for portfolio development
- Assessed vs. unassessed portfolios
- Positive vs. negative perceptions of feedback on the portfolio

Three students who completed the questionnaire were interviewed by telephone in the second phase of the study. Thematic analysis was applied to the telephone interview transcripts, using a case based analysis process.



Students need illumination to understand the purpose of the portfolio and its value to them now and in the future, so they develop internal motivation to continue this after graduation

Students need space to grow and develop into their own person, provided by flexibility and not being confined by rigid portfolio structure or assessment requirements

Students need useful support, guidance and feedback from tutors to guide their growth and development and to generate internal motivation

Students need grounding, with a stable root system, provided by a clear and respectful learning culture

Students need nutrients in the form of encouragement to build desire for CPD and portfolio building

Students need the atmosphere to encourage a questioning and exploratory curiosity

Students need to be protected from negative influences and attitudes which may affect their development

**Discussion & Conclusions**

There appears to be interplay between a number of factors in terms of physiotherapy students' attitudes to CPD and portfolios, and no single factor seems to lead to a positive and internally motivated student in terms of CPD and CPD portfolios. If students perceive the guidance they receive on their portfolio positively, this seems to give them more positive feelings towards what they have developed through using a portfolio, however this was not the case for Ruth. Where portfolios are unassessed, students seem to value the portfolio process and lifelong learning, however, this did not apply to Bridget, and Gail's assessed portfolio seemed to give her similar attitudes to those with an unassessed portfolio in the questionnaire. A positive perception of the feedback provided appears to improve students' awareness of the skills they have developed through using a portfolio, improve their self-awareness and also their self-belief in abilities, all valuable skills and attributes for the lifelong learner.

**Recommendations**

When facilitating student development through the use of a portfolio, educators should recognize the need for useful guidance and helpful feedback and the impact of this on students' perceptions of the value of portfolio development and lifelong learning. Educators should also consider whether assessment of the portfolio is necessary in terms of the aims of the portfolio as part of the curriculum.

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