Physiotherapy student practice education: Students' perspectives through Cultural-Historical Activity Theory

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Abstract

Physiotherapy student practice education, the focus of this thesis, is a highly valued, yet scarcely researched component of pre-registration physiotherapy education. Moreover, the student voice is largely absent from existing research. In this study, 14 physiotherapy students' perspectives of practice education were gained through email communications (*n*=13) and face-to-face interviews (*n*=12). To provide an in-depth and provocative view, physiotherapy student practice education was analysed as a type of activity system, employing concepts borrowed from cultural-historical activity theory (CHAT). Interacting activity systems, objects, players, rules, norms, divisions of labour, mediating artefacts, intra- and inter-systemic contradictions were explored and identified. The findings show that assessment skewed students' object motives. Practice educators were positioned as powerful gatekeeper/assessor gift-holders. Physiotherapy students enacted 'learning practice' norms, such as extensive reading, and adopted the position of practice educator-pleaser. Students sometimes refrained from speaking when they wanted to, for example, to challenge unprofessional staff behaviour. Students were reluctant to show themselves as learners, feeling instead that they needed to present themselves as knowledgeable, able practitioners. However, students did not easily recognise themselves as able contributors to practice. For students, knowledge for practice was focussed on patient assessment and treatment, but the level, depth and volume of knowledge required was perceived differently across distinctive practice areas. Intra- and inter-systemic contradictions, such as the skewing of student object motives towards assessment, and away from whole-patient-centred care, are highlighted. The study findings therefore have implications for patient care as well as for the object of physiotherapy student practice education, student learning and assessment and workplace learning. A cross-profession review of the object of physiotherapy student practice education, to include the voice of service users, students, practice educators, HEIs and service providers, is recommended. A review of physiotherapy student practice-placement assessment, which seemed to be at the core of PSPE dynamics and conditions, is recommended, to take account of the extent to which assessment can influence students' PSPE object motives, PE/student dynamics and student/patient interactions. Developmental Work Research is proposed as a way forward for future research in this area.

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List of Abbreviations

AT – Activity Theory

CHAT – Cultural Historical Activity Theory

CPD – Continuing professional development

CSP – Chartered Society of Physiotherapy (UK professional body)

DWR – Developmental Work Research

HCPC – Health and Care Professions Council (UK regulatory body)

HE – higher education

HEI – higher education institution

NHS – National Health Service

PE – practice educator

PSPE – physiotherapy student practice education

SLT – Situated Learning Theory

QAA – Quality Assurance Agency for Higher Education

WCPT – World Confederation for Physical Therapy

WHO – World Health Organization

ZPD – zone of proximal development

Chapter 1

Introduction/Background

1.1 Introduction

This chapter introduces and provides the background to my study of physiotherapy student practice education (PSPE). My interest in PSPE has grown over more than 30 years; in my career as a registered physiotherapist with experience in practice, education and working within the professional body to support PSPE. With added experience has come the realisation that there is much more to know about PSPE; a complex phenomenon. The aim of this study is to make a contribution to what is known about PSPE as well as to highlight what is not known about this largely historical PSPE practice.

This chapter is presented in three further sections. In the first I give a brief outline of physiotherapy and in the second I consider how physiotherapy is changing in a changing world; highlighting in both of these sections the relevance of this shift to physiotherapy education. In the third section I give a brief account of physiotherapy education. The third section concludes with an account of PSPE, the focus of my study, and ends by giving a preliminary rationale for my study.

1.2 Physiotherapy

The name of my profession, ‘physiotherapy’, is synonymous with the term ‘physical therapy’. Globally, these titles are the sole preserve of persons who hold recognised qualifications approved by national professional associations that are members of the World Confederation for Physical Therapy (WCPT). The WCPT member organisation in the UK is the Chartered Society of Physiotherapy (CSP). However, registration with the regulatory body, the Health and Care Professions’ Council (HCPC), is mandatory to allow an individual to use the title ‘physiotherapist’ and to practise physiotherapy in the UK. The

abbreviated CSP definition of physiotherapy, provided below, is highly relevant to my study as it provides an indication of what is expected of physiotherapy students when they enter the profession; what they are assumed to know about their profession, and how they are expected to work.

1.2.1 Definition of physiotherapy

> "Physiotherapy is a healthcare profession that works with people to identify & maximise their ability to move & function. Functional movement is a key part of what it means to be healthy. This means that physiotherapy plays an important role in enabling people to improve their health, wellbeing & quality of life.
>
> Physiotherapists use their professional knowledge & practical skills, together with thinking skills & skills for interaction in their day-to-day practice. This combination of knowledge & skills means that practitioners can work in partnership with the individual & other people involved with that person. Physiotherapists recognise that physical, psychological, social & environmental factors can limit movement & function. They use their knowledge & skills to identify what is limiting an individual's movement & function, & to help individuals decide how to address their needs.
>
> Physiotherapy's values means that practice is person-centred, ethical & effective. The evidence-base underpinning physiotherapy is constantly evolving as practitioners develop new knowledge & understanding through critical reflection, evaluation & research. […]
>
> Physiotherapy is an autonomous profession. […]
>
> Physiotherapy maintains strong links between clinical & academic settings. This means that the profession responds to developments in practice, education or research, & actively ensures its workforce continues to be fit for purpose."

(CSP 2010 rev. 2013, p.4)

While this definition outlines the breadth and scope of the remit of the physiotherapy profession, it does not reveal the complex and dynamic nature of its practices or how it has continued to change over time. The history and development of physiotherapy, the issues affecting contemporary practice, and the drivers for change are outlined in the next section.

1.3 Changing practice in a changing world

Western physiotherapy has developed as its scientific basis has advanced and in response to sociocultural changes and key historical events such as the World Wars, poliomyelitis epidemics (Pynt et al. 2009) and technological advances. Physiotherapy practice and knowledge, and therefore physiotherapy pre-registration education, is continually shifting over time. For example, the Ottawa Charter (World Health Organization 1986) changed the emphasis of physiotherapy from being entirely focussed on 'curing' the individual to becoming concerned with health improvement and promotion in wider populations (Higgs 2009). This resulted in health improvement becoming a core component of physiotherapy programme curricula. Another example of shifting physiotherapy pre-registration education to influence practice stems from the promotion of learning together to work together by the World Health Organization (1988); "as a means of cultivating collaboration between professionals in health and social care, and ultimately to enhance patient care" (cited in Richardson et al. 2004, p. 216). Inter-professional education is now a common feature in UK pre-registration physiotherapy programmes and this is promoted by the CSP (CSP 2015a).

Ongoing changes in health and social care policies in the UK are influencing physiotherapy practice, causing it to become increasingly varied and complex. The smorgasbord of settings in which physiotherapists work has grown dramatically over the past three decades, and a traditional focus on acute, inpatient and manual therapy has shifted to anticipatory care, self-management and health improvement initiatives in the community. However, most physiotherapists in the UK are still employed by the National Health Service (NHS), which is constantly pursuing a modernisation agenda in response to social and cultural changes, advances in medical sciences and technologies, and strict financial constraints. There is widespread agreement at government level and in the NHS that the roles and responsibilities of healthcare professionals need to develop within new models of care in order to deliver new ways of working; for example, in integrated teams or in extended roles (NHS

England 2014 and 2015, Scottish Government 2012, Scottish Government 2013).

Evetts (2009) provides a useful discussion addressing changing modes of professionalism in changing times. She distinguishes and highlights contemporary tensions between 'organizational professionalism' and 'occupational professionalism'. The former is characterised by a discourse of professionalism as a form of occupational control within hierarchical structures and the latter emphasises relationship over structures, and demonstrates an orientation to work where the "needs and demands of audiences, patients, clients, students and children are paramount" (Evetts 2009, p. 252). Evetts's discussion helps to bring to light the tensions between organisational structures and systems, and between resource constraints and the duty of providing the 'ideal', patient-centred professional service that physiotherapists and other NHS staff encounter in their day-to-day work.

As physiotherapy changes in a climate of such tensions, the process entailed in becoming a physiotherapist must also change. In response to the changing status of physiotherapy in the 21st century, the need for "high standards of education based on the best available research evidence in order to provide appropriate and effective high quality practice" has been emphasised (Webb et al. 2009a, p.5).

1.4 Physiotherapy education

Pre-registration physiotherapy education in the UK is provided by higher education institutions (HEIs) at a minimum of Bachelor of Science (Honours) degree level. The transition of all physiotherapy educational programmes in the UK from vocational training to the Higher Education (HE) system by 1992 was considered essential by the profession to "maintain the academic quality of applicants, and to provide the analytical and research skills that would be demanded by autonomous practice in an increasingly evidence-based healthcare system" (Bithell 2007, p. 146). Given the rapid growth of the knowledge available to physiotherapists and the increasing diversity of

physiotherapy contexts of practice over the last 30 years, physiotherapy programmes have moved from being didactic to student-centred; focussing on students learning how to learn. It is a requirement that current-day physiotherapy students are required to develop as "reflective, innovative and autonomous practitioners" (Stainsby and Bannigan 2012, p. 459).

Pre-registration physiotherapy education is strongly regulated in the UK. The requirements of the regulatory body, the HCPC, the professional body, the CSP, and the university sector must be met with respect to programme approval and the monitoring of the quality of course delivery. In addition, the Quality Assurance Agency for Higher Education (QAA) sets out the formal expectations that all UK higher education providers reviewed by the QAA are required to meet (QAA 2014). The HCPC assesses physiotherapy programmes against HCPC Standards of Education and Training (2014). The expectations for CSP accreditation of UK qualifying physiotherapy programmes are set out in CSP quality assurance processes (CSP 2010).

The CSP Learning and Development Principles for CSP Accreditation of Qualifying Programmes in Physiotherapy (CSP 2015a), HCPC Standards of Proficiency (2013) and QAA Academic and Practitioner Standards (2001) indicate the assumed norms of what those undergoing physiotherapy pre-registration education in the UK should be learning and what the outcomes of their learning should be. HCPC approval of any given pre-registration physiotherapy programme indicates that its graduates will be able to meet their Standards of Proficiency: Physiotherapists (HCPC 2013), including the ability to practise autonomously. The unique blend of professional behaviours, underpinning values, knowledge and skills required for contemporary physiotherapy practice is set out in the CSP Physiotherapy Framework (CSP 2010 rev. 2013). This Framework is based on the idea that physiotherapy is a complex intervention.

Physiotherapy programmes have the responsibility of "ensuring that graduates have the appropriate knowledge, skills and abilities to practise safely, effectively and independently in a range of settings" (Webb et al. 2009a, p.10). Educators

also have responsibilities such as helping students to understand the professional purpose of physiotherapy (Richardson et al. 2002). Furthermore, physiotherapy graduates need skills that will enable them to adapt to changes, evaluate their practice, develop professionally and function in multi-disciplinary teams (Hunt et al. 1998). One of these skills, clinical reasoning, "a context-dependent way of thinking and decision making in professional practice to guide practice actions" (Higgs 2006 cited in Higgs and Jones 2008, p.4), is a focus of modern physiotherapy. The goal of physiotherapists' reasoning is wise action; making the best decision in a specific context (Jones et al. 2008).

Whilst some forms of physiotherapy knowledge are considered to be learned explicitly from literature or university classes, others, which may be found more in practice, are thought to be 'acquired' more by observation, practice, imitation, experience (Sefton 2001), report writing (Lähteenmäki 2005) and from exposure to the language of and wider participation in professional discourse (Webb et al. 2009b). Physiotherapy pre-registration education is therefore shared between HE and healthcare systems with programmes normally including lectures/tutorials, HEI-based practical classes and practice education (PSPE). PSPE, the focus of my study, will now be discussed further.

1.5 Physiotherapy Student Practice Education (PSPE)

Although physiotherapy curricula may vary, all physiotherapy students experience PSPE. The CSP has set 1000 hours of PSPE as an appropriate minimum. This large amount of supervised practice experience may be an indication of the importance that the profession places on the need to learn by doing, but the CSP has retained this position due to "increasingly diverse programme structure, length and level; the CSP's emphasis on students completing an individual profile of learning within the practice environment; and the need to ensure consistently high quality provision responsive and relevant to the demands of contemporary professional practice" (CSP 2015a, p. 12). Since 2005, the CSP have supported more flexibility in the range of experiences that may be counted as PSPE hours, including inter-professional learning, case conferences and observation of surgical and other procedures (CSP 2005).

Richardson et al. (2004), who also take a wide view of knowledge sources in practice, suggest that, “Through practice, new things can be learned each day in relation to patients, the professional role, colleagues, the community and the healthcare system” (p. 206). However, working with actual patients was cited by physical therapy students in a study by Babyar et al. (2003) as the primary means of learning clinical reasoning skills.

PSPE usually takes the form of six-to-eight full-time assessed practice placements ranging from three-to-eight weeks in length. Practice placements may be integrated between academic modules or taken in a one-year block. Practice placements are mainly based in the NHS but encompass a range of settings, from hospital-based acute care to sports clubs, workplaces and individuals’ homes. It has been suggested that educators believe that the wide exposure of students to varying sites and settings better prepares graduates for the workforce (Dean et al. 2009). Furthermore, Higgs et al. (2009) propose that “placements help to frame students’ expectations and perceptions of a variety of physiotherapy workplaces” (p. 60).

Practice-placement settings are characterised by the “inherent ambiguities, un-predictabilities and complexities of any human services arena” (Higgs 2009, p. 34). Therefore, as well as profession-specific knowledge and skills, students also need to develop communication, team-working, and interpersonal skills (Jones et al. 2010) and to learn to develop attributes such as cultural competence (HCPC 2013), the ability to respond to ethical issues (Geddes et al. 2004) and to develop professional personae. It is expected that “attitudes, values, and beliefs underlying professional behaviours will be acquired through clinical interactions” (Plack 2006, p. 37).

In physiotherapy education, and in healthcare education in general, the common exigencies for professional development include: patient expectations, increasing volumes of propositional knowledge, changing demographics, new technologies, different patterns of healthcare and hierarchies of authority, and limited resources (Sefton 2001); all adding to the complexity and fluidity of PSPE (Delaney and Molloy 2009). Therefore, although it can be claimed that

there is a tendency for practice to become routine and predictable (Usher et al. 1997), practice situations are arguably not only unique, but are also characterised by a complexity and uncertainty which resist routinisation. The nature of PSPE is therefore complex, involving students physically, emotionally, mentally and spiritually in planned, direct embodied experiences of practice (Fenwick 2003).

Physiotherapy student learning in practice implies becoming able to function and interact with patients, their next of kin, physiotherapists, other professionals and fellow students (Skøein et al. 2009) and to successfully practise in a professional environment (Giberson et al. 2008). However, there is uncertainty about what it actually means to learn something as well as what sort of learning is considered suitable to meet individual and societal needs (Illeris 2002).

Goulet and Owen-Smith (2005) purport that, for physiotherapy students, learning is a "complex of cognitive, social, affective, motor and sensory activities and students in practice are expected to demonstrate knowledge, skills, and behaviours defining the performance of physical therapists which encompass the cognitive, psychomotor, and affective learning domains" (p. 67). However, some theorists, for example, Illeris (2009), would place more emphasis on the environment, highlighting that all learning implies the integration of an external interaction process between the learner and his/her social, cultural or material environment, and an internal psychological process of elaboration and acquisition. In addition, Christensen et al. (2008) called on educators to help students "understand the *whole* of the learning that is becoming a professional – a physiotherapist – in the bigger context within which the learning of how to be a physiotherapist (*part*) and of how to do physiotherapy (*part*) are interrelated and inseparable from each other" (p. 392).

Physiotherapy students are educated, supervised and assessed on practice-placements by practice educators (PEs). Alternative terms for PE, sometimes used in physiotherapy internationally, are 'clinical educator', 'clinical supervisor', 'senior' and 'clinical instructor'. PEs are normally more experienced physiotherapists, although physiotherapists of all grades (Bennet 2003a) and

other registered health/social care staff are considered capable of contributing to PSPE (CSP 2014; Morris 2011). Models of student supervision vary, but normally the 1PE:1student, 1PE:2 student or 2PE:1student ratio models prevail. Due to the shortage of available practice-placement opportunities, models of multiple student/PE ratios were a focus for PSPE research in the UK in the noughties (Baldry Currens and Bithell 2000, Baldry Currens 2003, Baldry Currens and Bithell 2003, Moore et al. 2003, Morris and Stew 2007). This was similarly reflected in international research in both Canada (Miller et al. 2006) and Australia (Lekkas et al. 2007; Stiller et al. 2004). However, a review of the literature by Lekkas et al. (2007) concluded that no model of PSPE has been found to be superior.

The preparation of PEs for their role is the responsibility of HEIs who provide PE preparation and development programmes. Although practice varies, HEI tutors normally act as a link between university and practice settings. HEI tutors normally communicate with and/or visit students and PEs on practice placements to provide support and guidance. However, students themselves are expected to be active agents in their education; to be self-directed in their learning and in the evaluation of their learning experiences (Higgs et al. 2009). Nevertheless, PEs hold responsibility for ensuring that the contributing elements of a practice placement cover all relevant learning outcomes (Health and Care Professions Education Leads Group 2016). Specific practice-placement student learning outcomes are devised by HE programme providers; often in liaison with practice colleagues and/or other providers.

Efforts to contribute to PSPE reflect the high regard that it holds across the physiotherapy profession. The CSP views student learning derived from HEI and from practice-based settings as being of equal importance, and “practice-based learning is regarded as an indispensable and integral part of the learning process” (CSP 2015a, p. 5). Findings from a small-scale study by Hilton and Morris (2001) support the argument that the clinical setting is an ideal learning environment for physiotherapy students to develop skills conducive to collaborative practice. PSPE is generally recognised by the WCPT (2011), physiotherapy educators (Baldry Currens and Bithell 2000) and students

(Lindquist et al. 2004) as a fundamental component of the physiotherapy curriculum which offers a unique experience which cannot be replicated elsewhere. As Walker (2001) states: "Although such experiences are generally brief, they provide students with authentic professional models and a powerful motivation to master the knowledge and skills of their profession and to enter into their chosen community of professional practice" (p. 26). Further, Higgs et al. (2004a) state: "In academia we may teach reasoning, knowledge, theory and technical skills, but unless these are grounded in practice they are merely mental gymnastics, academic curiosities or physical prowess. They need the reality and experience of practice to give them significance and meaning" (p. 52).

However, PSPE practice has been questioned more recently. For example, through her works, Clare Kell (Cardiff University) has probed aspects of PSPE, including PEs' conceptions of teaching, means by which physiotherapy education is practically accomplished, what students are really learning, and observed relationships between patient-centred professional education rhetoric and PSPE learning activities (Kell and Jones 2007; Kell and Horlick-Jones 2012; Kell 2013, 2014). Kell's studies have made a welcome contribution to PSPE research by employing a range of research methods to illuminate previously unnoticed and unquestioned habits and norms in professional practice. Kell's findings have included thought-provoking suggestions that:

- PSPE is predominantly underpinned by a knowledge transmission conception of teaching (Kell and Jones 2007);
- Science is enacted and plays a privileged role within PSPE (Kell and Horlick-Jones 2012);
- PSPE is a powerful situated learning environment in which students see, experience and learn to reproduce the physiotherapy practices valued by the local placement (Kell 2013);
- PSPE interactions, which the educator, the student and the patient coproduce unquestioningly, frame patients as person-absent audio-visual aids to learning (Kell 2014).

Kell's work (Kell and Jones 2007; Kell and Horlick-Jones 2012; Kell 2013, 2014) challenges physiotherapists and others to look behind practice-placement policy rhetoric and explore the reality of students' learning in practice. Morris (2011), in her study of physiotherapy students' lived experiences of formative assessment during PSPE, also highlights areas of PSPE that require attention. Morris's findings suggest that assessment can detract from student learning as well as enhance it. Others across healthcare have also questioned the sacrosanct status of practice-placement education in healthcare. McAllister et al. (2010) state: "The view that the unquestioned 'gold-standard' for professional education is actual placement in real-world field settings is shifting, and this changing perspective opens up the use of many different approaches to teaching and learning along the continuum from the classroom to the field" (p. 5). Approaches considered include problem-based learning, case-based teaching in the classroom, project placements, simulation, standardised patients, service learning and volunteer placements (McAllister et al. 2010). The use of simulation (simulated patients in the classroom and virtually) to reduce the burden on student practice-placement capacity has also cropped up, specifically in relation to physiotherapy (Webb et al. 2009a; Jones and Sheppard 2008).

Despite these developments, PSPE, which requires considerable investment in terms of effort, time and finance by placement providers, HEIs and students, is an activity which is largely uncontested or supported empirically. Physiotherapy students routinely undergo PSPE which is essentially based on historical assumptions that being in and participating in practice provides optimal opportunities for students to learn the 'whats', 'hows', 'wheres' and 'whys' of physiotherapy to become 'fit-for-purpose' practitioners.

PSPE may remain largely unchallenged because those involved in physiotherapy and physiotherapy education feel that it works. Alternatively, this may be to do with how the physiotherapy profession has prioritised its research activities. Physiotherapy research priorities may have been driven away from PSPE by the relative youth of the profession in terms of degree-level entry status, the need to prove the academic worth of physiotherapy within HEIs, and

the need to rapidly build an evidence base for the profession in response to financial and inter-professional threats to service provision. Health policy has directed funding towards research programmes studying the efficacy of treatments and technologies, with the aim of improving healthcare and targeting resources more effectively (Bithell 2005).

However, education is also a major determinant of the shape of physiotherapy's future (Higgs et al. 1999). Although this has settled in some areas, the pressure to provide sufficient numbers of student practice placements and replace PSPE with other activities is currently aggravated by NHS cutbacks/staff shortages which threaten dedicated staff time for the supervision and education of healthcare students and the necessary training required. It has been claimed that many physiotherapy programmes do not currently provide 1000 hours of PSPE, with placement shortages as well as curriculum cramming being cited as reasons for this (Jones and Sheppard 2008). Furthermore, it has been indicated that some final-year UK physiotherapy students feel unprepared for employment (Jones et al. 2010).

Before I present the relevant literature, I outline my personal history and developing interest in PSPE; including a brief ontological framing.

1.6 My personal history and what led me to this research

I have been a member of the physiotherapy profession for over 36 years. Over this time, my assumptions about patient care and physiotherapy education have been challenged and transformed. As a physiotherapy practitioner, I have shifted my approach from being a patient 'treater' to a 'partner' in patient-centred care. As an educator I have critically reviewed my own, mainly 'didactically' delivered, pre-registration physiotherapy education, and have developed, with further study and practice, a student-centred approach. These personal developments have been necessarily accompanied by shifts in how I view and position myself, patients, students and others within professional actions, interactions and activities.

I hold the assumption that patient-centred and student-centred professional approaches go hand-in-hand. That is, that they are both based on professional values of respect, empowerment, unconditional support and the liberation of (potentially vulnerable and oppressed) others. However, these are not internal ways of thinking, but rather, are ways of being that are enmeshed in professional codes and values, healthcare and education policy, actions, interactions and activities in the cultural, historical and material worlds of healthcare and education; as well as in personal and social life. I follow Dewey's (1917 [1980], cited by Elkjaer 2009) concept of experience as "ontological and based upon the transactional relation between subject and worlds" (p. 79). However, these ways of experiencing and being are not straightforwardly virtuous, but rather, are laden with contradictions and challenges that provoke further personal learning and development.

For most of my professional life, whether as a physiotherapy practitioner, PE, HEI-based educator, HEI practice-placement coordinator, project worker or researcher (during this project), I have been closely involved with the delivery, quality enhancement and development of PSPE. My work in this area has ultimately focused on the provision of high quality physiotherapy through others (students/graduates). However, in my experience, PSPE, as a social, collaborative activity involving students, patients and their families, PEs and professional colleagues, has thrown up many tensions and contradictions; for example, in the variation in individual PSPE practitioners' opinions of what should happen when students make mistakes in practice placements.

Work dedicated to human services throws up constant uncertainties and questions. However, I have come to embrace these and accept the view of myself more as a flexible, thoughtful, developing physiotherapy professional. Part of this development involves taking a critical view of accepted physiotherapy practices and views of professional research and knowledge. For example, in this study, I welcome the opportunity to be part of a physiotherapy movement that is shifting away from the burdens of a positivistic framework which seems to look for certainties in the uncertain, dynamic worlds of healthcare and education (as advocated, for example, by Kilminster (2009)

and Richardson (2001), and as discussed in Chapter 2). Also, I embrace the relational ontology offered by the socio-cultural theories of Vygotsky and others, such as Dewey, who reject the divisions between 'person and world' and 'theory and practice' (Taylor 2014). To me, this ontological framing harmonises physiotherapy practice and education: both of which are bound up in this PSPE research.

At this stage in my career, for me, the values and ontological framework outlined above are accompanied by the desire to make a contribution to my profession by enhancing our knowledge about PSPE. This thesis, although a new situation, with its own unique character, brings together my life's work and a desire to make a contribution to PSPE and, therefore, patient and student care. As Roth (2009) puts it, "We are what we do" (p. 68).

My growing awareness of the multifaceted, problematic nature of PSPE, the paucity of relevant research, potential threats to PSPE and who I now am (in terms of my experience and goals), have influenced my decision to contribute to research in this area. The current climate of financial restraint in the NHS (King's Fund 2017), increasing concerns related to decreases in staffing and rising demand for services (CSP 2017), and changing roles for healthcare staff (Scottish Government 2013), all indicate that it is timely to pay closer attention to PSPE within dynamic workplaces that are increasingly faced with the potential to be placed under more pressure. The prevalence of appeals for more support for PSPE from qualified physiotherapists in communications with members of the professional body (CSP) (Frontline 2017a, 2017b) indicate that, in some areas, the availability of practice placements and, therefore, PSPE, is becoming limited. Given the close relationship between practice and the education/preparation of new practitioners, it is important to find out more about contemporary PSPE; what it is, what students are being and could be exposed to, what they are doing and learning about, what they are not doing and not learning about, and how they learn/participate in the physiotherapy workplace. In these times of challenges and constraints, PSPE as a largely historical and potentially vulnerable activity needs to be further analysed, understood and critiqued in order to inform and support future practice.

In my experience of working in physiotherapy education, I have particularly noticed that there is much to learn about contemporary PSPE experiences from the students; those who are undertaking practice placements in a wide range of different settings during their pre-registration physiotherapy programmes. For example, I am aware that PEs and HEI staff have reportedly benefitted from hearing students' PSPE stories at HEI-based PE conferences and training programmes. However, I have also recognised that some physiotherapy students can be reluctant to openly share their PSPE experiences post-placement, once they have returned to the HEI and are undertaking academic modules (I do not know the reasons for this, although I suspect that they may be multiple). Furthermore, I have also found that the student voice requires stronger representation in PSPE research.

The focus of this thesis, therefore, is to explore what PSPE is about from the perspectives of physiotherapy students. My choice of research approach, as will be explained in Chapters 3 and 4, has been selected to allow the analysis of PSPE and all of its complexities, contradictions and challenges, through students' perspectives.

The next step is to review the existing theory and research relevant to this topic, and this is discussed in Chapter 2.

Chapter 2

Review of relevant literature: Professional knowledges, contexts of physiotherapy student practice education and learning theories

2.1 Introduction

The literature relevant to physiotherapy student practice education (PSPE) that could inform this thesis includes large volumes from health and non-health domains with diverse foci such as practice placement models, peer-assisted learning, role of practice educators (PEs), student assessment, inter-professional education and multiple learning theories. The breadth of this literature is reflective of the complex, multi-dimensional nature of physiotherapy student (and other professional) practice-based learning.

It is outwith the scope of this thesis to provide a comprehensive account of all of this literature. In this chapter, I have selected writings related to the theory and research that are most relevant to the issues of *practice* education as a physiotherapy student learning activity, which is the core of this thesis. This literature is presented in three sections. The first outlines issues of professional knowledge and its development. The second considers the relevance of contexts of PSPE. Socio-cultural theories of learning are explored in the third section. The relevant PSPE/physiotherapy-specific research/literature is referenced and discussed in an integrated way throughout the chapter. Gaps in existing relevant literature/research are highlighted and the need for further study of PSPE, including my study and its chosen theoretical framework, is illustrated.

2.2 Professional knowledges: categories and interplays

Knowledge is considered to be “a fundamental element in the definition and operation of a profession” (Higgs and Titchen 2000, p. 23). The knowledge base of all professions, including physiotherapy, could be said to be a mixture of knowledge from academic education as well as from experience on the job (Ewing and Smith 2001).

In this section I consider the knowledges required for and available within the profession of physiotherapy practice; the ‘personal’ knowledge of physiotherapists, the question of professional ‘craft’ knowledge and the interplay of knowledges for healthcare. The works of physiotherapist educators/researchers/theorists such as Joy Higgs, Lynn Clouder, Barbara Richardson and Claire Kell and their associates are drawn on extensively as they are prominent authors in my field who focus on practice education, the nature and generation of professional knowledge, professional practice and professional socialisation. In a physiotherapy world which leans mainly towards positivism (Higgs et al. 2008a), these authors are helping and inspiring us to move towards alternative paradigms to look at PSPE. I therefore feel that the work of these writers and their associates should be represented in a study concerned with PSPE. Furthermore, an overview of the work of these physiotherapist educators/researchers/theorists provides an insight into current physiotherapy literature concerned with PSPE and knowing.

Below I discuss selected relevant research and literature concerned with professional knowledges.

2.2.1 Professional Knowledges

There is an assumption within physiotherapy literature that “students need confidence in theoretical knowledge to understand the theory behind the problem of the patient and to be able to explain the problem to the patient” (Lindquist et al. 2006a, p. 135). However, as Eraut (2000a) suggests, even in well-theorised areas of practice, the interpretation of theory requires further learning from experience, which would suggest the importance of activities such

as PSPE. Eraut (2000a, p.125) postulates that “for practitioners additional knowledge is required beyond the set of propositions taught as theory and the evidence suggests that this additional knowledge is highly situated and very often tacit”. Taylor (2003, p. 245) agrees, stating: “Positivist knowledge and formal theory are not neutral resources which can be drawn down and directly applied, but are only of use when mediated through the complex filters of practice experience”.

Variation exists in the terms used to describe professional practice knowledge. For example, Jarvis (2004) provides a broad-ranging account of ‘practical knowledge’, with at least the following six dimensions which interact with each other in an integrated fashion when we act in any way. These are: ‘content knowledge’ (propositional and theoretical); ‘process knowledge’ (knowledge of the ‘how’ to do it); ‘everyday knowledge’ (the experience we bring to the learning/action situation, including understanding gained through the senses); ‘attitudes, beliefs, values and emotions’; ‘tacit knowledge’ (enables functioning without apparent thought); and ‘skill’ (the ability to do something). Higgs et al. (2008b, p. 154) describe ‘propositional knowledge’ as that which is “generated formally through research and scholarship”; and as representing the “knowledge of the field”. They describe ‘non-propositional knowledge’ as that which is “generated primarily through practice experience”. Higgs and Titchen (2000) present two types of non-propositional knowledge; personal and professional craft, which overlap and interact with one another and with propositional knowledge to comprise a profession’s knowledge base. Higgs and Titchen (2000, p. 28) define a professional’s ‘personal knowledge’, the result of the individual’s personal experience, as “the unique frame of reference and knowledge of self” which influences an individual’s behaviour and how they translate scientific knowledge and professional knowledge into decisions for practice. In recognition of the fact that the well-being of the whole person (patient) is at the heart of healthcare, Higgs and Titchen (2000, p. 29) propose that personal knowledge needs to incorporate: “affective (feelings), conative (purposefulness, will) and spiritual elements of self”.

The relevance of previous personal experience to physiotherapy education has received some attention in the literature. For example, previous employment experience was deemed to have affected physiotherapy student learning in studies by Cole and Wessel (2008) and Morris (2007). This was supported by Babyar et al. (2003), who report that physical therapy students perceived that prior work experiences in people-orientated jobs or personal experience of caring for others, helped their time management, judgement, communication, problem solving and ability to cope during their studies. Other studies raise awareness of more diverse sources of knowledge having an impact on physiotherapy student knowledge. For example, Richardson et al. (2002) found that students entering physiotherapy education already had varied views of the role of physiotherapists. Richardson et al. (2002) attributed these views to factors such as recruitment literature, prospectuses, school careers advisers, friends and past experiences of healthcare. However, these examples may simply indicate that there are links of historical experience with present experience. They do not necessarily show that knowledge can be carried by an individual from one situation to another.

Higgs and Titchen (2001, p. 527) define professional craft knowledge as "knowledge arising from professional practice experience". Titchen and Ersser (2001a, p. 35) describe professional craft knowledge as "often tacit and unarticulated and sometimes intuitive […] brought to bear spontaneously in the care of patients […] guides day-to-day actions in the clinical area […] underpins the practitioner's rapid and fluent response to a situation […] embedded in practice"; the practical know-how, know-what, know-where and know-when involved in the complex process of simultaneously learning-using-creating professional craft knowledge. It is proposed that this kind of knowledge may provide a deeper and more practical basis for coping with the uncertainties of healthcare contexts (Higgs and Titchen 2000). Although Higgs and various co-researchers/authors have argued for the acknowledgment and value of non-propositional knowledge as well as propositional knowledge in healthcare, it is difficult to locate where they situate the focus of professional craft knowledge.

While these conceptions locate knowledge and knowing processes in the everyday enactments of practice, they tend to be acquisitionist and treat knowledge as an outcome of these enactments. This separates action from cognition, and knowledge from the doing of practice. These formulations also are somewhat decontextualised, treating knowledge as though it floats independently of the activities through which it is generated or the individual's unique participation in these activities. This raises the question of how practitioners themselves view practice knowledge. In relation to this, Higgs (2009, p. 32) states: "Practitioners, consciously or subconsciously, define and construct practice knowledge in a certain way, depending on their adopted views, stances or traditions of what counts as legitimate knowledge and what constitutes the domain-specific knowledge of their professions, this being practice epistemology".

Examples of frameworks of practice which influence how knowledge is viewed in healthcare are presented by Higgs et al. (2008a, p. 164) as biomedical, psychosocial and emancipatory practice models. However, few studies of how physiotherapists view professional knowledge are found to exist. In one example, found in a phenomenographic study by Larsson and Gard (2006), 10 physiotherapists working in different sectors in Sweden reportedly conceived physiotherapy knowledge within four qualitatively different categories. Furthermore, how knowledge was conceived had an impact on how the physiotherapy role was perceived and approached. The four categories identified by Larsson and Gard (2006) were:

1. *Interaction* – influenced by theoretical and practical knowledge. Knowledge used to interact with patients. The physiotherapist is conceived as a coach;
2. *Personal Competencies* – Knowledge occurs within each individual and is tacitly physiotherapist-oriented. The ability to provide good physiotherapy. Influenced more by practical knowledge.
3. *Professional Demands* – related to the professional demands that education, healthcare providers, workplaces, culture and society place on the profession. The perspective is oriented towards the

physiotherapist. Physiotherapy interventions are based on rules, responsibilities, accountabilities as well as competence and decision-making.

4. *Scientific Areas* – physiotherapy knowledge is strongly theoretical and can be accumulated and put into practice. The patient is implicitly described as a passive consumer of physiotherapy. The physiotherapist is an expert.

Larsson and Gard's findings suggest that physiotherapists viewed professional knowledge mostly as that possessed by the individual therapist; although they do give an indication of external influences such as professional rules and responsibilities. These findings contribute to some understanding of the breadth of physiotherapy knowledge, however, the researchers' own conceptions of knowledge may have influenced their findings. Study participants were asked how they 'obtained' their knowledge and this may be reflected in findings which indicate that physiotherapists may conceive physiotherapy knowledge in ways that are located 'within' the physiotherapist. However Larsson and Gard's (2006) study promotes questioning of how physiotherapy students' learning and development is influenced by qualified physiotherapists' conceptions of knowledges and their interactions with service delivery. This highlights an area of research that warrants further attention. Uncertainties surrounding the 'rules and norms' of physiotherapy knowledge in the PSPE activity system[1] have informed my own research questions (set out in Chapter 3).

Although still apparently treating knowledge as a 'possession', Larsen et al. (2008, p. 175) take a more socio-cultural-oriented view, stating that, "The knowledge that health professionals possess is embedded in and arises from the context of their practice". Socially-oriented theorists claim that learning is fundamentally a social rather than an individual phenomenon: they argue that all learning must be seen as being specific to particular "cultural, social and historical contexts" (Walker 2001, p. 23). These theorists move firmly away

[1] The term, 'activity system', is defined in CHAT terms in Chapter 3.

from the concept of knowledge that can be acquired and carried about by the individual towards knowledge as action and participation.

Relevant to healthcare work is Aristotle's *phronesis or practical rationality,* which is "knowledge used in the process of social interaction", used in connection to an ethically rooted kind of knowledge of the values and norms that help people work towards their idea of a good life (Gustavsson 2004, p. 36). However, knowing-in-practice could have desirable or undesirable consequences. Further issues, therefore, such as the ethics of 'good' practice in a particular situation or the power relations that influence what becomes recognised and valued as good practice, need to be considered. Merriam et al. (2007) acknowledge the role of power in determining what constitutes and what is accepted as knowledge and they suggest adding 'emancipatory' knowledge to 'technical' and 'practical' knowledge within a framework for understanding and critiquing adult education as a discipline and as a field of practice.

Knorr Cetina (2001, p. 178), and those working from her sociology of professional knowledge, suggest that what defines good practice and its knowledge is determined within "unique 'epistemic' or knowledge cultures developed in particular professional communities through their tradition of disciplinary practice". Usher et al. (1997, p. 128) define practical wisdom as: "knowing how to act appropriately in relation to the circumstances of a particular situation or context [...] It is knowledge of the world mediated by the need in practice for action". Important to note here is the emphasis on mediation and the notion of knowledge emerging in action itself. These socio-cultural views, to me, resonate strongly with PSPE. Gherardi (2009, p. 118) adopts a radical stance of 'knowing in practice', stating: "To know is to be able to participate with the requisite competence in the complex web of relationships among people, material artefacts and activities". As PSPE is participation in practice and engagement in inter-human and material physiotherapy activities, I accept Gherardi's stance of 'knowing in practice' as a way of viewing the object[2] of PSPE. Following the arguments outlined above, in my study, I therefore

[2] The term 'object' here is used as in Cultural Historical Activity Theory. This is explained further in Chapter 3.

embrace a socio-cultural-historical view of PSPE which allows contextual dynamics and interplays involving rules, norms, ethics, language, people power dynamics and material tools/artefacts,[3] including those concerned with knowledge and which may normally be un-noticed, to come to the fore for scrutiny.

In this chapter section I have presented some relevant conceptions of and arguments surrounding professional/physiotherapy/practice knowledge. The notion of knowing as an individual activity is challenged by sociocultural views. I set out how I embrace a socio-cultural-historical view of PSPE and indicate my acceptance of Gherardi's (2009) stance of 'knowing in practice' as a way of viewing the object[4] of PSPE.

However, there is some agreement in relevant literature that complex professional work and practice knowledge/knowing in practice require the concurrent use, synchronisation and interplay of several kinds of tacit, situated and explicit knowledge in variable proportions and in an integrated, purposeful manner (Edmond 2001; Eraut 1994; Guile and Young 2003; Higgs et al. 2008b; Titchen and Ersser; 2001a). Conceptions of the interplay of knowledges as relevant to healthcare and physiotherapy described in the literature are therefore presented and discussed in the next section. However, the purpose of this section is to reflect how the breadth of physiotherapy (and other healthcare professional) knowledge(s) is represented and historically characterised.

2.2.2 Interplay of knowledges in healthcare

Richardson (2001) purports that diverse sources of reflective, tacit and interpretive knowledge are needed in a professional knowledge base in order to underpin the range of skills required by practitioners working in heterogeneous healthcare settings. Edmond (2001, p. 251) states that healthcare practice requires "integration of thinking, feeling and doing, focussing on performance

[3] Tools/artefacts are defined in CHAT terms in Chapter 3.
[4] The term 'object' here is used as in Cultural Historical Activity Theory. This is explained further in Chapter 3.

and judgement in handling many variables and many levels of problem". Different ways of knowing therefore have a place in the practice education of healthcare students. Higgs (2009, p. 35) proposes that the challenge for students is to know how to know; "to know what is necessary and, at the same time, to identify what more can or should be known, including the art of knowing in practice".

Higgs et al. (2001, p. 6) emphasise that all types of knowledge are needed to provide appropriate patient care, stating: "Clinical practice that includes propositional, practice and personal knowledge provides a sound foundation for practice, reflects the humanity and caring and ethical aspects of the health professions, ensures a holistic approach to therapeutic care, and is more likely to result in assessment and management decisions that meet the patient's needs". Richardson (2001, p. 44), a physiotherapist, makes the point that healthcare professionals who work only from a scientific knowledge base may focus only on "prevention of disease and objectively measurable outcomes of interventions" and that this approach may have little relevance to the needs of patients who wish to manage their quality of life and health in their own communities.

Richardson (2001, p. 43) helps us to see the complexities of professional craft knowledge, stating that it "arises from an awareness of cues from the physical, geographical and chronological location of a healthcare event, which, together with expectations of the patient and others, define or situate action. In professional practice, the propositional knowledge contained in learned texts is integrated with the procedural knowledge of direct application of techniques and approaches in healthcare interventions, into knowledge which is unique to a profession through an interpretation of professional purpose in a specific health setting". In relation to medical practice, Sefton (2001) emphasises the role of personal and professional craft knowledge to manage competing roles, demands and tensions, for example, between autonomous practice and accountability to patients, colleagues, employers and society. Sefton (2001, p. 31) states: "Not only are anticipation of and adaptation to change essential

personal skills, but appropriate responsiveness represents an important element of craft knowledge".

Thus, although propositional knowledge may have dominated health sciences (Higgs and Titchen 2000), perhaps, in allied health professions, in an attempt to emulate the medical profession and justify their professionalisation, there has been growing support in the literature for non-propositional knowledge to be accorded the same validity. Bithell (2005) called for the physiotherapy profession to develop a framework of physiotherapy theory able to embrace not only propositional knowledge, but also the professional craft knowledge and personal knowledge of clinicians. A physiotherapy framework, based on the idea of physiotherapy being a complex intervention, to define and comprehensively illustrate the knowledge, skills, behaviour and values required for contemporary physiotherapy practice, was produced by the Chartered Society of Physiotherapy in 2010 (CSP 2010 rev. 2013). However, how physiotherapists/practice educators (PEs) and academics view or prioritise certain kinds of knowledge and how this may be influenced within work cultures and systems is not known. Moreover, the way in which students and practitioners recognise and deal with the knowledge available to them as part of the learning experience may be among the most crucial aspects of PSPE (Richardson et al. 2004). Awarding primacy to certain types of knowledges may prevent educators and their students from seeing or even looking for other kinds of professional knowledge. For example, a focus on evidence-based practice may have silenced practitioners working with students in practice education and weakened their "confidence in discussing the legitimate contribution of their clinical skills and practice knowledge to their practice" (Richardson et al. 2004, p. 203). Thus, gaps may be created between real and ideal practice which students must negotiate. Furthermore, a narrowly conceived, evidence-based practice stance may prevent practitioners and students from embracing the richer view of the world that pluralism demands (Higgs and Andresen 2001). Kilminster (2009) points out that tensions may exist for healthcare students who have to learn to manage and live with uncertainty in healthcare settings whilst the prevalent discourse about evidence-based practice suggests certainty about, and predictability in, practice outcomes.

However, the nature of professional craft knowledge is such that studying it, understanding it, and making it available to others, such as students, all present considerable challenges. Webb et al. (2009b, p. 56) argue that professional craft knowledge might need to "be rescued for the novice from assumptions of a routine nature". Eraut (2000a, p. 119) also highlights the trials of accessing 'tacit' knowledge, and proposes that the challenge for researchers is to "reach as far as they can down the continuum from explicit to tacit knowledge".

Some dimensions and characterisations of physiotherapy/healthcare knowledge(s) and conceptions of how these are thought to interplay have been illustrated in the literature referred to above. However, uncomplicated locating of and synchronicity between different kinds of professional knowledge for healthcare practice should be guarded against. Jarvis (2010, p. 263) suggests that "there must always be incongruence between even the body of practical knowledge and practice itself", otherwise, "actions would be pre-determined and the social world would be regarded as unchanging". How (and where) practitioners recognise potential learning in practice and represent their knowledge values to students, recognised by Richardson et al. (2004) as the most crucial aspect of PSPE, is thus worthy of further exploration. Tensions between evidence-based practice and practice knowledge and uncertainty in practice have been usefully highlighted by Richardson et al. (2004) and Kilminster (2009), respectively. However, further attention to 'contradictions'[5] between professional demands (I later define these as 'rules') and the realities of physiotherapy practice is required. In my study I seek to expose such contradictions as a means of exploring what PSPE is about.

Following the argument that practice knowledge is "dynamic, context-bound and constructed from different ways of knowing" (Higgs et al. 2004a, p. 53), the contexts of PSPE become important to consider. The literature and theory concerned with the contexts of PSPE will now be discussed further.

[5] 'Contradictions' are defined in CHAT terms in Chapter 3.

2.3 PSPE contexts

As discussed in the previous sections, professional knowledge operates within a number of interconnected, intertwining and dynamic contexts. These include not only the immediate situation in which the individual practitioner acts, but also the practitioner's discipline, workplace and population cultures, society, historical era (Higgs et al. 2004a), the geographical space and movement characterising the practices (Fenwick 2003), the history and materiality of the practice, and the wider historical, political, social and economic situation in which practice occurs (Ewing and Smith 2001).

In this section, the perspectives from the literature that are relevant to PSPE and concerned with how practice knowledge is accessed/gained/applied/ enacted by learners within particular contexts of professional practice, culture, identity and discipline are explored. The literature that is relevant to my study of PSPE is presented in four sections. As student physiotherapists are working towards becoming members of a profession, the first section outlines issues of professional socialisation. The second highlights the attention paid to practice educators (PEs) in the PSPE literature. The third considers the implications of physiotherapy students moving and learning between higher education institution (HEI) and practice placement settings. Reflection, a widely accepted mode of learning within physiotherapy, is considered in the fourth section. The chapter section is then summarised and concluded.

2.3.1 Professional socialisation (students becoming physiotherapists)

In this sub-section, I discuss considerations from literature relevant to the socialisation and identity of physiotherapy students. I then draw on related physiotherapy student-specific research in this area and highlight the relevance of concepts of the socialisation of physiotherapy students to my study of PSPE.

It is generally accepted that students become 'socialised' into physiotherapy within practice-placement contexts in a variety of settings (Higgs et al. 2009). Professional socialisation is a term sometimes used to refer to the explicit and covert ways in which new members of a profession learn to be similar to and

accepted by other professionals (Richardson et al. 2004). In these socialisation processes, the self becomes embedded within the social group in which a professional culture of accepted codes of practice will sanction and normalise the professional behaviours of the group (Richardson 2001). Individuals internalise, by participating in common activities with other humans, the means of culture: language, theories and technical artefacts (Miettinen 2006).

The culture of a profession, such as physiotherapy, has many hues, for example, ethics, standards and dilemmas; and expectations, such as professionalism and accountability (Higgs et al. 2004b). Ways of thinking about professional knowledges and learning also depend on cultural (broader socio-cultural, historical and professional) circumstances (Abrandt Dahlgren et al. 2004). Relevant to this thesis, a notable example of the effect of history on physiotherapy practice and education today relates to the strong influence of and even the subservience and obedience to the positivistic medical model of healthcare. Richardson (2001, p. 43), talking generally about allied health professions, states; "The scientific, positivistic framework has resulted in a neglect of development of the professions' individual bodies of professional craft knowledge". Others view the move of health professional education from practice settings to higher education (HE), with the promotion of propositional knowledge as the basis of legitimate professional education, as contributing to a narrow view held about professional knowledge (Everingham and Irwin 2001). Knowledge from the biomedical sciences has been given precedence in determining what counts as evidence (Higgs et al. 2004a) and concepts such as talent and artistry have become less visible in a cognitive, technically rational paradigm (Larsen et al. 2008).

It has also been suggested that cultural messages within programme curricula may influence physiotherapy student learning in terms of adopting a particular perspective. Chappell et al. (2003, p. 9) argue that "all programmes designed to act as catalysts for personal or professional growth and change contain implicit theorisations concerning the nature of self, its development or capacity for change, and the way the self relates to others or to society more generally". Physiotherapy students have been reported to develop orientation towards a

scientific *or* humanistic perception of physiotherapy (Richardson 1999). For physiotherapy students, therefore, socialisation occurs across higher education (HE) and healthcare activity systems.

Subcultures of social situations such as practice placements, including the degree of formality and the politics and social position of both learners and educators, might also affect either the type of learning or the behavioural outcomes of such learning (Jarvis 2004). Eraut (2000a) suggests that the limited amount of time available and crowdedness of the situation are important variables which are derived from the context rather than the agent or the task, and affect the mode of cognition. Ajjawi et al. (2009, p. 123) state that "learning environments should provide safety in learning situations, allowing students to articulate inaccurate or 'messy' thinking without fear of embarrassment or negative consequences". This notion is supported in the physiotherapy literature by Skøien et al. (2009, p. 276), who state that a "student friendly environment is necessary for learning to happen on physiotherapy student practice placements". However, a practice-placement community will have its "symbols of power, its ideal images, its notions of what counts as important things to know and what is invisible or frivolous, and its desired order of things" (Fenwick 2003, p. 27). These implicit rules or norms[6] are often "embodied in "second nature' practices grounded in local cultural assumptions that are rarely scrutinized" or "made explicit" (Webb et al. 2009b, p. 58).

However, it has been shown that implicit rules or norms in healthcare such as, for example, the criteria serving to establish what is good or bad practice, are worthy of scrutiny. For example, Coulehan (2005) highlights contradictions existing in medical education in the USA between the explicit component of professional development (teaching designed to instil professional values) and the implicit 'hidden curriculum' concerned with the socialisation process. Coulehan (2005) points out that, while the explicit curriculum focusses on empathy, communication, relief of suffering, trust, fidelity, and pursuing the patient's best interests, in the hospital and clinic environment these values are largely pushed aside by the tacit learning of objectivity, detachment, self-

[6] 'Rules' and 'norms' are defined according to CHAT terminology in Chapter 3.

interest, and distrust. In the UK, public trust in healthcare has recently been rocked by events at Mid-Staffordshire Hospital where unprofessional behaviours, lack of whistleblowing and responses to incident reports, appeared to become normalised staff behaviours (Francis 2013). This may be related to a culture of denial and shame which keeps health professionals from airing mistakes or using them to learn and improve (Goldman 2011). As will be discussed in Chapter 3, such implicit cultural norms, which healthcare students are susceptible to and which need to be surfaced and tackled, may be explored using tools from Cultural-Historical Activity Theory (CHAT).

According to CHAT, our experiences, and individuals themselves, are constituted within particular cultural discourses (Fenwick 2003). Thus, the knowing and doing of practice are concurrent, intertwined journeys of being and becoming in practice (Higgs et al. 2008a). Plack (2006, p. 44) argues that becoming a physiotherapist is a "negotiation of ways of being and interacting within the community, which not only includes being 'identified as' a physiotherapist, i.e., recognised as a member of the community, but also 'identifying with' other members of the profession". Professional identity and learning about self, appear to be key factors in motivation to engage with learning (Howatson-Jones 2010). In this respect, professional practice placements are considered to have a major impact (Webb et al. 2009b). Higgs (2010, p. xi) states; "Fieldwork education is primarily where professional identity is shaped and personal identity is challenged and extended". This is a complex area; theoretical perspectives vary, and such conceptions of 'professional' identity as a singular entity may be misleading. Usher et al. (1997, p. 93) remind us that "the very notion of adult learning as a process where desirable changes are brought about is itself dependent upon particular yet often very taken-for-granted conceptions of the self". The self in postmodern, poststructuralist and feminist thought is taken to be multiple, ever changing, and continually being reconstituted (Merriam et al. 2007). However, approaches to experiential learning can problematically assume the learner to be "a stable fixed identity, with transparent access to experience through rational reflection" (Fenwick 2003, p. 82).

Lindquist et al. (2006a, 2006b) are some of few researchers found to examine the professional identity of physiotherapy students. Lindquist et al. (2006b) explore the characteristics of graduating physiotherapy students' professional identity in England and Sweden. From interviews with 18 students, employing a phenomenographic approach, these researchers reveal and describe three professional identities of physiotherapy students at the edge of working life: 'Empowerer', 'Educator' and 'Treater'. Six students fall into each category. Lindquist et al. (2006b, p. 272) report each of these identities to be qualitatively different in "professional focus, preferred working context, view of time, understanding of role, view of knowledge and learning and in level of collaboration with other healthcare staff". These differences are outlined below in Table 2.1.

Table 2.1: Three professional identities of physiotherapy students (Lindquist et al. 2006b)

Empowerer	Educator	Treater
Patient-centred	Patient-focussed	Physiotherapist-focussed
World context	Open context	Treatment context
Time-rich	Time-constrained	Time-bound
Enabler	Instructor	Doer
Informal knowledge	Practice knowledge	Formal knowledge
Experiential learning	Integrated learning	Evidence-based learning
Participation	Activity	Impairment
Movement behaviour	Movement ability	Movement prerequisites
Inter-professional	Rehab-professional	Uni-professional

Lindquist et al. (2006b) present these identities as the outcomes of students' socialisation throughout their physiotherapy education. However, these findings may be affected by the methodological approach adopted by the researchers. It is questionable how six students could fall neatly into such fixed categories, which view knowledge and the position of students and patients so differently, if

we accept that we have multiple selves that come to play according to circumstance (Clark and Dirkx 2000). Furthermore, it may be of concern that physiotherapy students could have reached the point of graduation without adopting at least parts of these identities as well as others along the way in order to participate successfully in complex, dynamic practice-placement communities; especially when two of the 'identities' do not place the patient firmly at the centre of care. Lindquist et al. do argue for the trans-identity development of students in order to meet the expectations and demands of physiotherapy graduates in a changing healthcare world. However, they challenge educators to consider the development of students' professional identities, apparently positioning students themselves in a more passive role. In another paper, as part of the same longitudinal study, Lindquist et al. (2006a, p. 137) describe the professional socialisation of physiotherapy students as "a random process" that occurred through "osmosis" and again challenge teaching staff to come up with the solution; this time by considering how they recognise and ensure variation in development pathways in their student cohorts as part of their professional socialisation. Again, this seems to suggest a passive role by students, whereas, within the sociocultural view, the individual is "one of an active, constructive and transforming agent who shapes and is shaped by their experience of participation in cultural practices" (Walker 2001, p. 25). The suggestions that physiotherapy students may be considered as passive players in PSPE or that they individually position themselves so variably, highlights that the student position in the PSPE activity system division of labour[7] is worthy of further exploration. Drawing on activity theory (CHAT), Smagorinsky et al. (2004, p. 9) view a learner's construction of a professional identity as "a function of action within social settings whose values embody the settings' cultural histories".

Lindquist et al. (2006a) identify distinct perceptions of professional growth and progression in four pathways of development (Reflecting on Practice', 'Communicating with Others', 'Performing Skills' and 'Searching Evidence') which changed from one semester to another, "suggesting individuals may adopt different learning pathways throughout their education" (Lindquist et al.

[7] 'Division of labour' in CHAT terms is defined in Chapter 3.

2006a, p. 129). However, close examination of Lindquist et al.'s (2006a) paper usefully reveals the diversity and complexity of physiotherapy student interactions/learning and a strong focus on practice learning that are perhaps belied by the categorisation of four distinct learning pathways. Of particular interest is the view of learning offered by this paper as social (professional scope, interactions with teams, learning from PEs, peers, patients and relatives), cultural (acceptance of disability) and material (multiple uses of textbooks). Albeit that the presented scope of these dimensions may appear limited, this paper provides a rare socio-cultural-material view of physiotherapy student learning activity. This study may also implicitly reveal rules and norms related to how knowledge is valued in physiotherapy education. The physiotherapy students in the study by Lindquist et al. (2006a), later on in their programmes, reportedly moved away from attention to specific elements of practice towards more patient-centred work, self-directed learning and more critical approaches towards self and others (distinguishing positive and negative examples of behaviour) whilst seeking to learn about the evidence base for their practice. The temporal dimensions in the changes in these students' approaches may be in line with what is expected, according to Bloom's taxonomy of higher thinking (Bloom 1956), which is often central to the design of university programme curricula and frameworks such as the Scottish Credit and Qualifications Framework (SCQF). However, albeit that Lindquist et al.'s students reportedly exhibit critical thinking skills, the focus on evidence-based practice towards the end of their course may demonstrate the privileging of a certain type of knowledge. This may be interpreted as novices looking for certainty rather than developing the tolerance of uncertainty, complexity and ambiguity required by experts (Kilminster 2009). Furthermore, the privileging of evidence-based practice may fade practice knowledge/knowing into the background; either as an acquisition/outcome produced by experience or as an enacted phenomenon that is generated within experience. This notion is supported in a student quote in the study by Lindquist et al. (2006b, p. 273) which reveals a preference for 'evidence-based practice' over that based on experience: "Old physios have still got the old school physio going on – hopefully we'll lose them and hopefully become more evidence-based – the difference between good and bad physio." This student appears to be

discarding practice knowledge (in experience) in favour of evidence-based practice, although the nature of evidence-based practice is not defined.

As I explored conceptions from the literature related to physiotherapy student professional socialisation, it became clear that socio-cultural-historical aspects of PSPE, a core part of physiotherapy education, are worthy of further exploration. Some of the concepts presented above around physiotherapy student socialisation, such as implicit 'rules' and 'norms' associated with knowledge/knowing, good or bad healthcare or the positions adopted by students in PSPE are highly relevant to contemporary physiotherapy practice and education and therefore warrant close attention. In Chapter 3, I discuss how I employ CHAT concepts, such as 'rules' and 'division of labour', to explore PSPE and interacting activity systems. The positioning of practice educators (PEs), which is also relevant to my study of PSPE, emerged as a key concern in PSPE-related research/literature. This will now be discussed further.

2.3.2 Practice educators (PEs)

Eraut (2000a, p. 130) states that "Learning is always situated in a particular context which comprises not only a location and a set of activities in which knowledge either contributes or is embedded but also a set of social relations which give rise to those activities". In terms of social relations in PSPE, the role of the PE, the senior physiotherapist whose job is to supervise and educate students on practice placement, has emerged from the physiotherapy literature as a key concern (Babyar et al. 2003; Baldry Currens and Bithell 2000; Bennet, 2003a, 2003b; Ernstzen et al. 2009; Giberson et al. 2008; Kell and Jones 2007; Kell and Horlick-Jones 2012; Kell 2013, 2014; Lähteenmäki 2005; Mooney et al. 2008; Morris 2011; Roche and Coote 2008; Vågstøl and Skøien 2011). Richardson et al. (2004, p. 210) describe the responsibility of PEs for encouraging workplace cultures that are conducive to promoting an enquiring and critical nature in future practitioners as "awesome".

Titchen and Ersser (2001b) highlight the importance of the ability of practitioners and educators to make professional craft knowledge/practice knowledge available to learners. However, it is recognised that the clinical

reasoning process of experienced practitioners is largely unconscious, and key aspects of knowing are embedded in action and transmitted by practical example (Parry 2001). As practice knowledge is not cast in a publicly available form, students are required to spend a significant amount of time learning their craft through demonstration, practice and feedback. It is claimed that when people enter new situations where they are unsure of how to behave, as, for example, in PSPE, they will observe and copy others (in this case PEs) and learn through imitation and the adoption of role models (Jarvis 2004).

However, the results of a recent study of PSPE suggest that the nature of physiotherapy PE demonstrations may be challenged as examples of patient-centred practice. Furthermore, it has been suggested that students should view learning practices critically rather than simply copying cultural-historical practices. An ethnomethodologically-informed ethnographic observation study of 28 PE and six physiotherapy student interactions by Kell (2014) suggests that patient demonstration practices can frame patients as person-absent audio-visual aids to learning. In using a novel notation system, Kell was able to make visible taken-for-granted practice norms and challenge assumptions about the patient being at the centre of care. Un-noticed PE teaching practice therefore has the potential to mediate[8] undesirable messages.

However, Webb et al. (2009b) highlight the importance of educators acknowledging their positions, understandings, goals and expectations of and with healthcare students. Webb et al. (2009b, p. 68) propose that conversation is the main tool of the PE, stating: "Through conversation with students, supervisors are able to make the culture of the profession explicit for the student and clarify how the rules and practices are historically situated and located within the community". It is worthy of note that the unintentional and un-noticed conversations between PEs and students in Kell's study reinforced the absence of patients in PE-student-patient interactions. Undesirable PSPE 'norms' may therefore also be mediated by language and warrant ongoing critical analysis by PEs and students.

[8] 'Mediating tools/artefacts' are defined in CHAT terms in Chapter 3.

Along similar lines, Laitinen-Väänänen et al. (2008) noted that socio-emotional aspects of patient care did not feature in discussions between physiotherapy students and PEs. Laitinen-Väänänen et al. (2008) analysed the discourse between students and their PEs in Finland during 10 video-taped discussion sessions. Three interpretive repertoires; 'treatment-skill', 'theory-based' and 'experience' (asking students what they had done and how they felt about it), emerged. The results indicate that physiotherapy practice was discussed in a technically oriented, non-patient-oriented, uncritical and unreflective way. Laitinen-Väänänen et al. (2008) implied that PEs should work to enhance their supervisory practice.

However, physical therapy students in the USA (*n*=156) and Australia (*n*=70) reportedly recognised the value of discussions with PEs in their development (Babyar et al. 2003 and Ernstzen et al. 2009, respectively). The 70 students and 23 PEs surveyed by Ernstzen et al. (2009) also perceived demonstrations of patient management, feedback and assessment as most effective in facilitating learning in practice. However, the assumptions held by these researchers as to the meaning of 'most effective' were not clarified. Furthermore, it is not known whether the student participants in these two studies were given the space to critically analyse PE practice as well as state what they found helpful (which could be a reflection of PSPE norms).

Delaney and Bragge (2009) identify a difference between students' (*n*=45) and PEs' (*n*=19) perspectives of how to build knowledge within practice-placement settings in Australia in their qualitative, phenomenological-based study. PEs' conceptions of teaching were to impart knowledge to students in response to knowledge deficits. Students' conceptions of learning moved from what they needed to know to how they could best learn. Delaney and Bragge recommend that the goals and methods of PSPE should encompass students' interpretations and developing knowledge frameworks as a more explicit basis of PSPE. However, the potential for this may be affected by one of the most influential features of the social relationship between physiotherapy student and PE; the position/power differential.

Power, as well as knowledge, is interwoven in the positions/roles granted to PEs (Ewing and Smith 2001). One example of how power may influence learning relates to the level of student independence allowed by PEs. In a USA-based study by Babyar et al. (2003), not all physiotherapy students perceived a change in the quality/content of instruction/supervision/education from PEs as they progressed from early to late practice placements. This indicates that some students' freedom to participate in practice at stage-appropriate levels may have been limited by PEs. Findings from a study by Clouder (2009, p. 289) of physiotherapy students' perspectives of being given and taking responsibility on practice placements suggest that "the extent to which students are allowed responsibility in the workplace appears to have a fundamental impact on their perceptions of personal efficacy and professional development". Merriam et al. (2007, p. 184) highlight that "critics maintain that educator's management of learners' experiential learning interferes with the basic tenet that experiential learning should liberate and not oppress learners". As most practice placements are assessed, another concern in the literature relates to the assessment of students' experiential learning. Findings from a study by Morris (2011) of nine physiotherapy students' experiences of PSPE formative assessment, suggest high levels of physiotherapy student pre-occupation with PSPE summative assessment. Rothstein (2002) proposes that physical therapy students who feel they are constantly being judged may not desire to show vulnerability and uncertainty as they seek information in an applied setting. Fenwick (2003, p. 91) calls assessment "a tool to control lives", questioning what is allowed to count as experience worthy of academic credit.

Multiple examples exist within the literature of healthcare students being exposed to helpful (specific feedback and reassurance, positive role modelling), and unhelpful (rigidity, low empathy, intolerance, bullying, ill-timed feedback, emphasis on negative aspects) PE behaviours (such as those documented in medicine by Kilminster et al. 2007; and in physiotherapy by Goodfellow et al. 2001; Lindquist et al. 2004; Morris 2011; Roche and Coote 2008; and Whiteside et al. 2014). The emotional undertones of PE–student relationships have been reported to make an impact on learning and professional development (Goodfellow et al. 2001). However, physiotherapy students in a study of

professionalism by Grace and Trede (2013) appeared to unconditionally and uncritically accept their PEs as role models. There is thus evidence to suggest that a more questioning approach by students towards the behaviours of PEs would be more conducive to the professional development of both parties.

PEs operate within their own time and place and there are some concerns expressed in the literature that healthcare students may be exposed to PEs whose practices as a result of craft knowledge and behaviours acquired from earlier times may no longer be appropriate (Sefton 2001). Eraut (1994, p. 41) makes the point that initial professional education depends on "the quality of practice: and that, in turn, depends on the continuing education of mid-career professionals". Kell and Jones (2007) point out that new PEs who have experienced a teacher-centred approach to teaching themselves are likely to be most comfortable with this approach to PSPE. The findings from a survey of 161 PEs in Wales by Kell and Jones (2007, p. 273) suggest that "within a highly motivating and pastoral-care aware environment, undergraduate physiotherapy students are experiencing placement education that is predominantly underpinned by a knowledge transmission conception of teaching". Stainsby and Bannigan (2012) also report that PEs' personal education experiences and views on current undergraduate physiotherapy education influenced their views of possible practice-placement developments in the form of new locations and/or learning and teaching strategies.

In a study by Lähteenmäki (2005), physiotherapy students in Finland reported two models of PE supervision that influenced their learning. Similarly to the findings of Kell and Jones (2007), Lähteenmäki reported examples of the apprentice-master orientation with students adopting a passive role. However, she also reported examples of a more transformative approach, when students participated in active observation, guided reflection, treatment planning and reflecting in therapy sessions. Some of the students in this study, however, felt that they adapted too readily to the 'house rules' and ended up adhering to the same model of PE supervision for the entire placement. Lähteenmäki therefore shows something of practice placement rules; findings which are highly relevant

to my own study of PSPE where I aim to uncover associated rules and how these influence student participation and learning.

However, a small-scale study by Sellars and Clouder (2011) reports that engagement with a professional body PE accreditation process had a positive impact on PEs' approaches to supporting students. All 17 PE participants felt that greater insight into their own performance and students' needs meant that they were better prepared, and placements were considered to be better organised, structured, and tailored to individual students. For PEs, the ability to act as facilitators rather than as teachers and to give students responsibility for their own learning came with confidence. They felt that developing greater insight into their own knowledge made them better able to convey that knowledge to others. This, along with Sellars and Clouder's (2011) findings that positive effects on PEs' approaches to supporting students were extended to their work with colleagues and clients, provides a rare glimpse of PSPE as societal transformation as well as just student adaptation. This observation is relevant to a CHAT perspective, which would position the PSPE 'activity system' as adaptive to ongoing change itself as well as being a transformer of people.

Evidence exists to support the notion that healthcare students are influenced by diffuse sources as well as their allocated PE (Clouder 2003), a move away from the apprentice model of being attached to one 'teacher' (Ajjawi et al. 2009). For example, practice placements have been found to have the potential to offer physiotherapy students inter-professional learning opportunities (Robson and Kitchen 2007); also, peer learning is being increasingly adopted as a teaching and learning strategy in healthcare practice education (McAllister et al. 2010). However, the literature indicates that PE–student positioning and relationships are key to PSPE. Although not consistently, it has been indicated above that PE positions and PE–student relationships in PSPE can be problematic. For example, adherence in some cases to a 'traditional' apprentice/master/ knowledge transmission approach to PSPE denies student agency and backgrounds the many complexities inherent in the social and material dimensions of PSPE. Further study of PSPE, including PE–student positioning,

is therefore warranted. However, important as it may seem from the attention given, when studying PSPE, it is argued that it is not enough to focus only on the relationship between individual student development and social interactions with PEs and 'others' without "concern for the cultural activity in which personal and interpersonal actions take place" (Ajjawi and Bearman 2012, p.1145). My adoption of a socio-cultural-historical perspective of PSPE is therefore further supported.

During my current studies, the extent to which physiotherapy students physically move, act and respond between university and variable practice placement settings involving different kinds of cultural activities has become more apparent and relevant. The literature concerned with moving and learning between HE and practice settings will now be discussed further.

2.3.3 Moving and learning between HE and practice settings

Ernstzen et al. (2009) make an interesting point when they highlight that physiotherapy students need to learn to adapt from being in a student-centred HEI environment to attending practice placement; to being in an environment where patient care takes priority and where the student takes on the role of service provider. Furthermore, students arrive in a practice-placement world that is complex and unknown: "a social and cultural reality with different rules from that of academic education" (Skøein et al. 2009, p. 268). This idea, which is of key interest to me and my study, is also raised by Walker (2001), who highlights that the culture and practices associated with learning in HEI contexts may not be similar to practices in which students are required to participate when on practice placements. Students, moving between HEIs and practice placements, cross boundaries across contexts in which the forms in which knowledge is embedded and codified are very different, posing a challenge for students as well as designers of course curricula (Guile and Young 2003).

Spouse (1998) points out differences in how healthcare learners and practitioners source and use knowledges, highlighting that learners find knowing how to relate formal knowledge to the situation in hand difficult, while clinical practitioners often call upon knowledge generated from practice to solve

everyday problems. This suggested difference may account for the opinions of some physiotherapy PEs who, in my experience, suggest that students arrive on their practice doorstep 'not knowing much', as if they hadn't been 'taught' enough at the HEI. Mistrust amongst some health professionals that academic knowledge can offer anything of relevance to practice situations has been reported (Parry 2001).

However, some propose that physiotherapy students going onto practice placements are provided with the contextual, social and inter-active experiences that enable them to transfer and translate knowledge and learning from the academic setting to and between a variety of clinical settings (Plack 2006). Nevertheless, others maintain that there is little evidence of the integration of UK physiotherapy HEI education into clinical practice (Thomson and Hilton 2012).

The transfer of theory to practice has been an issue of concern for health professions for many years (Spouse 1998). This is a contentious issue within the relevant literature. Johns (2009, p. 82) states: "There is no gap between theory and practice, between the mind and the body, no dualism, just the tension that reading theory opens up against the landscape of performance". Jarvis (2004, p. 91) also proposes that transfer is a misleading idea, as, "when students enter the practical situation for the first time, they are entering a new learning situation and this is true irrespective of how much learning has occurred in the classroom before that new experience happened – they are now having for the first time a primary, rather than secondary, experience about practice and they experience it differently". Higgs et al. (2004a, p. 51) also reject the theory practice dichotomy as "false and misleading, since theory and practice coexist and combine in practice settings; they are interconnected and interdependent, so that whenever one is mentioned the other is inseparably present".

Eraut (2000a, p. 133) sees transfer as "the learning process involved in resituating some aspect of one's knowledge into a new context". Eraut describes knowledge as being expanded, modified or even transformed by

participating in practice, although knowers may have little recognition or understanding of this process. Eraut (2000a, p. 133) states: "This kind of learning occurs unobserved in the interstices of formal learning contexts ... Tidy maps of learning are usually deceptive". Eraut (2001, p. vii) also proposes that "the gap between universities and healthcare organisations is best perceived not as a gap between theory and practice or between 'idealized' practice and 'real' practice but as a gap between two different cultures of practice".

The meaning of the term 'transfer' is dependent on the theory in which it is based (Säljö 2003); how the individual and context are thought to interact (Tuomi-Gröhn and Engeström 2003). Fenwick (2003, p. 78) reminds us "that the concept of transfer has very little utility in perspectives that do not regard the individual as the site of knowledge." Sociocultural theory stresses that the knowledge to be acquired is not just what is codified in textbooks; it is also embedded in specific contexts and knowledge and learning are the property of groups and organisations as much as something possessed by individuals (Guile and Young 2003). In a situated view of transfer, it is not knowledge that is transferred from task to task but rather patterns of participatory processes across situations (Tuomi-Gröhn and Engeström 2003). In a CHAT[9] view, significant learning processes are achieved by collective activities and meaningful transfer of learning takes place through interaction between collective activity systems[10] (Tuomi-Gröhn et al. 2003). Guile and Young (2003) argue that it is useful to reformulate transfer as a process of 'transition' between activity systems with horizontal (when people carry out a known activity in a new context) and vertical (when individuals and groups use the problems that arise while undertaking a task as the basis for developing a new pattern of activity in a new context) elements. Tuomi-Gröhn and Engeström (2003) argue that learning and transfer based on sociocultural views are needed when an individual moves, for example, between HEIs and physiotherapy workplaces. This idea is highly relevant to PSPE.

[9] CHAT is discussed in Chapter 3.
[10] 'Activity systems' are defined in CHAT terms in Chapter 3.

In conclusion, implications for physiotherapy students moving and learning between HE and practice settings have received little attention in research and in the relevant literature. Assumptions about students transferring theory to physiotherapy practice are contentious and appear to remain unchallenged. The prospects of a CHAT view of PSPE, including meaningful transfer of learning through interaction between collective activity systems (higher education and healthcare), as argued by Tuomi-Gröhn and Engeström above, are discussed in more detail later; Chapter 3 presents CHAT as the theoretical framework for my study of PSPE.

The increased interest in reflective practice within physiotherapy education in an attempt to reduce the 'theory-practice gap' and as "a means of articulating, exposing and developing knowledge embedded in practice" (Ward and Gracey 2006, pp. e32–e39) provides an example of students becoming socialised into particular ways of knowing and thinking about the world of practice by professional education (Larsen et al. 2008). As it features prominently in physiotherapy pre-registration curricula and continuing professional development (CPD) activities, reflective practice is acknowledged and discussed in the next sub-section.

2.3.4 Reflective practice

In this sub-section, given the prominence of reflective practice in physiotherapy pre- and post-registration education and CPD, a brief critical account of the literature/research concerned with reflective practice in healthcare/physiotherapy is provided. Problems with reflective practice as an unquestioned professional norm are highlighted, suggesting a place for other ways of viewing practice knowledge/learning that can encompass and illuminate contexts for learning as well as simply seeing them as changes in individuals.

Within the constructivist view, which asserts that knowledge is not acquired from the external environment but is constructed from within, as the individual interacts with the world (Walker 2001), the most prevalent understanding of experiential learning is based on reflection on experience (Fenwick 2003). Bulman (2008, p. 2) provides a succinct way of defining reflection in healthcare

practice as “reviewing experience from practice so that it may be described, analysed, evaluated and consequently used to inform and change future practice”. Critical reflection involves questioning and adjusting previously learned practices (Mezirow 1991).

Professionals and students have reported utilising various tools for reflection. These include contemplation, professional writing, journaling, discussions, reflective listening, and reflection as part of action research cycles (Gamble et al. 2001, Williams et al. 2002, Constantinou and Kuys 2013; Morris and Stew 2007) and learning contract negotiations (Ward and Gracey 2006). Feedback sessions between students and PEs, which are normally integrated into the practice education curriculum, are also commonly used to encourage student reflection (Delaney and Molloy 2009).

Physiotherapy, along with other professions and the Health and Care Professions Council (HCPC), has adopted the notion of reflective practice as a desirable and necessary attribute of the competent practitioner (CSP 2010 rev. 2013; HCPC 2013). In healthcare practice and education, reflection is associated with: the ability to critically self-appraise, develop high order cognitive skills, and make clinical decisions; and the provision of good quality interventions, CPD, and lifelong learning (Donaghy and Morss 2000). Reflective practice is also considered to provide students with independent learning skills (Lähteenmäki 2005). Goulet and Owen-Smith (2005, p. 69) highlight that giving permission and opportunities to healthcare students to self-reflect “helps students gain insight into who they are, facilitating the development of self-awareness necessary to become a compassionate and mindful clinician”. Johns (2009) suggests that reflection is the hallmark of professional responsibility. Physiotherapy educators have therefore been charged with a responsibility to facilitate reflection in students (Donaghy and Morss 2000). In relation to educators themselves, Gamble et al. (2001, p. 123) claim that: “Reflection helps professionals unpack their experience and the different layers of meaning within it, allowing them to explain the experience to themselves or to another”. This is relevant when considering how PEs may access tacit knowledge about practice in order to educate students.

Taylor (2003) claims that whilst the notion of 'evidence-based practice', with its insistence on objectivity, aims to standardise practitioners' performance, reflective practice focusses on the individuality of the practitioner. Each individual is active in the learning process and each person may construct different understandings of interacting with the same objects in the same environment (Fenwick 2003). However, the extent to which learners should focus on themselves as individuals rather than on the larger social context is contested (Finlay 2008). Schön's (1983), Kolb's (1984) and Boud and Walker's (1998) ideas about and models of reflective practice have been criticised for underestimating the impact of the socio-cultural context (Merriam et al. 2007). Usher et al. (1997, p. 139) state that: "In Schön, we find no awareness of the sociocultural location of practitioners in acts of reflection". Fenwick (2003, p. 27) states; "we must seriously consider our entanglements with our cultural contexts before we assume, unproblematically, that we simply enter an experience, reflect upon it to make meaning, then apply its lesson in a process we like to think of as learning". Other critiques of the reflection-in-action identified by Schön (thinking critically about the event while it is happening and which can be used to change current action), include a lack of appreciation of the speed necessary for decision-making in the professional setting (Donaghy and Morss 2000). This is an issue relevant to learners who may be challenged to speed up in healthcare practice to reflect the pace required by qualified practitioners in response to workload pressures. In this type of activity, socio-cultural context may be influencing student learning in multiple ways that may not be recognised or addressed within reflection.

Although proposed models of reflection are claimed to be merely devices to help the practitioner/learner to access reflection and are not prescriptive, there is still some wariness of cyclical or stage models (such as Gibbs 1988), because "they suggest that reflection is an orderly step-by-step progression" (Johns 2009, p. 50) and can lead to recipe-following approaches. This is relevant to physiotherapy student learning in two ways. Firstly, Burrows (1995) suggests that students under the age of 25 years lack the cognitive readiness and experience necessary for mature critical reflection. This is relevant to physiotherapy education where the mean age of students entering UK

programmes in 2014–2015 was 22 years (CSP 2015b). In a study by Ward and Gracey (2006), 27% of UK HEI physiotherapy practice coordinators (12 out of 27 questionnaire respondents) cited a lack of maturity among students as a perceived barrier to their ability to reflect. Secondly, inexperienced learners/reflectors may have a tendency to try and cling to certainty and work through models of reflection in a structured fashion.

Furthermore, adopting models, such as Johns's model (Johns 2009), whilst opening up possible areas for reflection, such as feelings and values, may close down consideration of other issues by virtue of its structure. Reluctance to disclose struggles for fear of being deemed unable to cope in the profession may also limit possibilities for reflection, particularly where students' reflections are assessed and accorded end-point status rather than a means towards an end. Within the physiotherapy-specific literature, it is recognised that the knowledge that assessors will be reading and judging reflections may have an undesirable impact on the content and honesty of students' reflections (Donaghy and Morss 2007). Clouder (2000), who reports findings from conversational interviews with 15 physiotherapists and exploratory workshops with 75 students and 98 clinicians, found that, for students, reflection was limited by the amount of time available and pressure to convey an air of competence; highlighting contradictions between expected professional 'norms' related to reflective practice and 'rules' related to expected student knowledge and behaviours. It therefore seems unlikely that the physiotherapy students in Clouder's study felt that they had the space offered by reflective practice, suggested by Taylor (2003) as a space in which they could acknowledge, for example, poor practice, feeling afraid or doing the wrong thing.

A group of 30 physiotherapy students in Ireland also indicated, during three focus groups in a study by Roche and Coote (2008, p. 1068), that they believed that the "knowledge they were being graded on placement might discourage them from reflecting openly with their clinical educator". These students also cited time pressure and scepticism among some physiotherapists as factors that constrain their ability to reflect on practice placements. Roche and Coote's findings therefore further illustrate the power of PSPE contextual dynamics,

such as rules at play. Contextual dynamics that can determine activities such as learning practices are worthy of further attention and are addressed in my study.

Nevertheless, Roche's and Coote's student participants were reportedly supportive of an academic module concerned with reflection in their training; feeling that this improved their confidence, facilitated clinical reasoning and CPD. The majority (88%, 79/90) of physiotherapy student respondents in an Australian study by Constantinou and Kuys (2013) also reported that guided reflective thinking and practice assisted them to learn from PSPE. HEI educators reportedly agree that reflection should be considered a central component of physiotherapy teaching strategies (Lähteenmäki 2005; Ward and Gracey 2006; Williams et al. 2002). Physiotherapy educators such as Clouder (2000) and Donaghy and Morss (2000) have attempted to find ways of making best use of reflection in physiotherapy education and these researchers are cited extensively in the physiotherapy literature.

However, in contrast to other professions, such as nursing, limited research concerned with reflection as part of pre- and post-registration physiotherapy education has been sourced. Furthermore, what is available seems to be mainly concerned with the perceived use or promotion of reflective practice and has mostly been carried out by physiotherapy educators (Clouder 2000; Constantinou and Kuys 2013; Donaghy and Morss 2000; Lähteenmäki 2005; Wessel and Larin 2006; Williams et al. 2002). Despite the fact that the participants in the studies identified above are mainly students and the researchers mainly educators, the issue of power imbalance is insufficiently addressed overall; given that students have indicated a reluctance to reflect openly with educators, particularly when being assessed. Furthermore, existing studies somewhat lack acknowledgement of the social, cultural and material dimensions of the reflection/practice context. Paying close attention to the research literature concerned reveals that physiotherapy students have mainly referenced their environment in terms of people; themselves, patients and PEs, thus backgrounding wider cultural, social and material aspects. Although this may not be surprising for students who want to work with people, a lack of

awareness and understanding of the social, cultural and material dimensions of complex, dynamic, real-life learning and education in practice (whether this stems from research methodologies or students themselves) may be problematic. For example, ongoing changes in government directives and funding for healthcare have created challenging environments in which there may be less time or energy for practitioners to reflect (Howatson-Jones 2010), or even supervise and educate students (Frontline 2017a). Furthermore, it is worth considering that students and their educators may be looking to ensure that students are equipped to respond to the demands of the activity systems[11] they are operating within. For example, regulatory requirements have driven the embedment of reflection into physiotherapy curricula in the UK (HCPC 2013). In summarising this sub-section, the dominance of reflection/reflective practice for pre- and post-registration physiotherapy learning as a cultural norm may be problematic. Concerns raised in the relevant literature highlight inadequate consideration of the context in which reflection is applied.

In this chapter section, in considering literature concerned with professional socialisation, practice educators (PEs), students' moving and learning between HEI and practice placement settings and reflection, I have highlighted the need for further study of PSPE. Further ways of looking at PSPE, which permit taking account of the broader learning context, need to be considered to inform this thesis. Socio-cultural views of learning and knowing in practice are now considered.

2.4 Sociocultural views of learning and knowing in practice

From a sociocultural perspective, learning is perceived as being embedded in social and cultural contexts, and best understood as a form of participation in these contexts (Boreham and Morgan 2004). This moves learning towards being a fundamentally social rather than an individual phenomenon (Walker 2001).

[11] 'Activity systems' are defined in CHAT terms in Chapter 3.

Situated learning theory (SLT) and activity theory (CHAT) both turn to the notion of practice in order to overcome the limitations of mentalist and structuralist accounts of educational phenomena (Arnseth 2008). They share the assumption that learning and cognition have to be understood as actions and activities integrated or embedded in a complex social and cultural context (Ludvigsen et al. 2003). However, they offer different interpretations of these concepts. Perspectives on SLT are now considered. CHAT will be discussed in more detail in Chapter 3.

2.4.1 Situated learning

From a 'situated learning' perspective, physiotherapy knowledge is constituted in social interaction, in contrast to the private cognitive processes of individuals (Lindquist et al. 2006a; Larsen et al. 2008). Learners/students/newcomers are seen as actors moving towards full participation in communities of practice through legitimate peripheral participation (Lave and Wenger 1991). Physiotherapy students are expected to "act, react, and interact within a professional community of practice to develop their professional competence" (Skøein et al. 2009, p. 268). The objective for the individual, an active, constructive and transforming agent who shapes and is shaped by their experience of participation in cultural practices (Walker 2001), is to become a full participant in the community of practice, "not to learn *about* practice" (Fenwick 2003, p. 36). The primary motivation for learning involves doing activities that are meaningful to the community (Barab et al. 2002).

Therefore, in contrast to a reflective constructivist approach, this perspective believes knowledge is not developed in individuals' minds through reflection, but instead, in groups through their interactions (Fenwick 2003). Concepts such as roles, identities, rules and social structures are realised in everyday activity and practitioners are equipped with "shared procedures for talking and acting" (Arnseth 2008, p. 295). The process of knowing is "essentially embodied, realized through action, and therefore often worked out in a domain beyond consciousness. This fundamentally challenges the belief that individual reflection and memory are significant in knowledge production" (Fenwick 2003, p. 37).

A study in Norway by Skøein et al. (2009), one of the few to discuss PSPE from the physiotherapy student's point of view, undertook research to explore students' interactions in the professional community of practice. These researchers asked: "As a participant in the professional community of practice, what do [physiotherapy] students consider essential for learning?" (Skøein et al. 2009, p. 270). Skøein et al. (2009) analysed students' (*n*=5) and interns' (*n*=5) descriptions from interviews by using phenomenography and theory of situated learning. However, students were interviewed by one of the researchers (all university professors) in their HEI office. Although student participants did not have a close relationship with the interviewer, queries may be raised regarding the influence of the interviewer and the interview setting on students' freedom of speech and therefore the study's findings. During interviews, participants were asked to describe a situation from their practice placements in which they learned something. Students were then questioned about how they saw the community of practice influencing their learning in this situation. Although the authors took the stance that "learning in practice is participating in practice" (Skøein et al. 2009, p. 274), it is perhaps surprising that they asked students about 'learning', commonly thought of as a cognitive activity, rather than 'participation' and did not attempt to define 'learning' further. However, four descriptive categories emerged, reflecting informants' different ways, between or within individuals, of understanding the impact of the community of practice on their learning and comprising 14 conceptions (see Table 2.2).

Table 2.2: Categories and conceptions of how physiotherapy students understood the impact of the community of practice on their learning (Skøein et al. 2009)

Descriptive Categories	Conceptions
"...feeling welcomed and included..."	Environmental and interpersonal openness
	Willingness to share and teach
	Professional enthusiasm
	Viewing the students as a resource

Table 2.2 (continued)	
Descriptive Categories	**Conceptions**
"...enough time and space..."	Available equipment
	Space
	Time as a resource
"...the patient as my teacher..."	The patient encounter
	Being trusted by the patient
	Patients' responses
	Patients' sharing their knowledge
"...the importance of a fellow student..."	Sense of security
	Sharing problems and joys
	Partner for discussion and practical preparation

Skøein et al.'s (2009) findings provide a valuable and rare insight into physiotherapy students' views of PSPE. They give an account of PSPE that involves awareness of context in terms of time and resources as well as people, and they conclude that both the social and material can enhance or hamper students' learning. However, the categories listed in Table 2.2 appear to give a rather expected, perhaps limited account of what students would like, rather than how they participate in PSPE. For example, Skøein et al. (2009) quote one student who felt that it would not be attractive to be a physiotherapist in an environment where resources are scarce to illustrate that resources are important to students. However, in the current climate, when resources *are* restricted, questions remain regarding how students learn to make-do, participate and position themselves in real-life care communities. From the situative perspective, improved participation in an activity may involve becoming "more attuned to constraints and affordances of different real situations" (Fenwick 2003, p. 125). Skøein et al. (2009) provide rich direct quotes from

students to support their analysis, however, it is noted that these are mostly positive in nature, perhaps reflecting some influence of the interviewer/student power relationship. More balanced quotes, reflecting the challenges for individuals of participation and interaction in such complex environments in a more balanced way, would have increased the credibility of this study. It may also be that this study's findings have been limited by the researchers' choice of methodology.

In the situated learning perspective, the depiction of learning and development primarily as a one-way movement from the periphery, occupied by novices, to the centre, inhabited by practice experts, is seen by some as problematic; with outward or unexpected movement missing, for example, in questioning authority or initiating change (Engeström and Miettinen 1999). Fenwick (2003) points out that taking an a-critical view of communities of repeated practice may maintain dominant beliefs and norms of acting. Other criticisms of situated learning theory include that the positionality of actors within a system may not be sufficiently addressed (Fenwick 2003), that the needs of systematic teaching and learning may be underestimated (Achtenhagen 2003), and that it may not completely take account of the construction of different types of knowledge or how it is used (Billet 1996). In conclusion, whilst the concepts of evolving participation and progressive engagement offered by situated learning resonate strongly with the ethos of PSPE, viewing PSPE from this perspective may result in analytical blind spots.

Some have proposed that socio-material orientations offer more fine-grained analyses of participation. Ajjawi and Bearman (2012, p. 1145) state: "Socio-material approaches to education research bring to the foreground the social and material world in which the individual is entangled. The material world includes tools, technologies, bodies, actions, texts, discourse and objects, treated as continuous with and embedded in human relations". Socio-material approaches include theories such as CHAT, which I consider in more detail and justify as a frame for this research in the next chapter. I turn to CHAT because, whilst it recognises that individuals learn *as* they participate by interacting with the community of practice, it provides resources to consider and analyse the

community's structure, systems, history, assumptions, cultural values, rules, patterns of relationships, tools and the moment's activity (its purposes, norms, and practical challenges); aspects that are worthy of exploration to assist understanding of PSPE but that have been largely ignored or relegated to the background in previous research.

2.5 Chapter two summary/conclusion

In this chapter I have presented the conceptions and interplays of practice/physiotherapy knowledge as well as theories of learning relevant to PSPE. I have highlighted concerns relating to the cultural privileging of particular ways of learning, knowing or of viewing physiotherapy knowledge that can lead to blind spots, particularly in relation to contexts which are highly relevant to contemporary PSPE. Studying the socialisation of physiotherapy students into the profession and 'rules' and 'norms' associated with this, such as those concerned with ways of learning (such as reflection) and knowing, has clarified that socio-material-cultural-historical aspects of PSPE are worthy of further attention. The literature reveals that the positioning of PEs, as well as other players, in the context of the socio-material-cultural-historical PSPE activity system[12] warrants further study. Furthermore, a CHAT view of PSPE allows consideration of an alternative view of 'transfer of learning' through interaction between collective activity systems (HE and healthcare), rather than through a constructivist lens.

I therefore conclude this chapter by promoting a socio-material-cultural-historical (CHAT)-oriented view of PSPE. As PSPE is about participating in practice and engaging in inter-human and material physiotherapy activities, I indicate my acceptance of Gherardi's (2009, p. 118) stance of 'knowing in practice': "To know is to be able to participate with the requisite competence in the complex web of relationships among people, material artefacts and activities". CHAT, as the theoretical framework for my study, is presented in the next chapter.

[12] 'Activity system' is defined in CHAT terms in Chapter 3.

Chapter 3

Theoretical Framework: Cultural-Historical Activity Theory (CHAT)

3.1 Introduction

In the previous chapter, from reviewing the relevant research/literature, I highlighted that a socio-material-cultural-historical (CHAT)-oriented view of PSPE would usefully add to the small body of PSPE research. In this chapter, I thus present CHAT as a conceptual framework for my study. I begin with a brief explanation of why I have selected CHAT and then introduce CHAT. I then go on to explain further why and how I draw on CHAT. After I conclude my sections on CHAT, I present my CHAT-oriented research questions.

3.2 Why CHAT?

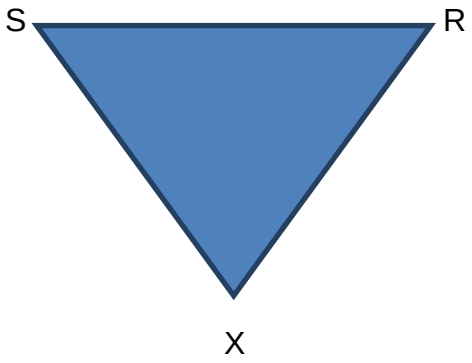
CHAT has been chosen as a conceptual framework for this study because of its potential to take the diversity and multiplicity of human activities, such as PSPE, into account (Engeström 1999a). CHAT offers an interpretation of PSPE, as an activity which is "premised on an understanding of learning, human development and education, as a matter of what, why and how people do things together, either cooperatively or conflictually, over time; mind as a thoroughly social and material as well as historical phenomenon" (Fenwick et al. 2011, p. 56). Relevant to PSPE, CHAT provides a view of learning as an inherent aspect of participation in practice/PSPE activity (Greig et al. 2012). Within CHAT, "learning and thinking are conceived as integral aspects of practice – of a social, cultural and material world" (Arnseth 2008, p. 295). Thus, learning and doing or learning and practice are inseparable (Barab et al. 2002). CHAT allows consideration of context, largely absent in previous PSPE studies, as discussed in Chapter 2, but with a notion of 'context' as being that which is internal to people, involving specific objects and goals, as well as external to people,

involving artefacts, other people and specific settings (Orland-Barak and Becher 2011). CHAT, therefore, presents the opportunity to provide a provocative view of PSPE.

3.3 An introduction to CHAT

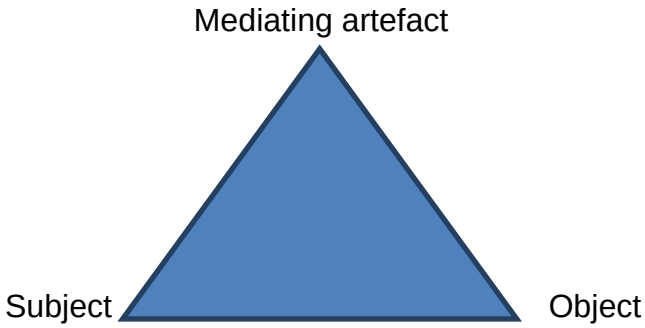
Activity theory is based on concepts developed by Russian cultural psychologists who recognised the co-evolution of human beings and their social, cultural world. Three generations of activity theory are referred to in the dominant construction of activity theory history. First-generation activity theory was founded by Lev Vygotsky (1896–1934), who was primarily concerned with integrating the mind and its social and cultural setting (Hodkinson et al. 2008). Vygotsky sought to capture the co-evolutionary process that individuals encounter in their environment while learning to engage in shared activities (Stetsenko 2005). Vygotsky brought the concept of mediation to the fore (Vygotsky 1978), maintaining that "human beings as agents react to and act upon mediating objects of the environment such as tools, signs, and instruments leading to an outcome" (Nussbaumer 2012, p. 38). Vygotsky's triangular model, in which the "conditioned direct connection between stimulus (S) and response (R) was transcended by a 'complex, mediated act' (X)" (Y. Engeström 2009, p. 54), is shown in Figure 3.1. A common reformulation of this model, attributed to Y. Engeström, expressed as the triad of subject, object and mediating artefact, is shown in Figure 3.2.

Figure 3.1: Vygotsky's triangular model



(Copied and reproduced from Y. Engeström 2009, p. 54).

Figure 3.2: Common (Engeström's) reformulation of Vygotsky's triangular model



(Copied and reproduced from Y. Engeström 2009, p. 54).

This triangular representation of Vygotsky's theory depicts the structure of activity as an "inherently dynamic structure, continuously undergoing change in its parts, in its relations, and as a whole" Roth (2004, p. 4). However, the triangular diagram may be criticised for reifying "the static perspective on activity rather than emphasising the dynamic nature and the inner contradictions that explain the dynamic" (Roth 2012, p. 96). In this study, the concepts of CHAT are considered more useful than such diagrammatic representations of activity theory. As will be explained later, neither Vygotsky's nor Engeström's triangle diagrams are employed in this thesis, other than to present CHAT theory.

Vygotsky's theory was revolutionary when it was introduced in that individuals and their cultural means could no longer be understood in isolation from one another (Y. Engeström 2009). The insertion of cultural artefacts into human actions provided a set of perspectives on practice that interlinked individual and social levels. Vygotsky used the concept of internalisation to explain how individuals processed what they learned through mediated action to develop individual consciousness through social interactions (Yamagata-Lynch 2010). However, this concept has been criticised for being based on dualistic language and CHAT theorists continue to recognise the ongoing challenges involved in eliminating dualistic language (Stetsenko 2005).

Vygotsky also introduced the 'zone of proximal development' (ZPD), which he defined as: "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky 1978, p. 86). Vygotsky used the ZPD as a "metaphorical tool for elaborating how interactions between individuals and their environments, including objects and social others, took place" (Yamagata-Lynch 2010, p. 19). It has been suggested that "culture and cognition create each other within the ZPD via a dynamic interrelationship between people and social worlds as expressed through language, art and understanding" (Guile and Young 2001, p. 61). Rather than simply a way in which the educator can aid student learning, a common misinterpretation of ZPD (Tolman 1999), ZPDs are constructed by students and educators, with both parties having a specific input (Wardekker 2010). CHAT, therefore, has an explicit relationship with education, learning and development and "the concept of ZPD provides a direct tool for understanding pedagogy both in the classroom and beyond it" (Fenwick et al. 2011, p. 75).

Second-generation activity theory is generally associated with Leont'ev (1903–1979), although other founders include Luria, Galperin, Zaporozhets, Meshcheryakov and Davydov (Sannino et al. 2009). This generation incorporated community and the division of labour, moving beyond the individual to elaborating the concept of collective activity. This turned the focus

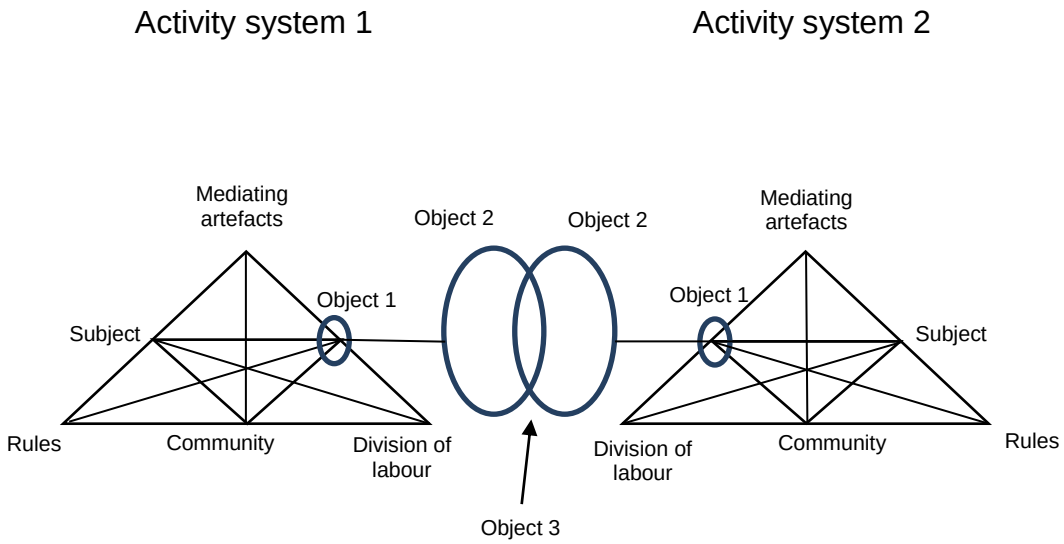
to complex interrelations between the individual subject and their community (Y. Engeström 2009). Leont'ev reasoned that humans engage in goal-directed actions that only make sense in a social context of shared work activity. However, Leont'ev's development of the idea of the object of activity recognises that objects of activity exhibit a motivating force which actors might recognise in different ways (Edwards and Daniels 2012).

Relevant to his concept of a collective activity system, Leont'ev (1978) introduced three hierarchical levels of human functioning. The first level is 'operations', in response to ongoing conditions of activity such as rules, norms and divisions of labour. Operations are conscious when learned but can become unconscious or automatic in routine. The second level is 'individual subject action', mediated by tools/artefacts and carried out by individuals. The third level is 'collective subject activity', an object-driven complex of goal-oriented actions (R. Engeström 2009). Leont'ev's application of these levels of human functioning to a primeval hunt is still the classic illustration of their differences. In relation to the bush-beaters who scare the game towards others in the hunt; "the *object/motive* of *activity* is the provision of food and clothing even while the *action* and *goal* for the bush-beaters themselves is to actually drive game away, involving certain *operations* undertaken in response to given *conditions*" (Fenwick et al. 2011, p. 66). However, it is important to note that activity theory recognises that activities, actions, and operations change over time and can become interchangeable (Allen et al. 2011).

Third-generation activity theory is attributed to Y. Engeström (1987). Engeström pushed for third generation CHAT to develop conceptual tools to understand dialogue, multiple perspectives, and networks of interacting activity (Y. Engeström 2009). In this generation of CHAT, mediated action is extended as a model of human activity that accounts for socio-political situations (Cole 1996). Engeström expanded the basic model of human activity, represented in Figures 3.1 and 3.2, to incorporate rules/norms, community, division of labour, outcome and at least two interacting activity systems. This expansion was suggested for grasping the systemic whole, not just separate connections, in order to analyse a multiplicity of relations (R. Engeström 2009). Engeström's

model for depicting this expansion is presented in Figure 3.3. This model shows two interacting activity systems with two objects and a potentially shared object three (a concept which is discussed further later).

Figure 3.3: Engeström's model of two interacting activity systems



(Reproduced and adapted from Y. Engeström, 1987, p. 136)

This representation "highlights the fact that we cannot understand any action of a *subject* on the object of activity outside of all the relations to other aspects of the activity, which in fact mediate every other moment and relation" (Roth 2012, p. 88).

Y. Engeström (2009, p. 56) states that an activity system is "always a community of multiple points of view, traditions, and interests. The division of labour in an activity creates different positions for the participants, the participants carry their own diverse histories, and the activity system itself carries multiple layers and strands of history engraved in its artefacts, rules and conventions. The multi-voicedness is multiplied in networks of interacting activity systems. It is a source of trouble and a source of innovation, demanding actions of translation and negotiation".

Engeström further detailed activity systems to highlight tensions and contradictions as sources of change and development, contradictions being

"historically accumulating structural tensions within and between activity systems" (Y. Engeström 2009, p. 57). In an activity system, activity is therefore "constantly developing as a result of contradictions, tensions, and instability, and the systemic needs of the community and the subject" (Allen et al. 2011, p. 781). When activity develops in this way, as individuals or groups question and change their activity (Fenwick et al. 2011), in CHAT, this is what is proclaimed by Engeström (1987) as expansive learning/activity. "New patterns of individual participation, and new patterns or forms of activity, or even new forms of relations between systems of activity are produced" (Fenwick et al. 2011, p. 69).

Engeström (2008, p. 257) affirms that "activities are orientated to and driven by objects and motives". The satisfaction of the generalised need is the motive of the activity (Roth 2012). Y. Engeström (2009, p. 56) states: "Goal-directed individual and group actions, as well as automatic operations, are relatively independent but subordinate units of analysis, eventually understandable only when interpreted against the back ground of entire activity systems". In CHAT, therefore, the unit of analysis is a historically evolving, collective, artefact-mediated activity system (Tuomi-Gröhn and Engeström 2003).

CHAT, therefore, offers a theoretical framework for describing interactions of people, tools/artefacts, rules and norms within complex systems (de Feijter et al. 2011) and inherently unstable organisational work settings (Ajjawi and Bearman 2012) such as in PSPE. Next, I discuss more specifically how I draw on CHAT in my study.

3.4 Drawing on CHAT

Given its attributes outlined above, CHAT offers an enticing means of exploring PSPE; a socio-material-cultural-historical activity, concerned with human learning and development and interaction with people, different settings/contexts and material tools/artefacts. I therefore draw on CHAT as this framework, more specifically, offers a way of viewing PSPE as involving an aligning of networks; including those of the material, personal motives/objectives, collective motives/objects, professional knowledge and

values, NHS and HE histories, structures, duties, responsibilities and demands (as activity systems, objects, object motives, mediating tools/artefacts, rules, norms and divisions of labour).

In my study I draw upon the different analytical resources of CHAT, adapted to the specific issues of my focus in ways that are somewhat different from more typical CHAT studies. That is, CHAT research, following Engeström's conceptions, tend to begin with a system or set of systems, and employ an intervention such as Engeström's Developmental Work Research. PSPE is not an activity system in the strictest terms of Engeström's analyses but rather is a diffuse sphere of activity involving a range of different temporary situations (practice placements). Individual practice placements potentially open new ZPDs. Individual practice placements for individual students have no major history as such but may be seen together as a type of activity system within and across other activity systems that do have a long history of practices which are "historically formed, imbued with knowledge, freighted with emotion and shaped by the values and purposes of the institutions in which they are located" (Edwards and Daniels 2012, p. 40); such as higher education (HE) and healthcare. To clarify, PSPE, as an entity, is viewed here as a *type* of activity system.

Furthermore, my study is not a combination of research, intervention, transformation and practice that typifies third generation CHAT. Although this research should promote at least a review of PSPE, the study focus is not the immediate transformation of physiotherapy education. Rather, it aims to understand better what PSPE is about, as a type of activity system involving physiotherapy student participation in particular ways. However, the ability of students to produce, create, and make a difference in PSPE cannot be ignored. This is supported by Billet (2006), who argues for a greater acknowledgement of relational interdependence between individual (for example, intentionality, subjectivity and identity) and social agencies within conceptions of learning in working life.

Notwithstanding the above considerations, CHAT can enable a view of PSPE as a type of activity system that is knitted into the complex and interpenetrating artefact-mediated HE and healthcare activity systems. However, this is being analysed from the subject's (physiotherapy student's) viewpoint. The meaning of participants is therefore not being treated as a residual category as is typically the case in CHAT analyses (Arnseth 2008). My approach is supported by Stetsenko (2005, p. 80), who affirms that the dichotomy of social and individual in initial formulations of activity theory need to be resolved to "move to new levels of a consequentially materialist and non-reductionist theory of human development that would not exclude human subjectivity from the dialectical account of social life". Stetsenko (2005) calls for more attention to the subjective mechanisms allowing for individual participation in collective processes. Sawchuk and Stetsenko (2008, p. 343) state: "Demystifying human subjectivity by showing how it ensues from practical collaborative activities-in phylogeny, ontogeny, and the history of civilisation instead of it being a mysterious mental realm, is the true staple of CHAT".

In 2005, Stetsenko proposed that there are three processes at the very foundation of human life and development which co-evolve, interpenetrate and influence each other. These are material production of tools, social exchanges among people and individual mechanisms regulating this production and these exchanges (Stetsenko 2005). Within the CHAT perspective of an activity such as PSPE, these fluid situations may be described as negotiations of activities and outcomes with others (such as practitioners, educators, patients) in value-laden practices (Edwards and Daniels 2012). Edwards (2009, p. 208) states: "a better understanding of how aligned action is negotiated and sustained is, I suggest, a useful step toward enabling people to learn how to work together and to learn from doing so".

As the assumed collective object of the PSPE activity system and interacting activity systems is to 'turn' physiotherapy students into physiotherapists for society by affording opportunities for students to develop/demonstrate knowledge, skills and values required for autonomous physiotherapy practice, it is essential to try and understand participation from the perspectives of

students. Physiotherapy students are the assumed main players; the subject of the PSPE activity system. Pring (2000, p. 61) states that it is the "transforming nature of how people conceive social activities, sometimes deliberately pursued, which is so important in understanding what is happening in education". Allen et al. (2011) propose that by allowing for the drilling-down of the collective activity into the activity of individual subjects, CHAT provides researchers with the opportunity to consider a deeper level of analysis of student participation in the context of an overarching activity (such as PSPE). The case for seeking the perspective of the subject is further strengthened by the fact that physiotherapy students are relatively silent (or sometimes silenced due to research conditions) in available PSPE literature/research, as discussed in Chapter 2.

The emphasis of this study is therefore biased towards physiotherapy student participation/learning in PSPE as revealed retrospectively by students themselves. The idea is followed that students are imbued with the assumptions and practices of PSPE culture intertwined with the attitudes and ways of operating that dominate physiotherapy as well as the demands, restrictions and expectations (rules, norms and divisions of labour) imposed by HE, healthcare and PSPE activity systems.

In summary, a CHAT analysis of physiotherapy students' accounts will examine them within the socio-material and historical-cultural contexts of the PSPE and interacting activity systems that constitute the PSPE in which they occur. Taking this approach, the social, cultural, historical and material forces, as well as the individual experiences that shape PSPE in the now, then and the future, are acknowledged. Furthermore, the process of learner physiotherapist socialisation and identity formation that occurs in professional practice communities is embraced.

Although this study is not claimed to be a canonical 'CHAT' study, CHAT concepts are selected and borrowed to analyse PSPE. Below I clarify how I apply CHAT terminology, which can vary across the relevant literature. I also explain how I employ third-generation CHAT concepts of: 'actions and

operations'; 'tool/artefact mediation'; 'rules, norms and divisions of labour'; 'contradictions'; and 'object of activity' to illuminate important dimensions of PSPE.

3.4.1 Actions and operations

My application of the CHAT concept 'object/motive of activity' is explained below. I employ Leont'ev's 'action' (Leont'ev 1978) to depict what physiotherapy students do in practice placements in relation to their goals. 'Operations' depicts what is undertaken collectively in response to given PSPE activity system conditions, such as the division of labour (also explained below).

3.4.2 Tool/Artefact mediation

Social practice is mediated by tools/artefacts. Fenwick (2012, p. 3) states that tools/artefacts are: "interwoven with social dynamics in ways that constitute what becomes enacted as practice and knowing". What matters in a culture is mediated through the use of cultural tools/artefacts such as language, organisational rules, divisions of labour, social norms, intertwined with material artefacts such as physical tools, forms and texts, technologies and IT equipment and physical bodies. Events, routines, and relations are understood as 'socio-material' configurations (Fenwick 2012).

In PSPE, physiotherapy students engage in a world where tools/artefacts and ideas are already invested with meanings that are culturally specific. "Knowledge about carrying out a particular work activity is incorporated within the design of the tools in use. Therefore tools shape the way human beings interact with reality" (Mwanza 2002, p. 86). Mastering tools/artefacts, and the practices of which they are part, enables students to assimilate the history, knowledge base and culture of their profession and to become proficient practitioners (Larsen et al. 2008).

In my study, how tools/artefacts direct PSPE activity system actions and operations, as well as how they construct the object of activity, is explored as a means of viewing and explaining PSPE.

3.4.3 Rules, norms and divisions of labour

Rules and norms refer to “the ever-changing explicit and implicit conventions that govern interactions between the subject and community and are useful in explaining embedded behaviour” (Allen et al. 2011, p. 783). Shared rules can, in varying degrees, constrain or liberate the activity and provide to the subject guidance on correct procedures and acceptable interactions to take with other community members (Yamagata-Lynch 2010). Within PSPE, shared rules also dictate how tools are to be used; for example, how language is reproduced, how records are kept, how physiotherapy is carried out and organised and perhaps what knowledge is prioritised. Professional rules and regulations, such as those concerned with acceptable attitudes and behaviours, also apply (HCPC 2016a, 2016b). The terms ‘rules’ and ‘norms’ are not well distinguished and are applied variably and often simultaneously in CHAT literature. However, in my study, I consider a rule as imperative (for example, referring to what *has* to be done) and a norm as something that is culturally repeated and expected (for example, how work is carried out or organised).

Individuals and groups are also governed by a continuously refining explicit and implicit division of labour (Allen et al. 2011) which describes their roles (de Feijter et al. 2011). Engeström (1999a, p. 30) refers to the division of labour as the “division of tasks, power and rewards within the activity system”. Rules and divisions of labour specifying the procedures for carrying out work activity reflect ‘conditions’ in an organisation. Conditions, therefore, “form the social and cultural structure of work activity in an organisation” (Mwanza 2002, p. 85).

In this study, as a means of analysing PSPE, attention is paid to PSPE and interacting activity system rules and norms, and positions adopted and enacted by players in the PSPE activity system division of labour. Potential contradictions arising from these are explored and highlighted as a further means of illuminating PSPE.

3.4.4 Contradictions

‘Contradictions’ in CHAT terms are “historically accumulating structural tensions that become noticeable in disturbances and innovative solutions” (Jóhannsdóttir

2010, p. 167). In relation to PSPE, macroscopically, there may be contradictions within activity (e.g., employment of new physiotherapy graduates as ongoing learners or workers), operations (e.g., different practice placements for individual students) and/or individual subject actions (e.g., in response to object motives). Yamagata-Lynch (2010, p. 23) states that tensions arise when "the conditions of an activity put the subject in contradictory situations that can preclude achieving the object or the nature of the subject's participation in the activity while trying to achieve the object". For example, physiotherapy students may have to respond to contradictory requirements of different activity systems (Roth 2012), such as HE and healthcare. Furthermore, the division of labour in an activity, in creating different positions for participants, may give rise to "various tensions, contradictions and conflicts" (Avis 2009, p. 158). The learning situation "might be an arena where a number of persons encounter each other and struggle to preserve their being" (Kagawa and Moro 2009, p. 183).

As may be seen in some of the quotes above, the terms 'contradiction' and 'tensions' are applied variably and sometimes interchangeably in CHAT-related research and literature (Fenwick et al. 2011). I therefore clarify that my interest is in inter- and intra-systemic contradictions in PSPE and interacting activity system objects, rules, norms and divisions of labour. My interest is in how or whether students recognise and negotiate these as a means of illuminating what PSPE is about. However, as examining the contradictions that exist in an activity system provide a lens to understanding the development and change taking place within the activity (Engeström 1987), I will also ultimately comment on this where possible.

3.4.5 Community

Mwanza (2002, p. 85) describes the CHAT concept of 'community' as the "social and cultural structure of an organisation" which can "constrain or influence the extent to which work activity is successfully carried out". However, other CHAT authors seem to imply an interpretation of 'community' as a collective of people (for example, Allen et al. 2011 and Yamagata-Lynch 2010). Due to the nature of my study, and for purposes of clarity and interpretation of

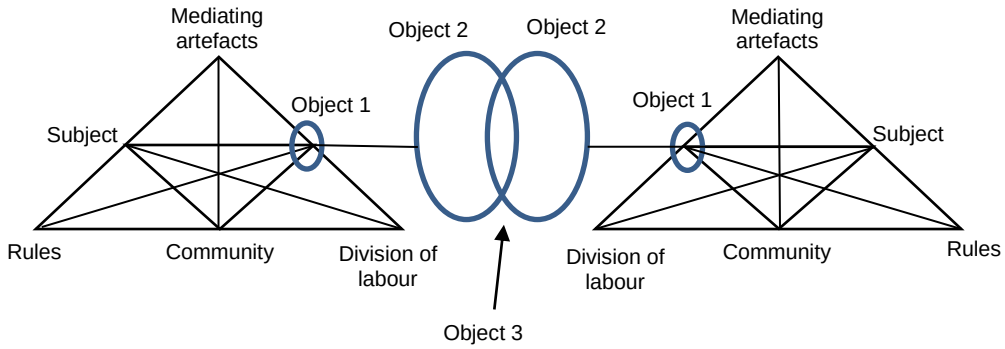
my research questions, in my thesis, ‘community’, refers to people; as PSPE ‘players’ who may or may not act across interacting PSPE and other activity systems.

3.4.6 Object of activity

The object of activity, the “problem that is being worked on” is the defining feature of any activity (Edwards 2010, p. 67). The ‘object motive’, which is embedded in the object, is “what calls forth the response of actors” (Edwards 2010, p. 67). In applying Engeström’s model of third generation CHAT to understand PSPE, PSPE may be considered as a shared object of overlapping systems of activity. This is illustrated in Figure 3.4 and Table 3.1 below, which depict PSPE as a shared object of HE and healthcare activity systems. In this view, the object (object 3) shared by HE and healthcare activity systems is the delivery of assessed PSPE.

Figure 3.4: HE and healthcare interacting activity systems

HE activity system Healthcare activity system



(Reproduced and adapted from Y. Engeström, 1987, p. 136)

Table 3.1: PSPE as a shared object of HE and healthcare activity systems (further explaining Figure 3.4)

HE activity system	PSPE	Healthcare (NHS) activity system
Object 1 - degree-level education	**Object 3-** Delivery of assessed PSPE	**Object 1** - maintain/restore/improve health of the population
Object 2 - Accumulation of degree credits required to pass HE programme.	Shared and jointly constructed	**Object 2** – Succession planning; 'able' new staff required to keep the system going.
		Student constructed as a potential newcomer.
Student constructed as a semi-prepared professional learner who needs practice education (in the NHS)		Exposure of students to patients, staff and resources required.

This view of PSPE is useful in shedding light on the inter-contextual relationships in PSPE between HE and Healthcare (NHS) activity systems.

However, as previously discussed, to analyse PSPE in my study, I position PSPE itself as a type of activity system embedded with other interacting activity systems (such as HE and healthcare). The object of the PSPE activity system is for students to learn, to become able in practice to "participate with the requisite competence in the complex web of relationships among people, material artefacts and activities" (Gherardi 2009, p. 118). PSPE activity system assessment rules also provide opportunities for judgements to be made on students' professional suitability or their ability to do the physiotherapy job. The assumption is that PSPE activity, overlapping with HE and healthcare activity, prepares physiotherapy students for professional roles/work. However, as outlined below, HE, healthcare, professional body and regulatory body standards, codes and regulations (rules and norms) apply to the quality/kind of physiotherapy work required and expected of physiotherapy students and graduates. Below, in Table 3.2, I share my pre-study interpretations of PSPE as a type of activity system interacting with HE and healthcare activity systems to further demonstrate how I apply CHAT concepts.

Table 3.2: Pre-study CHAT interpretations of HE, PSPE and healthcare activity systems

HE activity system	**PSPE activity system**	**Healthcare (NHS) activity system**
Subject – student	**Subject** – student	**Subject** – human population
Object – as Table 3.1	**Object** – to enable students to participate with the requisite competence in the complex web of relationships among people, material artefacts and activities (preparation of students for professional roles/work as graduates). Gatekeeping for entry into health professions.	**Object** – as Table 3.1

Table 3.2 (continued)		
HE activity system	**PSPE activity system**	**Healthcare (NHS) activity system**
Community Students; Academic and non-academic staff; Researchers; Visiting lecturers; (clinicians/members of public)	**Community** Students; Students' peers; Patients and their families; Practice educators; University tutors; Other professionals	**Community** All people; Patients and their families; Clinical and non-clinical staff; Practice educators; Multi-professional teams; Students/potential newcomers
Rules Academic Regulations/Policy; Standards of education; External reviews and validations; Organisational policies and regulations; Professional and regulatory body standards, codes and regulations; Practice placement standards; Ethics, Beliefs and Values; What constitutes knowledge; Strategies of valid knowledge generation; Tacit Rules	**Rules** HE and healthcare rules apply; Professional and regulatory body standards, codes and regulations; Practice placement standards; Ethics, Beliefs and Values; Tacit Rules	**Rules** Healthcare policy/standards and regulations; Professional and regulatory body standards, codes and regulations; Professional and non-professional responsibilities and accountabilities; Practice-placement standards; Ethics, Beliefs and Values; What constitutes knowledge; Strategies of valid knowledge generation; Tacit Rules

Table 3.2 (continued)		
HE activity system	**PSPE activity system**	**Healthcare (NHS) activity system**
Division of labour	**Division of labour**	**Division of labour**
Positioning of: Lecturers; Researchers; Non-academic staff; Learners Positions: Recruiters of students; Teachers; Supporters of students; Assessors ; Degree awarders (in sufficient numbers); Liaisers with external bodies/partners to inform currency, fitness and quality of degree awards; Supporters and recruiters of staff; Trainers and supporters for practice educators;	Positioning of: Health professionals; Multi-professional teams; Non-clinical staff; Patients and families; Managers; Policy makers; University staff Staff positions: Service providers; Teachers; Assessors ; Appliers of professional standards and regulations; Trainers and supporters of practice educators Students' positions: Patient carers; Workers/doers; Team workers; Recorders; Learners; Becomers	Positioning of: Expert health professionals; Beginning health professionals; Learning health professionals; Multi-professional teams; Non-clinical staff; Patients and families; Managers; Policy makers Positions: Service providers; Care providers; Partners in care; Care improvers; Time managers; Learners (CPD); Governance; Safety keepers; Team workers; Researchers; Teachers; Trainers and support of practice educators; Assessors of students; Recruiters of new staff
Tacit divisions	Tacit divisions	Tacit divisions

Table 3.2 (continued)		
HE activity system	**PSPE activity system**	**Healthcare (NHS) activity system**
Mediating Tools/Artefacts Language; Symbols; Libraries, books, journals; Research publications; IT Facilities, e-learning zones, emails; Teaching facilities; Offices, quiet rooms, social space; Curricula; Timetables; Student information; Learning outcomes and assessments; Education guidelines, regulations and standards; Student records; Professional standards and regulations; Training information for practice educators; Staffing structure; National and local work policies.	**Mediating Tools/Artefacts** Student practice placements; Practice placement guidelines/standards; Practical/technical equipment; Student assessment forms; Professional standards and regulations; Working arrangements; National and local work policies.	**Mediating Tools/Artefacts** Language; Symbols; Clinical care areas; Community care departments; Technical equipment; Care guidelines and standards; IT facilities; Information for patients/communities; Appointments and appointment schedules; Care records; Learning resources; Student assessment forms; Professional standards and regulations; Social/eating areas; Uniforms; Service structure; Staffing structure; National and local work policies.

Although Table 3.2 helps to provide a view of the broader social, political and cultural context that influences PSPE, it is not possible to represent the fluidity and interchanging and problematic nature of influences on PSPE with such a static table. Furthermore, it is recognised that Table 3.2 represents professional and regulatory bodies (CSP and HCPC) simply as rule providers rather than activity systems that interplay more extensively with PSPE. Due to the limited scope of this study, Table 3.2 focussed on HE and healthcare systems and excluded other relevant systems of activity, such as other workplaces.

However, Table 3.2 helps to set the scene for deeper CHAT-oriented analysis of PSPE as an activity system.

To summarise, in this chapter I have justified and explained CHAT as the theoretical framework for my study. I have clarified how I use CHAT terms (which are deployed variably in CHAT literature/research) and provided examples of this. I have also clarified that I view PSPE as a type of activity system for analysis, employing the CHAT concepts of: 'tool/artefact mediation', 'rules, norms and divisions of labour', 'contradictions' and 'object of activity'. In Table 3.2, I have shared my pre-study interpretations of PSPE as a type of activity system interacting with HE and healthcare activity systems to further demonstrate how I apply CHAT concepts. The way in which CHAT concepts are borrowed in my study informs my research questions, which seek deeper analysis of PSPE than may be assumed in Table 3.2. My CHAT-oriented research questions are presented next.

3.5 Research questions

My ongoing quest and reason for pursuing this study is to understand and reveal more about PSPE. As can be seen from examining relevant research, literature and theory, there is much to learn and in many possible directions. I have explained above why I have turned to CHAT to analyse PSPE as a type of activity system from the student perspective as a starting point for me. Given the focus and theoretical framework for my study, the following research questions framed the investigation:

Main research question:

What is PSPE about from students' perspectives?

This question is composed to reflect openness in looking for, receiving and interpreting students' perspectives of PSPE. In order to operationalise this research question, it is now reiterated with CHAT orientations.

Operationalising Research Question 1:

What might be revealed about PSPE and interacting activity system objects, players, rules, norms, divisions of labour and tools/mediating artefacts?

This question asks for a CHAT-oriented analysis of the PSPE activity system but also allows for analysis of intersecting objects, players, rules, norms, divisions of labour and tools/mediating artefacts of interacting activity systems. Furthermore, this question invites intra- and inter-activity system contradictions to be highlighted as a further means of illuminating what PSPE is about.

Operationalising Research Question 2:

How do physiotherapy students negotiate the contextual dynamics of PSPE in order to achieve their aims?

This operationalising research question asks for exploration of physiotherapy students' (as subjects of the PSPE activity system) object motives and artefact-mediated actions in response to PSPE conditions (as previously defined in CHAT terms).

Operationalising Research Question 3:

How do students construct the knowledge that they believe is required for success in PSPE?

This operationalising research question asks how students construct physiotherapy knowledge for/in physiotherapy practice as a reflection of PSPE and interacting activity system knowledge-related objects, rules and norms.

In the next chapter, I present and justify how I respond to my research questions; how I explore what PSPE is about by studying PSPE and interacting activity system objects, rules, norms, players, divisions of labour, and mediating tools/artefacts through physiotherapy students' perspectives.

Chapter 4

Methodology

4.1 Introduction

In the previous chapter, I argued for the use of a CHAT-oriented methodology to study PSPE and I set out my research questions. In this chapter, I explain and justify how I addressed my research questions.

The chapter is laid out in the following manner. First, I explain how various factors came to influence possibilities for research activities. In the chapter sections that follow, I also consider ethical issues, clarify my assumptions and present the research participants. In the next section, I discuss the research methods employed to collect data about physiotherapy students' perspectives of PSPE. I explain and justify the use of e-mail conversations and face-to-face approaches to interviewing. I then give an account of how the data were analysed through employing CHAT concepts: systems, objects, object motives, rules, norms, division of labour and mediating tools/artefacts. In the last two sections of this chapter I acknowledge the limitations of the methodology, before summarising and concluding the chapter.

4.2 Influencing factors

In this section, I explain how various factors came to influence possibilities for research activities. Access to students as prospective research participants was willingly granted by two UK HEIs providing pre-registration physiotherapy education. However, my access to physiotherapy students was constrained and the recruitment of participants was limited when a complex web of difficulties was presented at the most local HEI, which would allow access to students within easy travelling from and to my base. As the inclusion of this particular HEI became impossible, this restricted possibilities for research methods; one way being that long enough periods for observation of students in

practice was not practicably possible. Furthermore, permission from the two participating HEIs to observe students in practice education (PSPE) was not sought due to practical difficulties which could not be overcome at this time. These arose because the students attended practice placements in a variety of different geographical areas. Most study participants were placed in settings at least 3 hours' travel away from my home and place of work. It could not be predicted which students would volunteer to participate in the study and, therefore, which Health Authorities/Boards or practice settings they would undergo practice placements in. This created insurmountable difficulties in terms of my ability (time-related and cost-related) to travel to practice-placement sites and, more importantly, to gain the necessary ethical approval and consents to enter healthcare environments to observe students, patients and staff for optimal lengths of time. However, I overcame these challenges by selecting appropriate research methods and careful consideration of the study design, which included face-to-face interviews with students in 'neutral' settings. The impact of this careful study design is further discussed in Section 4.6. Ethical considerations related to this and the wider research project design and implementation are discussed in detail in the next section.

4.3 Ethical considerations

This research followed the Research Council UK Policy and Guidelines on the Governance of Good Research Conduct (2013 rev. 2015) and the UK Research Integrity Office Code of Practice for Research (2009). Ethics approval was granted by the School of Education Ethics Committee at the University of Stirling. The research is not considered such that it would carry any unusual risk to participants. Travelling to interviews, thinking critically about PSPE during their training or provoking upset about practice placements may be considered the only risks to students. However, steps were taken to ensure that stakeholders and gatekeepers were satisfied with the research actions proposed. Approval to recruit, communicate with study participants by email and interview them face-to-face was sought from and granted by two HEIs providing pre-registration physiotherapy education in the UK. Irreconcilable differences in expectations of researcher and HEI roles during the process of

seeking ethical approval, as well as in research paradigms, seemed to be encountered with one other HEI providing physiotherapy education. Access to physiotherapy students attending this HEI was not pursued due to this issue.

To protect participants, their anonymity has been, and will continue to be, maintained in any publications that arise from this research. Transcripts are stored in a secure location which can only be accessed by the primary investigator. Physiotherapy students were provided with information about the study (see Appendix 1). Those agreeing to participate signed a consent form and were advised of their right to withdraw from the study at any stage. There was no personal or professional relationship between myself as researcher and participants. However, as discussed in Section 4.6.2.2, I found that it became useful to share my own background in physiotherapy to aid our communications and rapport. However, participants were in no way dependent on me for their practice placement assessment/grading. Participants were reassured at the beginning of interviews that student-specific information would not be shared with HEI tutors or practice educators. All participants were offered a copy of their interview transcript to check for accuracy (only two participants requested this and no amendments were asked for). Students did not receive a fee for participating in my study but they were offered expenses for travelling to interview venues.

4.4 My Assumptions

A central tenet for my study is the belief that we can learn more about the PSPE activity system from listening to the subjects (the participating physiotherapy students). The case for focussing on the students' perspectives was reinforced when a review of relevant literature revealed that the voices of physiotherapy students were relatively silent (or perhaps silenced) in existing PSPE-related research.

I follow Sawchuk and Stetsenko (2008, p. 357) in viewing people, in this case physiotherapy students, as "active, thinking and feeling agents whose practice is mediated by the (conscious and tacit) use of the full range of symbolic,

cultural, and material artefacts at their disposal – they show agency but within the historical context of available artefacts", including the stock of knowledge at hand. My assumption is that knowledge and agency are enacted in interactions and encounters in PSPE, but I take the CHAT view that the students' self-awareness, experiences, perceptions, thinking and emotions are not simply states or inner mental processes but ways of acting in the "pursuit of transformative changes through their collaboration with other people" (Sawchuk and Stetsenko 2008, p. 343). Central to CHAT is the idea that the transformations of individual students and their communities result from students not merely reacting to life conditions but also having the power to change the very conditions that mediate their activities (Roth 2012). As reinforced by Fenwick et al. (2011, p. 6), I argue that learning is "an effect of the networks of the material, humans and non-humans, that identify certain practices as learning, which also entails a value judgement about learning something worthwhile".

I draw on the related literature (as discussed in Chapters 2 and 3), theories drawn from the work of Vygotsky and interpretations of these by Anne Edwards, to inform my assumptions of PSPE learning. Edwards (2010, p. 64) states that "Learning, for a Vygotskian, is evident in learners' changing relationships with social situations of their development and is a result of internalisation and externalisation". I again use Edward's words to bring clarity to my assumption that physiotherapy students/learners "take on what is culturally valued, consequently interpret their social worlds differently and, therefore, act in and on them in newly informed ways, which in turn impact on the social situations" (p. 64). For physiotherapy students this means coming to understand the culturally valued knowledge, and becoming able to select, justify and apply professional approaches, skills and behaviours for providing a safe and effective physiotherapy service to people who need it. Drawing on Gherardi's (2009, p. 118) stance of 'knowing in practice', I define PSPE learning as becoming able in practice to "participate with the requisite competence in the complex web of relationships among people, material artefacts and activities", which, in physiotherapy, involves physical, psychological, intellectual, sensory, emotional, verbal, behavioural and written actions, interactions, reactions and

responses to human need; involving human bodies and minds, movement, material equipment and communication. This casts learning/professional development as "the development of capabilities that occurs as a consequence of situated social practices" (Knight et al. 2006, p. 320). PSPE is not considered here as being simply about relationships between humans (important though they are in physiotherapy), but instead, as networks of humans and things through which PSPE and learning are translated and enacted.

In this study, I am using physiotherapy students' translations of PSPE; why, how and what they did, with whom they interacted, the intra- and inter-activity system contradictions experienced and what they revealed about their developing sense of physiotherapy identity, analysed within a CHAT-informed framework to comprehend the complexities involved. This approach is reflected in the nature of my research questions which are concerned with how students portrayed and revealed PSPE in CHAT terms, that is to say, systems, object, community, norms, rules, divisions of labour and mediating tools/artefacts. I now present my study participants; PSPE activity system subjects.

4.5 Participants (physiotherapy students)

In this section I explain and justify my recruitment of the study respondents and I introduce the physiotherapy student participants.

4.5.1 Recruitment of study participants

The following criteria were used to create a cohort of possible respondents for the study: participants could be pre-registration physiotherapy students, at any stage of their programmes, who were undertaking or had recently undertaken a practice placement within the NHS. Participants attended two HEIs from which ethics approval for my study was granted and the geographical location of which made face-to-face recruitment and interviews possible.

Prospective respondents in both HEIs were approached approximately one month ahead of attending a practice placement. Students were provided with

information about my study along with invitations to participate either by email or face-to-face. The timing of this was guided by placement schedules/dates which were provided by programme leaders. I did not recruit students on one particular programme at one of the two participating HEIs, due to holding an external role there which was associated with those particular students.

There was a low uptake from students. On discussion with physiotherapy programme leaders, the reasons for this were thought to be the bombardment of students with emails asking them to participate in studies (which they deleted) and the perception of students that they would not have time for distractions during practice placements due to the efforts required. Practice-placement periods appeared to be given 'sacrosanct' status.

When I encountered difficulties recruiting participants, I was invited by programme leaders to meet and explain my study to students face-to-face, at the end of scheduled classes. I did this once with one cohort of students at each of the two participating HEIs. When participant recruitment remained slow, students were sent reminders to encourage participation by programme leaders/year tutors at both HEIs. An information sheet, which outlined the purpose and details of my study (see Appendix 1), was provided to those students who indicated an interest in participation. Physiotherapy students who wished to participate in my study indicated this by email.

4.5.2 The Participants

Fourteen pre-registration physiotherapy students volunteered, and all of these were recruited to participate in my study. Another one student showed interest but did not return the 'consent to participate form' and so was not included in the study. Thirteen of the fourteen participants responded to email questions and twelve were interviewed face-to-face.

Seven participants studied physiotherapy at each of two participating HEIs. Of the 14 participants, 12 were female and two were male; giving a lower representation of males (14%) than in the population of males studying physiotherapy in the UK at the time (approximately 30%) (CSP 2012).

However, I did not set out to compare students with one another and students' gender or other characteristics, such as age or programme stage, were not considered to be key issues in my study. Nevertheless, five students were in their final year and eight were in the middle stages of BSc (Hons) Physiotherapy programmes. One participant was in the first year of an MSc Physiotherapy (pre-registration) programme. Due to differences in HEI programme structures, previous student practice placement experience was seen as more relevant than programme stage as this would enable participants to draw on former encounters. Ten participants had experienced other practice placements previous to participating in my study and two were on or had just undertaken their first placement. It is not known whether the two participants, who provided email responses only, had previously experienced PSPE, as this information came to light during interviews.

Current/most recent practice placements attended by participants were in the following fields of physiotherapy in varying combinations, the range of which is fairly typical for students in pre-registration physiotherapy education: orthopaedics (*n*=4), outpatients (*n*=4), elderly rehabilitation (*n*=2), respiratory (*n*=2, one of which was in paediatrics), stroke rehabilitation (*n*=2), adult learning disability (*n*=1), and cardiac rehabilitation (*n*=1). However, during interviews, where appropriate, students also shared previous practice placement encounters as well as the experiences of other students. As my research is qualitative in nature, no attempt was made to recruit a 'representative sample' of physiotherapy students. Due to the constraints previously explained, I was grateful for and included all volunteers, my aim being to explore PSPE in an in-depth way with individual students with no intended claims for the 'generalisation' of my findings. I did not ask students why they volunteered to participate in my study, but, in some interviews, I became aware of possible motives which I recorded in my interview notes. These may have been to do something about PSPE as a problem (two students), help with HEI coursework (two students), participate in a new learning experience (two students) and complement future job applications (one student). I mention this for three reasons: firstly, to highlight that students came to my study with individual motives; and secondly, to take the opportunity to clarify that I embrace this as

part of exploring human activity. My analysis emerges from the words of a particular group of individual physiotherapy students and I acknowledge that these students were responding to questions from me about PSPE in a particular way, at a particular time and in a particular place. Thirdly, I feel that these motives may provide some insight into these individual students as being highly responsive to learning opportunities that came their way; an impression that came across strongly to me, particularly in the interviews.

4.6 Research methods

As previously discussed, PSPE was analysed through the perspectives of physiotherapy students (the PSPE activity system subject). This approach is further supported by Roth et al. (2004, p. 52), who state; "if we human beings are enabled and constrained by what appears to us in our (subjective) consciousness, then we need to better understand these subjective realities to understand agency in activity systems". Furthermore, Feryok (2012, p. 97) suggests that: "it is possible that an analysis of retrospective accounts may offer insight into how an individual orients to action and activity over time". Feryok (2012, p. 97) further states; "The material origins of the image and the development of the image itself may be traced through the way an individual represents and situates their actions within the social activity system, thereby illuminating the individual goals and social motives that an individual regards as meaningful. In this way individual agency may be revealed". In addition, Edwards (2009) proposes that our understanding of a system's (in this case PSPE's) object is enriched by the interpretations of other players (in this case, those of the students).

My approach was similar to researchers in the field of medical education who, albeit infrequently, have gained students' perspectives of educational experiences in studies underpinned by activity theory (AT). For example, Wearn et al. (2008) used an AT framework to illuminate medical student concerns about peer physical examination. Wearn et al. (2008) recognised that employing a survey to collect qualitative data on participants' views rather than carrying out student interviews and/or observation may have been a limitation of

their study. However, these researchers hoped that their paper illustrated the potential use of AT as a means of developing, critiquing and evaluating educational activities. De Feijter et al. (2011) also employed AT, this time to analyse what medical students in an academic medical centre in Holland said in focus groups to highlight workplace learning concerned with patient safety. De Feijter et al.'s AT analysis enabled them to distinguish the activities of learning to be a doctor and keeping patients safe, identify inherent tensions between the objects of these activities, and consider the impact of variation and contradictions in rules and roles adopted by students. Bennet et al. (2015) also promoted the use of AT in medical education research. Bennet et al. (2015) used focus groups and feedback forms to gain medical students' perceptions of and to evaluate a peer-assisted learning intervention, employing AT and activity systems analysis. There are indications in these three studies, which are relevant to my own, that paradigm tensions and challenges may emerge when traditionally science-based professions make a shift towards approaches such as AT research. Concerns such as large sample size (Wearn et al. 2008 and Bennet et al. 2015) and generalisability (de Feijter et al. 2011) may be indicative of these tensions. Nevertheless, seeking physiotherapy students' retrospective accounts of PSPE is supported and encouraged by Bennet et al. (2015), de Feijter et al. (2011) and Wearn et al. (2008) who have employed AT in contexts similar to that of PSPE.

I thus explored students' perspectives to provide some insight into what PSPE is about; including student participation according to PSPE and interacting activity system conditions, such as the division of labour and rules on how students' ideas are allowed or expected, received and responded to as well as how students perceive the climate of mutuality of individual and social influence in practice. Adopting this approach would also shed some light on any possible constraints on the development and expression of student agency, such as the reproduction of activities and attitudes in the socialisation processes.

It is recognised that observations in practice, which were not possible due to the reasons previously given, may have helped me in understanding these perspectives. However, in not observing PSPE, some potential research pitfalls

may have been avoided and some benefits were gained. The physiotherapy workforce is a small enough community so that I, as a previous physiotherapy educator for over 30 years, am known to staff in many of the HEI-associated practice sites. My presence, particularly when it would only be for short periods of time at different sites, therefore, may have disturbed 'normal' practice. This is a situation I have recognised, despite attempts to spectate 'unnoticed', when observing students in practice placements for many years as part of their assessment. Furthermore, it is not known how the challenges associated with observation as a research method, such as the filtering of observations through the "understandings, preferences and beliefs of the observer" (Pring 2000, p. 35), and the difficulty associated with the interpretation of behaviours, meanings and motives (Pring, 2000), might have influenced my findings.

Making the assumption, therefore, that physiotherapy students could tell me about their PSPE object motives and PSPE and its interacting activity system actions/interactions, operations, mediating tools/artefacts and conditions, I employed face-to-face interviews and email communications as means of generating conversations, questions and opportunities to hear what students had to say. The limitations of students' abilities to realise and verbalise their PSPE object motives, actions/interactions, and operations is acknowledged but not seen as a reason not to try or to consider students' contributions as unworthy.

Furthermore, interviews and email questions allowed exploration of the 'invisible' side of practice, which has been claimed to imbue the whole of the practice iceberg, including the one-tenth that is visible performance (action) (Fish and Coles 1998). In my study, therefore, through what physiotherapy students said in face-to-face interviews and in response to email questions, PSPE and interacting activity system objects, actions/interactions, operations, mediating tools/artefacts and conditions (rules, norms and divisions of labour) were explored. As indicated above, there are some examples of previous studies whose authors used the same or similar methods successfully, and these support the selection of this method in my research.

Students who consented to participate in my study were sent questions about PSPE by email and asked to respond during the first two weeks of their practice placements. Face-to-face interviews then took place, usually around mid-placement time or slightly later. These two methods of data provision will now be discussed further.

4.6.1 Email communications and questions

I decided to communicate with students by email in the first instance, not only to ensure that potential study participants received information about my study, but also to start building relaxed researcher–student participant relationships by using friendly language and demonstrating to participants that what they had to say would be highly valued. It was important for me to gain participants' trust as a non-judgemental researcher with whom students could talk freely without the worry of these conversations having any impact on their studies/grades/job prospects.

Email communications and questions also provided opportunities for multiple communications with participants, which allowed for accounts of students' experiences and activities to be gathered, at least to some degree, over time. Using email questions allowed for data to be captured in the early stages of practice placements when students were new to the practice environment and trying to find their feet. I did not expect physiotherapy students to consent to more than one face-to-face interview during practice placement periods which are notoriously considered to be demanding on students' time and energy; as supported in my challenges in recruiting study participants. Email communications and questions, therefore, might be viewed as less taxing and time-consuming and more attractive for students who are generally accomplished users of electronic communications and social networks. As highlighted by Opdenakker (2006), another advantage of asynchronous communication is that the interviewee can answer the questions at his or her own convenience due to independence of place *and* time. I was also aware that reports existed of the internet environment creating, among students, a certain sense of freedom, which might allow them to say things they might not say in face-to-face interviews (Lantoff 2000, p. 11) and felt this was worth

capitalising on by giving students the opportunity to communicate electronically about PSPE. Furthermore, I hoped that by not having to respond to questions in 'real' time, students would consider their responses carefully and respond in an in-depth manner. Although this means that spontaneous answers might be less likely in email responses, it was hoped that these would be elicited in subsequent face-to-face interviews. The email questions will now be discussed.

4.6.1.1 Email questions

Students who consented to participate in my study were sent questions about PSPE by email and asked to respond during the first two weeks of their practice placements. Although it was hoped that students would provide full, in-depth answers to email questions, the number of questions was kept low so as not to put any unwanted pressure on physiotherapy students who were probably also studying in the evenings at the time.

Email questions were devised to explore how students participated in the early stages of practice placements. It was hoped that asking students about how they were settling in, what topics they were finding out about, where they were getting the information they needed, anything they were surprised about so far on the placement, and their main challenges and how they were addressing them at that stage, might elicit data about student placement actions/interactions that could be lost once they became routinised and less conscious as students settled in. I was looking for data on the learning sources that students could draw on, the kinds of knowledge they were picking up on early on, and the learning practices they were following, that is to say, how they were navigating the setting in response to the conditions they found themselves in. At the end of the email questions, students were invited to add anything they wanted about the early stages of the practice placement. This allowed students to respond in a non-directed way. The email questions are presented in the email communication/interview schedule in Appendix 2. Email questions were followed in most cases with face-to-face interviews. The interviews will now be discussed further.

4.6.2 Interviews

Prior to conducting this research, I had observed physiotherapy students in practice for many years in the role of practice educator (PE) and university tutor. Perhaps as a consequence of my role as educator and assessor, for many years I watched what I came to recognise as ‘shows’, which involved demonstrations of good, rehearsed practice and willing collaboration from other actors, such as patients and PEs, who wanted students to ‘do well’. Whilst as an educator I longed for students to talk about their inevitable working difficulties and challenges, the looming presence of student assessment seemed to push those conversations away.

Although I started this study with the intention of using research along with intervention to improve my practice and critically analyse PSPE, my life, work and research circumstances changed so that I no longer had a role as educator/assessor. However, I was very attracted to creating opportunities to hear from students in different circumstances; circumstances in which I no longer had a role as educator/assessor but rather as a neutral listener and researcher. Constraints and circumstances, therefore, led me willingly to select face-to-face interviews as my main research method.

I found suggestions in the literature that interviews may be considered meaningless beyond the context in which they occur. For example, Higgs et al. (2004a, p. 55) state that “Language is merely a delivery system. Words are never the same as the things they represent”. However, I also found support for interview methodology. For example, Miller and Glassner (2004, p. 126) argue that “information about social worlds is achievable through in-depth interviewing”. These authors suggest that “narratives which emerge in interview contexts are situated in social worlds: they come out of worlds that exist outside of the interview itself” (Miller and Glassner, 2004, p. 131). This position fits with my own practice and experience as a physiotherapist, which involves the belief that patients (people) are capable of objectifying their world, that is to say, that objectivity is an aspect of human lived experience. Physiotherapy patient-centred practice is based on what patients are enabled to say about the problems they are facing in their daily lives.

Choosing interviews as a research method is also supported by Atkinson and Coffey (2002, p. 811), who state: “We need to divorce the use of interview from the myth of inferiority: the essentially romantic view of the social actor as a repository of ‘inner’ feelings and intensely personal recollections. Rather, interviews become equally valid ways of capturing shared cultural understandings and enactments of the social world”. Rapley (2004, p. 26) reminds us that “we are never interacting in a historico-socio-cultural vacuum, we are always *embedded in* and *selectively* and *artfully* draw on broader institutional and organisational contexts”. Yamagata-Lynch (2010) also supports the use of interviews, suggesting that; “from an activity theory perspective, interviews help identify information about the subject, existing or lacking tools, and the subjects’ perspectives about the object. Participants may also share information regarding documents and artefacts that relate to existing rules and division of labour. It is also likely that participants will be able to provide information about the communities in which their activities are situated” (p. 70).

In my study, interviews were employed to gain access to the socio-material-cultural-historical world of PSPE by seeking insight into physiotherapy students’ (the subject) representations of PSPE and interacting activity system players, objects, actions, mediating artefacts/tools and conditions. However, interview material is not treated as reflections of the ‘truth’ about PSPE but, rather, as possible representations of its social reality which reflect physiotherapy students’ culturally and historically available ways of knowing as well as the interactional interview situation (Holstein and Gubrium 1995). Although I accept students’ stories, which were possibly reflective of the narratives of PSPE culture, as relevant, I also attempted to use interviews to elicit other types of stories; for example, to give a voice to students who may otherwise be silenced and to allow them to reveal feelings, beliefs and doubts that may contradict some generally commonly held beliefs about PSPE. My view is that in specific interactional moments of interviews, the physiotherapy students and I (all of whom had experienced PSPE) actively and collaboratively produced, sustained and negotiated contemporary knowledges about students’ PSPE experiences.

As opposed to email communications, face-to-face interviews allowed two-way, current-time dialogue and engagement with students. This allowed interviews to become more dynamic, create meaning-making occasions, and generate interest in how and what physiotherapy students, in collaboration with myself as interviewer, produced and conveyed about PSPE (Holstein and Gubrium 2004). This allowed issues gathered from email responses to be explored in more depth or new, unexpected issues to come to the fore; for example, accounts of previous practice-placement experiences.

Furthermore, face-to-face interviews with physiotherapy students were conducted in more neutral environments; an important consideration when attempting to facilitate open dialogue. Interview venues are now discussed further.

4.6.2.1 Interview venues

Interviews were conducted in venues that were as neutral (away from practice and HEI 'teaching' sites) as possible. As discussed above, this strategy was adopted in an attempt to consider PSPE as an activity system, rather than as a geographical practice-placement space. Student participants were asked to suggest (and sometimes arranged) convenient and comfortable venues for interviews. In line with ethical requirements, interviews were held in quiet rooms in public places. Venues were student rooms/areas on HEI campuses (not always the HEI attended), hospital libraries, and a public library. Students chose where to sit and how to position themselves in interview rooms.

Interviews took place at the most convenient time for the students; usually in the evenings or on their afternoons off practice placements. It was hoped that discussions in neutral surroundings and 'out of hours' may allow some more open and riskier comments to be made. Thus, the aim was to facilitate conversations with students about PSPE as cutting across multiple organisational boundaries, rather than just those associated with the physical environment of immediate practice. The nature of the interviews will now be discussed.

4.6.2.2 The nature of interviews

Face-to-face interviews took place usually around mid-placement time or slightly later. Interviews took place between May 2011 and March 2012 and lasted approximately one hour each. I, the researcher, conducted all of the interviews. I was not known to and had no connections or relationships with the students being interviewed. It is hoped that this helped participants to be honest and relaxed with their responses. However, I needed to be mindful, in order to carry out responsible research, that an interviewer has the power to interpret and report the lives of the interviewees, who are the subject of the study. Initially, I did not intend to share my background as a clinical physiotherapist, educator or someone who had also experienced PSPE with participants. However, rather than try to bracket my pre-understandings of PSPE, I tried to put them to work (Usher et al. 1997). I found that it became useful to demonstrate a shared understanding of language, professional knowledge, technical matters and physiotherapy cultural or behavioural norms with participants to aid our communications and rapport. Although, coming from a more positivistic-dominated background, I initially worried about this causing bias in responses from interviewees, it felt like a natural occurrence that helped the flow of interviews. I was reassured by Ely et al. (2003, p. 61), who state: "an interviewer does no harm and indeed does some good by entering judiciously to let the interviewee know that you 'have been there' and can sympathize. A growing trust is the basis for richer interviews". However, it was important for me not to demonstrate a deep commitment to the order of PSPE so that I did not restrict the telling of cultural stories (Miller and Glassner 2004). I emphasised to students that what *they* had to say mattered and that it was not possible for them to give any 'wrong' answers.

Interviews were semi-structured to allow participants to expound the significance of their actions (Pring 2000). Semi-structured interviews are said to allow people to answer more on their own terms than in standardised interviews (May 2001). The semi-structured nature of interviews also allowed me, as the researcher, to probe answers further and seek clarification and elaboration on responses provided (May 2001). I did not follow the pre-determined set of interview questions mechanically but, rather, permitted discussions to flow

freely or to digress to capture additional elements of PSPE. Sometimes I referred to my own experiences or other participants' answers when trying to encourage the participant to elaborate on a certain topic. For example, when some students expressed that they were struggling with time management, I commented that this issue had been raised by other students. This seemed to reassure students that it was okay to reveal such challenges.

When I felt it necessary, responses were encouraged and facilitated, questions were rephrased to assist understanding, and examples of responses were given for participants to confirm, modify or deny them (Eraut 2000a). I acted as a sympathetic listener; I was motivated by understanding and not judging what my interviewees said and expressed to me. As an interviewer with the power to interpret and report the lives of participants, I employed further strategies to diminish this status differential between myself and students. These were also utilised to help to avoid provoking defensible participant accounts and to help students to describe and speak about PSPE, elements of which were likely to be taken for granted and difficult to express and unpack. To assist with this, students were met for interview and greeted in a relaxed and informal manner. I, the researcher, wore informal clothing and refreshments were available throughout interviews to help students feel comfortable. Students were reassured that they would only be asked to discuss what they were comfortable with and were reassured at the beginning and end of interviews of their rights to complete anonymity and to withdraw from the study at any time. Students were invited to bring to interviews an object they felt conveyed PSPE to help them to express themselves in their own way. This was discussed at the beginning of every interview and also helped to 'break the ice'. Direct questions about learning were avoided to prevent students from feeling that their learning was being judged or assessed in any way. This also helped to maintain the chosen paradigm of my study in considering learning and practice as inseparable. Students were considered and treated as research partners by offering them a copy of their interview transcript for review. Furthermore, every participant was invited to comment on how they felt the interview went.

All student participants agreed to their face-to-face interviews being audio-recorded. This helped to avoid missing any of the words said during interviews but also captured the nuances of interviewees' voices and allowed for analysis through repeated studying (Ely et al. 2003). These recordings were transcribed practically verbatim and this involved listening to the recordings multiple times.

I took researcher's field notes during and immediately after each interview, noting as much of the conversations as possible (for fear of technical failure) as well as my reactions and observations about the interview. I noted the atmosphere and ease of the interview and other issues that might affect the interview process. For example, I noted how motivated students seemed to be to participate (they all seemed to be highly motivated to discuss PSPE). These field notes were kept alongside interview transcripts to make it easier to recall interview situations when analysing data. In the next section, I discuss the development of the interview questions.

4.6.2.3 The development of interview questions

The interview questions were developed with the aim of facilitating students to provide rich data to respond to my research questions. Questions were composed to guide answers relevant to research question topics whilst trying to avoid the students feeling challenged, assessed or threatened by having to prove themselves in any way. Although based on the Eight-step-model for translating activity systems described by Mwanza (2002) (see Appendix 3), the questions were phrased in language familiar to participants. For example, students were asked about resources rather than CHAT 'tools/artefacts' and tasks/actions rather than CHAT 'division of labour'. To further assist with this, direct questions about learning were not employed. Another reason for this was that, although students may have been used to talking about 'learning', they may have been more likely to refer to formal learning rather than informal learning, with the latter being just part of their work, unless an interviewer can home in on it in a particularly appropriate way (Eraut 2000b). Questions were, therefore, employed to facilitate students to consider and discuss PSPE openly and also in depth. Questions about day-to-day practice were designed to explore not only what students thought they did but also what they did do by

asking for descriptions of the daily routine and work practices. Interview questions and discussions were also geared towards exploring how, in response to given conditions, students worked, practised, constructed knowledge, used tools, recognised and manoeuvred rules and norms as well as positioned/repositioned themselves and others in PSPE. As tools develop historically and within specific cultures, they create a link between historical, social and material processes and individual mental processes. Hence, I hoped that the use of tools/artefacts could reveal PSPE cultures in which they have developed and provide clues as to how physiotherapy students see the purpose of their efforts. Questions were also designed to explore PSPE players and human interactions, as well as contradictions experienced within and across PSPE and interacting activity systems. Most questions were 'open-ended' as these kinds of questions are believed to provide the most effective route towards gaining a most authentic understanding of people's experiences (Silverman 2011).

Towards the end of each interview, students were asked to tell me a story about a time that reminded them of what it meant to be a student on placement. The aim of this was to provide a contextually sensitive means of getting students to talk about PSPE within multi-layered interactions with activity systems, objects, communities/players, tools/artefacts, rules/norms and divisions of labour. Furthermore, discussions during interviews could relate to PSPE as a wider learning arena, encompassing past histories of learning activities and not simply being concerned with the present practice placement.

At the end of every interview, the student was invited to add anything they wanted about PSPE. This gave students the opportunity to comment about PSPE in a way that was not directed by me as the interviewer. There were two reasons for this part of the interview. Firstly, to gain data which may be missed from interviewer-directed questions alone (albeit that interviews were only semi-structured and students were encouraged to expand and diversify during interviews) and secondly, to gauge when students did get an opportunity to talk feel about PSPE how they would use it. This would be perceived in the study analysis in two ways. Firstly, as a reflection of PSPE as experienced and told

by students, but also, as an indication of how students used the interview as a means to talk about PSPE.

4.6.3 Piloting

The email and interview questions were piloted to test their clarity and effectiveness with two physiotherapy students who were not in the recruitment pool for my study. Two pilot interviews were used to practise my interviewing technique and test the flow of the questions. Feedback from the students who piloted the questions resulted in three questions in the original email and interview schedules being removed due to their ambiguity and another three being developed to improve their level of clarity and effectiveness. The effectiveness of questions continued to be monitored as responses were analysed during interview transcriptions and concurrent preliminary analyses. During interviews, questions were amended, modified and ordered to suit how individual participants chose to tell their story if I felt the interviews could be made more productive. As a result of my preliminary analyses, questions were added after the first two interviews to gather information about students' object motives, perceptions of knowledge for practice placements and to explore whether students felt they were contributing to (transforming) the practice placement/setting in any way. The first two students interviewed were subsequently asked to, and did, respond to these additional questions by email. About halfway through all of the interviews, a question was added about a typical day on practice placement in an attempt to glean more information about work routines and day-to-day activities. The email and interview questions, reflecting iterative modifications, can be found in Appendix 2. Next, I discuss my analysis and interpretation of the data that emerged from the email and interview communications with students.

4.7 Analysis (and interpretation)

My analysis involved two (not necessarily sequential) stages. However, the first of these was groundwork for the second, the most substantive and enabling in terms of responding to my research questions; my CHAT analysis. The stages of analysis are explained below.

4.7.1 Stage 1: From the beginning

Analysis commenced during interviews within field notes, with the reading of responses to email questions as they were received and as interview tapes were transcribed sequentially. Interview conversations were transcribed practically verbatim, including pauses, laughter, repetitions and hesitations, but the lengths of pauses were not recorded. Transcriptions of interviews, which were carried out as close as possible to the time of interviews, involved listening to each interview audio-tape multiple times. This helped me to recall the experiences, to relive what happened and become more intimately familiar with the interview data than if someone else had transcribed the interviews. This also helped me to check the adequacy of the data to respond to my research questions as my interviews progressed. Preliminary data analysis, which helped me to check emerging trends, insights provided, and my focus, commenced and progressed during data collection. Although transcribing the first two interview tapes confirmed that the emerging data appeared to be valuable and appropriate to the study, this also revealed some gaps in the data. As a result of this observation, as described in Section 4.6.3, three questions were added to my interview schedule after the first two interviews and one after the seventh interview.

Transcribing the interviews myself as the researcher also helped me to face myself as a research instrument. In acknowledgement of the interview as a transaction between two people at a certain time and in a certain place, I felt it was important to listen to and read the data with the aim of gaining a sense of the interactions and collaboration between myself as the interviewer and interviewees and how these may have influenced the students' narratives. This part of the analysis allowed me to critically evaluate my efforts to create rapport with the students. This also helped me to provide an honest account of my findings by exposing my role in the interviews and by acknowledging the contexts in which students' words were spoken. This part of my analysis, therefore, involved ongoing monitoring of and responding to, as necessary, interview tapes, transcripts, field notes and email responses, and looking for words, sentences, phrases or paragraphs that would indicate how

conversations and relationships were enacted during these communications with students.

Some participants directly commented that I was easy to talk to. Furthermore, all seemed willing to participate and share problems and challenges. This, along with the evidence of humour within communications, suggested to me that our communications were relaxed and unrestrictive; an important consideration in my study. However, I had to work on my interview technique. For example, my transcription of the first two interviews resulted in the sharp realisation that my enthusiasm for the topic area led to me talk too much during the interviews. I had to quickly modify my behaviour and subsequent interviews were conducted to allow interviewees to speak as much as possible. I continued to monitor this during all of the transcriptions and the later interview transcripts reveal less dialogue from the researcher and more from the interviewees. Due to the changing conditions of the individual interviews, I cannot claim that I became more effective as an interviewer; however, I continued to modify my interview technique as the interviews progressed in response to how data were emerging in the transcriptions. For example, I became more confident in using follow-up questions and I tried to become more participatory and facilitating, without necessarily talking more.

Once the student interviews were complete, this stage of data analysis also involved immersing myself in the data; listening to audio-tapes and reading email and interview transcripts again multiple times. As a first-time qualitative researcher, I found the process of analysing, synthesising and organising large amounts of data challenging as nearly every sentence uttered by students seemed precious to me and worthy of sharing in my findings. Initially, the more I read, the more unfamiliar I felt I became with the data. I therefore kept revisiting students' words throughout the study to check that I was representing them in as honest a way as possible. This stage of analysis, as interviews were semi-structured and, therefore, allowed students some scope to talk about PSPE in their own way, also allowed a sense to be gained of how interviewees *chose* to speak about PSPE within the interview conditions presented. However, it was not the aim of my study to generate broad impressions, but

rather to explore the complexity of PSPE in response to my research questions. Once I was thoroughly familiar with the data, I felt comfortable to move on to my CHAT analysis.

In the next section, I describe the CHAT analysis of the data. This was carried out largely, but not entirely, once the email questions had been returned and the interviews were completed.

4.7.2 Stage 2: CHAT analysis

In this stage of analysis, CHAT concepts were employed for a more deductive analysis of email responses and interview transcripts. CHAT concept-led data analysis involved shifting the focus from what was said by participants to 'distilling' those categories of data that related to PSPE and interacting systems of activity objects, players, rules, norms, divisions of labour, mediating tools/artefacts and contradictions. This analysis also required study of the inter-relationships between these categories of data as well as taking cognisance of the conditions they were responding to. How these CHAT concepts were employed is explained individually in more detail below and further again, when the study findings are presented in Chapter 5.

4.7.2.1 Activity Systems

From the outset of this study, the main focus was on PSPE as an activity system. However, the analysis of the data revealed that students engaged in a network of interacting activity systems. It was therefore seen as important to identify these as part of the analysis of the inter-relationships and interactions between activity systems, players, rules, norms, divisions of labour and tools/artefacts from which PSPE emerges.

4.7.2.2 Object

The object of an activity system, that is, what is being worked on/towards, is defined in Chapter 3. However, Fenwick et al. (2011) reflect on object dynamism and fluidity, stating: "CHAT analysis suggests that learning is defined by the contradictory yet relationally patterned ways (the form) in which a

relational configuration of actors and artefacts mediate interaction with the world, all the while producing a shifting kaleidoscope of object/motives" (p. 67).

The interest here is in how/whether physiotherapy students interpret, react, act upon, negotiate, contest or adapt to and transform the object of PSPE as identified in Chapter 3 (Table 3.2). What is the chemistry between the objects of PSPE, healthcare and HE activity systems? How students constitute and represent the object/motive of activity as imbued with social dimensions behind its surface, such as social status, success, personal and professional responsibilities and the recognition and use of the support of others, across interacting activity systems, is explored.

Taking the view proposed by Stetsenko (2005, p. 85) that objects of activity and individual goals do not exist separately from one another, I explored not only how the collective objects/motives of practice education mould individual goals and actions, but also how students' goals may mould the object/motive of activity. I explore students' object motives, described by Ellis et al. (2010, p. 3) as "how the object of activity is interpreted" by students and how these direct PSPE actions. What is recognised by students as what matters, in relation to the object of activity but as well as to students' object motives and what is worked on as a result of the chemistry between these forces, is explored. For example, in a CHAT view, "the interplay between the knowledge that matters in professional practice and the interpretations of the problem to be worked on is […] surfaced" (Edwards and Daniels 2012, p. 44). I thus set out the students' goal-oriented actions against the assumed objects of PSPE and interacting activity systems in order to aid understanding of how systemic contradictions affect student engagement in PSPE (as Barab et al. 2002). I also looked for discursive manifestations of object contradictions between PSPE and interacting[13] systems (as Engeström and Sannino 2011). The emphasis in my study is on how intra- and inter-activity system contradictions may skew/expand students' object motives against the objects of PSPE, healthcare and HE activity systems.

[13] Interacting activity systems include HE and healthcare activity systems.

4.7.2.3 Rules, norms and divisions of labour

Attention was paid to how PSPE, healthcare and HE activity system rules, norms, and divisions of labour directed and controlled PSPE actions and operations. This was analysed by focussing on how students depicted their position in PSPE as well as other dynamics governed by PSPE and interacting activity system rules and norms (such as student assessment). Furthermore, exploring the rules and norms of students' relations with others provides an indication of the extent to which existing PSPE players support students and facilitate their development. For students, learning how to know who knows what; who novices can turn to in order to draw on their expertise, which includes a capacity for mutuality, has been identified as an important aspect of learning in the work situation (Edwards 2009). Another dimension of PSPE, the dynamism of submission and disobedience among students, is also explored. Kagawa and Moro (2009, p. 180) highlight that "each participant in the learning situation submits to and is submitted to by all other participants". Analysing these dimensions provides a means of bringing the collectivity of the PSPE activity system to light. Focussing on PSPE and interacting activity system rules, norms and divisions of labour will also draw attention to some of the power relationships at work (Boag-Munroe 2004). Given that students work with physiotherapists (and sometimes university tutors) who have simultaneous roles as practice educators (PEs) and student assessors, this is an important consideration when analysing PSPE. This will also reveal the level of student agency and how far student voices are reflected. However, the issue of power is analysed, taking the socio-material approach of regarding power, not as a possession of people or organisations but rather as constantly created and readjusted through relations among people, practices and things; something that may be enacted and resisted by students (Ajjawi and Bearman 2012).

As well as exploring rules and norms related to degrees of freedom experienced by PSPE students, I explore how physiotherapy students position themselves in relation to moral aspects of healthcare, such as mutual responsibility, ethics and patient care. In asking students about their relations with others, as well as providing insights into the object of activity as discussed above, this will provide an analysis of how students learn about responsibility to and for others; a core

dimension of physiotherapy. Contradictions in and between systemic rules, norms and divisions of labour are highlighted as a further means of analysing PSPE.

4.7.2.4 Mediating Tools/Artefacts

In this study, how tools/artefacts, as described in the previous chapter, directed students' actions and how they constructed the object of activity is explored as a means of viewing and explaining PSPE. To help identify mediating tools/artefacts in the data, I turned to Y. Engeström's (1999b) way of distinguishing artefacts from students' accounts. I looked for examples of 'what' artefacts, those used to identify and describe objects, 'how' artefacts, those used to guide and direct processes and procedures on, 'why' artefacts, those used to diagnose and explain the properties of objects, and 'where to' artefacts, those used to envision the future or potential development of objects. However, I also looked out for mediating tools/artefacts that may carry more than one of these qualities/messages.

4.7.2.5 What about professional knowledges?

In this study, it is regarded as important to include exploration of the knowledges that are recognised, valued and brought into play in PSPE. Although this normally receives little attention in CHAT studies (Edwards and Daniels 2012), means of exploring knowledges in PSPE are drawn from the concepts outlined above by paying attention to: the problem being worked on *with* the knowledge in use. CHAT analyses recognise that interpreting a professional task and manipulating resources to work on it are actions which are imbued with professional knowledge (Edwards and Daniels 2012); student engagement with 'rule-bound' learning practices; what is seen as of professional value and as possible to accomplish in terms of how this filters working with patients and knowledges.

Another way of exploring knowledge will be to consider knowledge/information as a tool/artefact which mediates work to address a problem; as, for example, by the nursing students in a study by Kagawa and Moro (2009). Once they had experienced clinical work, these nursing students no longer saw textbook

knowledge as an ideal resource, but rather, as a mediating artefact that allowed them to attain a more critical perspective on practice.

The stages of my analysis are summarised in the next section.

4.8 Summary detailing the stages of my analysis

To summarise, my analysis involved two stages, which were not necessarily sequential. Stage one involved multiple readings of email responses and repeated listening to and transcription of interview audiotapes. During this stage, I hand-recorded *what* was discussed by students and identified common topics (part of this analysis is shown in Appendix 4, Section 1). I then carefully analysed *how* students represented these main topics in detail (an extract of this part of my analysis is shown in Appendix 4, Section 2). Before I moved on to stage two of my analysis, I wrote these preliminary findings out in detail. As I did this, I checked the level of agreement of emerging findings across individual student data. Examples of this process can be found in Appendix 4, Section 3.

Once I had completed this first stage of my analysis, I felt ready to progress on to my CHAT-oriented analysis. This involved employing CHAT tools, as set out in Section 4.7.2 of this chapter, to further analyse my findings. This stage of my analysis also involved repeated returns to my raw data to make sure that I was representing them faithfully, as well as accordingly, within my chosen theoretical framework (CHAT) in response to my research questions.

My analysis is discussed further as the findings are presented in the next Chapter. However, before the findings are presented, I discuss the limitations of my research methodology.

4.9 Methodological limitations

I acknowledge several methodological limitations. In relation to the methods of research employed, for reasons previously outlined, observation of physiotherapy students on practice placements was not possible. This may be a limitation of my study. However, as discussed above, I drew on other

appropriate research methods and was enabled to elicit rich data in order to respond to my research questions.

The most profound methodological limitations of my study may relate to my standing as a novice qualitative researcher. Although I have made every effort to follow my chosen methodological approach and to effectively employ the selected research methods and faithfully represent my communications with the physiotherapy students, this work is the result of a learning experience. I have embarked (and am still) on a learning journey which has involved considerable challenges and discomfort along the way. I have found CHAT simultaneously appealing and challenging as a theoretical framework. Not least, I feel that studying CHAT involved learning a new (variable) language as well as a new kind of research culture. As an inexperienced researcher, I grappled with the definitions and applications of CHAT concepts, which can be variably conceived in the related research and literature before reaching a point where I could borrow and apply them for my study. However, my research journey has involved a great deal of trial, error, repetition and revisiting of concepts and the data. Adopting, thinking, looking, exploring and analysing with CHAT concepts has sent me, sometimes overwhelmingly, up and down many diverse and convoluting paths, some of which have taken me to a variety of false destinations. One of these false destinations was trying to conform to canonical CHAT studies (although my study is not) by reproducing versions of Engeström's triangle diagrams. In the end, whilst I have found borrowing CHAT concepts to be highly valuable in my pursuit of understanding more about PSPE, I have realised the limitations of such triangle diagrams in trying to represent complex, interacting and overlapping multiple activity systems. I, therefore, do not use triangle diagrams to represent my findings. Rather, I focus on applying CHAT conceptually. Other challenges have included, as the main reason for this study was to give students a voice, becoming emotionally attached to students' words.

However, all of these journeys have helped me to revisit and challenge my understandings of PSPE as well as appreciate and embrace unique aspects of qualitative research work and my role within it. For example, before I

commenced my current studies, I was not aware of the concept of researcher reflexivity and, due to my professional and education background, I may have previously scorned it as researcher bias. Coming from a largely positivist research background, I have, therefore, struggled to place myself in my writing. In this work I began to feel much more comfortable when combining an appreciation of CHAT with my professional insights and experience. However, although I now embrace the idea of researcher presence in research, I still have much to learn about showing more of myself in future work and some paucity of this may be a limitation of this thesis.

As I learned, I found my way, for example, through interviews and data analysis. However, I am reassured by Ely et al. (1991, p. 15) that one of the truths "of becoming a qualitative researcher is that one must learn by doing". As part of this process I have learned to accept that my study findings through a CHAT view of PSPE may have been provoked by me as an 'insider' researcher. However, as discussed previously, I have learned to embrace this position and use it to enhance findings rather than consider my presence as potential contamination of findings.

I, therefore, declare that my study is a product of *my* learning and newfound professional and research understandings as a solo student researcher. Although it may be argued that being a solo researcher/interviewer/data analyser may be an issue in terms of consistency or reliability of analyses (Pope et al. 2000), the concept of inter-rater reliability in qualitative research is contested (Armstrong et al. 1997). However, as a physiotherapist/educator/student researcher who has worked with physiotherapy students in HEI and practice settings for over 35 years, I recognise that my interpretations of situations, words, phrases, things, and actions are bound by *my* perspectives and can only ever be partial.

However, to mitigate against the limitations outlined above, I provide a detailed, honest account of what I have done. I also support my findings with a rich array of direct student quotes to make sure that their voices are honestly and fairly represented.

4.10 Chapter conclusion/summary

In this chapter I have explained, justified and provided details of the methodological approach to my study of PSPE. I have presented my study participants; 14 pre-registration physiotherapy students. I have argued for the use of, and given details of, email communications and face-to-face interviews as the research methods selected. I have shown how I developed interview and email questions and researcher techniques to generate data related to what PSPE was about from students' perspectives (my main research question) and to respond to my operationalising research questions (my research questions are set out in Chapter 3). I focussed on operationalising research question one by seeking and analysing data on PSPE and interacting activity system objects, players, rules, norms, divisions of labour and tools/mediating artefacts (although using non-threatening, participant-friendly terms and phrases in communications with participants). I focussed on operationalising research question two by exploring and analysing students' object motives and actions in response to PSPE conditions. I focussed on operationalising research question three by exploring and analysing students' representations of physiotherapy knowledge for practice.

I have set out how I analysed my data; focussing on employing CHAT concepts (systems, objects, object motives, rules, norms, division of labour and mediating tools/artefacts). I presented definitions of CHAT concepts; as employed in my study. However, I also show more of my analysis in the next chapter by clarifying where responses to specific interview or email questions were focussed on to respond to specific research questions. In this chapter, I have also clarified my research assumptions and set out perceived limitations of my study. In the next chapter, I present the main findings arising from the research activity detailed above.

Chapter 5

Findings

Physiotherapy student practice education: what it was about for students

5.1 Introduction

In Chapters 3 and 4, I presented CHAT as a suitable theoretical and methodological approach to study PSPE. As previously discussed, I examine PSPE as a type of activity system from the perspective of physiotherapy students, the subject of activity. In this chapter, in response to my research questions (outlined in Chapter 3), I present my findings, which are based on CHAT concepts: activity systems, object, community, rules, norms, division of labour and tools/mediating artefacts. It is outwith the scope of this thesis to represent all of the findings that this study offered. Rather, I present what I interpret as the more salient findings from what was recognised, valued and expressed by physiotherapy students during my communications with them.

Several findings, based on CHAT concepts, are supported by the analysis in this chapter. However, these are all inextricably woven in with what was being worked on, that is to say, the object of the PSPE activity system. Due to the nature of my study, as outlined in Chapter 4, I focus on students' object motives, how they interpreted the PSPE object and how these directed activities (Ellis et al. 2010). I also focus on what students worked on in relation to cultural dynamics involving overlapping activity systems (healthcare, higher education and others) and PSPE activity system rules, norms, division of labour, and

tools/mediating artefacts. Intra- and inter-systemic contradictions are highlighted to further analyse PSPE.

From my analysis, I could see that, for students, the PSPE activity system object motive was overtly about confidently assessing and treating patients. However, employing CHAT concepts to analyse PSPE has enabled me to show other, less explicit, student object motives related to student assessment, grasping and adhering to unpredictable, variable individual practice educator (PE) rules, acting out expected norms in relation to learning practices, and adopting cultural norms related to division of labour and perceptions of physiotherapy knowledge. Revealing these less explicit student object motives has allowed intra- and inter-systemic contradictions to surface.

In keeping with these findings, this chapter is organised as follows. In Section 5.2, how assessment skewed students' object motives and therefore directed what students were working on is discussed. Section 5.3 delineates who were the PSPE players, the positions they held in the PSPE and interacting activity system divisions of labour, and the roles they enacted. As the analysis shows that students regarded the PE role as pivotal in PSPE, the major part of this section analyses the PE position in relation to the PSPE activity system division of labour. This section shows how PEs acted powerfully through being gatekeepers and through selectively awarding 'gifts' according to their individual PSPE rules. This section also shows how this influenced student object motives and therefore directed student participation and learning. Section 5.4 presents how students enacted PSPE activity system norms relating to expected learning practices; reading and practising on 'normal bodies', and the positions they adopted in the PSPE activity system division of labour; 'PE-pleaser'. Section 5.5 shows how students on practice placements appropriated cultural norms related to perceptions of knowledge for physiotherapy practice. These cultural norms were revealed in how students expressed what they needed to know on practice placements and how they variably viewed physiotherapy knowledge for practice placements in different clinical fields. Section 5.6 presents a summary of findings and the chapter is completed with a conclusion. The potential impact of HE, healthcare and PSPE activity system

dynamics on student participation and patient care is highlighted in all chapter sections where applicable.

5.2 How assessment skewed students' object motives

As explained previously, physiotherapy students on practice placements are mostly assessed by PEs; using specific assessment forms which are created by HEIs, usually in conjunction with practice partners. Although others may contribute to assessments (such as other professionals, staff or HEI tutors), study participants did not indicate this to be the case for them.

Although I tried to avoid email contact and interviews with students during practice placement assessment periods, in keeping with the findings of Morris (2011), my analysis consistently revealed that assessment had a powerful impact on PSPE. Student practice placement assessment by PEs featured in communications with all 14 study participants. Below, I review the assumed agreed object(s) of PSPE and then discuss how students' object motives were skewed towards assessment grading. Due to the nature of my study, I focus specifically on how assessment skewed what students worked on. In order to ensure methodological consistency, I frame my findings using the language and terminology associated with CHAT, as described and substantiated in Chapter 4.

5.2.1 PSPE Object

Earlier, I identified assessed PSPE as a shared object of healthcare and higher education (HE) activity systems. HE and healthcare PSPE communities work to support physiotherapy students to reach assessed levels of physiotherapy 'capability/performance' in preparation for physiotherapy work/roles, whilst they concurrently accumulate the required degree credits to graduate and apply for professional registration with the Health and Care Professions Council (HCPC). The object of the *PSPE activity system* is for students to learn; to become able in practice to "participate with the requisite competence in the complex web of relationships among people, material artefacts and activities" (Gherardi 2009, p. 118). PSPE assessment processes provide opportunities for judgements to be

made on students' ability to do the physiotherapy job as well as professional attributes and suitability.

As outlined previously, in Chapters 1 and 2, relevant government, NHS, HE, professional body (Chartered Society of Physiotherapy, CSP) and regulatory body (Health and Care Professions Council, HCPC) standards, codes and regulations (rules) direct the quality and kind of physiotherapy practices and behaviours required and expected of physiotherapy students and graduates (HCPC 2012, 2013, 2016a, 2016b). There are, therefore, qualitative expectations associated with the PSPE activity system object. PSPE is considered to have a role in "ensuring the delivery of safe, effective, high quality, person-centred, evidence-based physiotherapy" (CSP 2014, p. 3). Furthermore, HCPC-registered physiotherapists (graduates of the system) are, or have become, autonomous practitioners (HCPC 2013).

Below, I present how students' PSPE object motives (what was being worked on by students) were skewed towards assessment grading and potentially away from the qualitative 'patient care' dimensions of the inter-systemic shared PSPE object (although this is discussed further in later sections). To help me to identify students' object motives, I looked at what students aimed to achieve.

5.2.2 What students aimed to achieve

To study what they were aiming to achieve, I looked at students' responses to related questions; what they needed to know to practise successfully, what they wanted to achieve, and the problems/challenges they were encountering on their practice placements. As will be discussed further later, I found that most students, like Fidelma, focussed narrowly on patient-related issues and wanted the knowledge and skills to confidently assess and treat patients:

> I think it is feeling comfortable in how you are with patients and comfortable you can go in and see a patient and assess them and treat them in the knowledge that you know what you are doing.
>
> (Fidelma, Interview)

However, I also found that students' object motives were skewed towards assessment. Most interviewees (7) explicitly indicated that their desire to work confidently with patients was accompanied by a goal to achieve good practice-placement assessment grades. For example:

> … I'm hoping I can go through some patients, the whole thing, without having to speak to my senior and also, I hope, you know I want to get a good mark if I can […] you know that shows that I have done well …
>
> (Martha, Interview)

Iolanda also wanted a good grade but then linked this to being a good physiotherapist:

> Oh, I want an A [laughs]. At the end of the day it is to learn to be a good physio, not the grade, but I think if you are good physio, then you will get a good grade. It's about being the best I can be, try and do the best for the patients, I think.
>
> (Iolanda, Interview)

These quotes reveal the influence of student assessment in practice placements. As well as to assess and treat patients, students were working to please their PEs and get good grades from them. It is worthy of note that, like the students quoted above, most students focussed on assessment as grading rather than on other functions (such as feedback, learning, standardisation, or record of achievement). Overall, assessment grades therefore seemed to matter more to some students than these other roles of assessment.

However, it was not always made clear to students what they had to do to get a good practice-placement assessment grade. Individual PE assessment/grading rules could add implicit or explicit layers to student assessment, beyond those expressed in assessment tools. This is shown in selected student quotes, presented below.

> I am really enjoying it and I think everything has been made quite clear as to, you know, what is expected of you.
>
> (Erica, Interview)

> I think it would help if I just knew what was expected. Because otherwise I think it is difficult to gauge how you are doing if you don't really know what is expected.
>
> (Fidelma, Interview)

> I was not aware of my senior's expectations of me [on first placement] and the second one [placement], it kept changing ehm …
>
> (Alex, Interview)

The quotes above indicate that students were relying on individual PEs to tell them what was expected of them and that feedback was given at the discretion of PE gatekeepers/gift-holders (these PE positions are elaborated on in the next section). Furthermore, some students felt that PEs engaged in different ways with practice-placement assessment tools/criteria/forms. For example, Alex and Martha complained about PE subjectivity in student grading:

> There has been occasions where the grading system can be really subjective and if you have a personality clash it is reflected within your grade.
>
> (Alex, Interview)

> … she (PE) was like, 'Oh no, we don't give students As.' Well that's just rubbish you know because students were getting As, A+s and I thought, are they just saying that to get out of saying why they've not given you an A.
>
> (Martha, Interview)

These student quotes further illustrate layers which have been added to student assessment and grading by individual PEs' rules and norms; these examples relating to PE–student inter-personal relationships and communications. PEs' individual layers of assessment rules could also affect students' positions in the PSPE activity system division of labour as learners. For example, Alex and Nina were expected to perform as qualified working physiotherapists:

> For the first two placements, I felt it wasn't a learning placement, I was there to work I was there as a member of staff ehm …
>
> (Alex, Interview)

> I feel that PEs expect us to know as much as a Band 5 who has been qualified for some time, and there is a gap in expectations versus reality.
>
> (Nina, Interview)

Alex and Nina, therefore, had to show themselves as working practitioners rather than students to please PEs, their assessors. Furthermore, some students indicated that they had to exhibit knowledge in ways expected by their PEs; in Nina's and Iolanda's cases, this was achieved through writing and demonstrating that they had revised what was required of them, respectively:

> Yes, a lot of seniors wanted you to write it down although they wouldn't have done it themselves. As a way of assessing your clinical reasoning. Even if you have already discussed it with them.
>
> (Nina, Interview)

> … if they say we are looking at the shoulder tomorrow, revise some of the stuff and we will chat through it. As long as you show you are doing that and you can demonstrate the stuff that you have been learning then that's fine.
>
> (Iolanda, Interview)

These quotes show that Nina and Iolanda had to follow PE-assessor rules about demonstrating knowledge on practice placements (these rules are discussed further later in Section 5.5).

As a physiotherapist/educator, I had expected the student practice-placement assessment form to emerge as a PSPE mediating tool/artefact. I also expected that learning outcomes would guide learning, at least about the expectations of the students. However, the quotes above suggest that expectations of students lie variably with the assessment rules and norms of individual PEs. My findings, therefore, suggest that physiotherapy practice-placement assessment, including grading, and the forms of assessment employed, may have been positioned, to a degree, as tools "to control lives" (as proposed by Fenwick 2003, p. 91), rather than to promote student learning, recognise achievement and standardise expectations. Students had to respond to the assessment rules and norms of individual PEs.

Students' object motives and resultant actions were, therefore, skewed towards impressing PE assessors. Whilst overtly focussing on the assessment and treatment of patients, students had to concurrently learn and adhere to the assessment rules of individual PEs; over and above 'explicit' HE activity system assessment and grading requirements. Emerging contradictions between these student object motives and interacting activity system PSPE objects (such as focus on PEs versus focus on patients) will be discussed further later in this chapter.

The need to please PE-assessors placed PEs in powerful positions as gatekeepers. The position of PEs as gatekeepers is discussed in the next section concerned with PSPE players.

5.3 PSPE players (community)

From my analysis of the PSPE activity system division of labour and associated rules and norms, PEs emerged strongly as the most dominant and influential players. The position of PEs is discussed in this section of my thesis. However, before this, it is acknowledged that all 14 student participants also interacted with and learned from a broad range of non-PE players, both in and out of practice.

5.3.1 Non-practice educator PSPE players

Out of the practice setting, 12 of the 14 student participants drew physiotherapy practice learning from interactions with family, friends, peers, employers and HEI tutors. These included, for example, a grandmother who advised a student how to communicate with and treat older people in practice. One student's practice was informed by observing wheelchair users not getting served in bars. This positions the PSPE activity system as reaching beyond the physical boundaries of actual practice placements. This also positions PSPE as an object of the wider, social community. This may be driven by friends and families seeking to support students' achievements but in some cases, this came across as social communities teaching healthcare students about what is valued and expected in healthcare. Wider, social activity systems therefore

interact with the PSPE activity system (as well as healthcare and HE activity systems).

In practice, non-PE PSPE players included other physiotherapists, members of multi-professional healthcare teams, support workers, receptionists, domestic assistants, peers, patients' families, carers and patients. All 14 students recounted examples of physiotherapy interactions with patients. However, only two students referred directly to patients as educators in the PSPE activity system division of labour. One referred to a patient showing the student how to use a piece of equipment, whilst Heather acknowledged an all-encompassing role:

> ... and the patients as well, without them I can't learn.
>
> (Heather, Interview)

Although students learned from working with individual patients, unpredictable variation between patients emerged as an important dimension of PSPE. By virtue of patients' individual differences in personality (fun/awkward), behaviours (challenging/cooperative), outlook (motivated/unmotivated), presentations (complex/straightforward), needs (advice/reassurance) and responses to treatment (improved/did not improve), nearly all of the students interviewed (11) were challenged to, and had to learn how to, adapt to work with different kinds of patients with different kinds of problems. Individualism and variance were, therefore, important positions in the PSPE activity system division of labour for patients as educators in a patient-centred physiotherapy approach. Each encounter with an individual patient brought new knowledge. This positions face-to-face practice with individual patients as vital, irreplaceable, physiotherapy learning; as supported by others, such as Baldry Currens and Bithell (2000).

Uncertainty and unpredictability could also apply to working with healthcare-based staff.

> … it's just kinda coming in on the first day, trying to suss out who you are getting on with, who is going to be the most important person cos …

> it's not always the senior who is going to be the person you are going to relate to most necessarily.
>
> (Jean, Interview)

Above, Jean highlights the importance of finding and recognising significant non-PE staff players early on in practice placements. However, as illustrated by Martha below, support from non-PE others was not guaranteed:

> … they're just quite cliquey, I just never felt part of the team […] they were treating me like I was ten and I was walking behind them all the time […] they didn't sit with you at lunch and you know things like that …
>
> (Martha, Interview. Referring to a previous placement)

However, students gave numerous examples of finding acknowledgment, support and sometimes refuge from 'non-PE' others. Seven students (Billy, Chris, Jean, Gail, Fidelma, Martha and Nina) realised their knowledge, skills and physiotherapy identity through being valued by other team members. For example:

> … when the doctor came up to me and was like, 'Can you tell me about this patient?' I suddenly was like, 'Yes, I can,' and I know what I am talking about. There was this realisation that yes, I do know what I am talking about, and yes, I have done something … Oh, he is walking, suddenly I thought, 'Oh, I made him do that.' It was great, I totally enjoyed that moment. I mean, probably of course for him [doctor] it was like an everyday situation, but for me it was definitely more than that.
>
> (Jean, Interview)

From an interaction with a doctor, Jean realised her contributions to patient care in the healthcare activity system. Students were also buoyed by interactions with other healthcare staff. In keeping with the findings of Morris (2011), five students were sustained specifically by Band 5 physiotherapists who were more recently qualified than PEs. For example:

> … the junior girl has been brilliant and just … cos … she still remembers being a student and you know she's able to give you some feedback and how you're doing in comparison you know, so she's been keeping me going you know, ehm …
>
> (Martha, Interview)

Sometimes, support from non-PE players was more overtly collusive, as in Nina's case, where encouragement was offered by two physiotherapists with whom she was working alongside:

> … he [PE] can be terrifying ... but the other two physios that we work with are always there for support and when he is not there, you know, they are whispering words of encouragement in my ear and things ... [name] I was with her quite a lot today … she was saying a lot of people are put off by [PE's name] ... scared of him, but she says I have been holding my own, coming across as being quite confident. That's reassuring …
>
> (Nina, Interview)

These two physiotherapists were helping Nina to learn how to navigate and manage her PE, but rules of obeisance in relation to the PE concerned were being mediated through the mode of communication and language used. Whilst trying to support Nina, these two physiotherapists were also apparently reinforcing the right of the PE to cause fear and exhibiting an element of apprehension themselves; by whispering encouragement rather than supporting the student overtly.

In summary, students, therefore, gave a sense of dependence on non-PE others. The student education and support that is provided by family, friends and external employment, positions the PSPE activity system as interacting with various social activity systems. Non-PE others also emerged as important players in the PSPE activity system division of labour, providing students with refuge, educational opportunities and/or a sense of professional worth. Although on the face of it, this may appear positive, it is worthy of note that contributions by non-PE others were not necessarily overt or guaranteed PSPE activity system norms and, as will be discussed below, could be controlled by PEs. Furthermore, the behaviours and language of non-PE others could serve

to mediate strong messages about the powerful position held by PEs, who emerged as key PSPE players and gatekeepers. The position of PEs as gatekeepers in the PSPE activity system division of labour will now be discussed.

5.3.2 The position of practice educators (PEs) as gatekeepers

In exploring PE–student interactions and PE-dictated PSPE activity system rules, norms and division of labour, PEs emerged as gatekeepers. Below, I discuss this PE position within the PSPE activity system division of labour and give examples of how PE rules and norms directed and controlled student participation and learning.

PE–student interactions included pre-placement phone calls, provision of pre-placement student information, workplace inductions, PEs demonstrating physiotherapy work, students receiving help, advice and approval, clarifying expectations of students, performance feedback and approval, as well as discussing patients, treatments and teamwork. Furthermore, all students watched, listened and learned formally or informally what their PEs did; how they communicated, behaved and worked. However, the interactions highlighted above were not all guaranteed or consistent across practice placements. Realising this made me think more about the position of PEs within the PSPE activity system division of labour.

I had started by assuming that students interacted with PEs in expected ways; with PEs as knowledge sources and role models (The Cambridge Dictionary definition of role model is: “a person who someone admires and whose behaviour they try to copy”). However, repeated readings of email and interview transcripts employing CHAT concepts of rules, norms and division of labour enabled me to look beyond this original assumption. All students described PEs mainly in positive terms that could be associated with role modelling, depicting them, for example, as ‘good’, ‘approachable’, ‘informative’, ‘brilliant’, ‘sensitive’, ‘expert’, ‘responsible’ and ‘successful’. However, only one student openly expressed a wish to be like her PE, who she may have positioned unrealistically:

> I've seen other physios, there's a Band 6 physio coming to her [PE] and asking for her advice. So I think, well, I want to be that person who knows everything and people are coming to me to ask questions.
>
> (Gail, Interview)

Gail positioned her PE as the font of all knowledge and indicated a wish herself to attain this unachievable status. However, positioning the PE in this way may have served to reinforce a gap between the PE and student, not only in terms of knowledge, but also in hierarchical status. It may have been more beneficial to Gail's view of continuing professional development (CPD) to position her PE and herself as lifelong learners rather than one who knows everything or can know everything, respectively. This also made me think more about the position of PEs.

When I went back into my data to further explore how students positioned PEs, I realised that only one interviewee did not refer to less positive descriptions or experiences (their own or others') of PEs. Negative descriptions included that PEs were 'unapproachable', 'intimidating' and 'terrifying'. Erica and Iolanda felt lucky to have had a 'good' PE, indicating an element of chance involved in how PE–student relationships and PSPE division of labour might work effectively. For example:

> I think I have a really good clinical educator. I have heard other students say they are not sure what they are at. So I think I might be lucky in that sense.
>
> (Erica, Interview)

Martha was also aware of variability in PE–student interactions as a result of individual PE-dictated norms. Furthermore, Martha gave a clear indication of the power held by PEs in relation to student assessment outcomes:

> … what they expect of a student can be quite different between […] clinical sites and it's that way you go into placements and think I just hope I get on with my senior you know because if I don't then it can affect how I get on so I don't like that side of it, you've got to rely on having a good senior that you get on with …
>
> (Martha, Interview)

Likewise, Iolanda shared views on the power of PE-dictated rules and norms but also highlighted several implications of not getting on with PEs.

> I think if you don't get on with them [PEs] that will have probably quite a big effect on how you both go through the 6 weeks ehm ... Sometimes people get on and sometimes they don't but I think as a student you have to try really hard to be really enthusiastic and keen ... Because I think if you get on with them, you will enjoy the placement a lot more, they will enjoy the placement a lot more and that will have a good effect on your mark I think. Obviously, if you are not enjoying your placement you don't put 100% into it and you won't do the best for your patient and you won't get a good mark at the end.
>
> (Iolanda, Interview)

Martha's and Iolanda's quotes further support the finding, presented in the previous section, that student object motives were skewed towards assessment. Iolanda's quote also shows awareness of a PSPE activity system rule that students had to be enthusiastic and keen to get on with PEs and get a good grade. This quote illuminates the powerful position in the PSPE division of labour of PEs as student assessors who had to be pleased as a priority in order for students to enjoy placement and to do the best for patients.

Repeated listenings and readings of transcripts whilst considering rules, norms and divisions of labour, such as having to get on with PEs, as illustrated above, helped me to identify PEs emerging consistently in another, very powerful position in the PSPE activity system division of labour. That is, the position of gatekeeper who holds the keys to student happiness and enjoyment, learning opportunities, agency/autonomy, placement success, doing the best for patients, entry into the physiotherapy profession and future employment. For students, participation in the PSPE activity system was therefore about learning how individual PEs enacted their position as gatekeeper, including what they would give or not give to students and, as discussed previously, how they assessed students. That is, students had to learn the variable norms, rules and division of labour of individual practice placements, as dictated by powerful, individual PE gatekeepers. This included, as discussed previously, how PEs assessed students but also what they would give or not give to students. The sub-position of PE gatekeepers as 'gift-holders', will now be discussed.

5.3.2.1 Practice educators as gift-holders

This sub-section shows how the positioning of PEs as gatekeeper/gift-holders within the PSPE activity system division of labour emerged strongly from my communications with students; as did the impact of this PE positioning on student participation and learning and, ultimately, patient care. All 14 student participants indicated in some way what PEs as gatekeepers/gift-holders may or may not give to them. For example:

> I just would like to say that the experience is greatly influenced by the personal educator and how welcome they make the students feel and how much support they are prepared to give.
>
> (Heather, Interview)

Other 'offerings' at the behest of individual PE's rules and norms included patients, explanations, tutorials, patient assessment forms, opportunities to meet objectives, wider learning opportunities, reading, objectives, focus, challenges, weekly work plans, advice, correction, time, help, prompts, reassurance, confidence, support and feedback. Selected examples of how PE gatekeepers as 'gift-holders' controlled and directed PE–student feedback sessions, and permitted or did not permit types of student participation/learning, are presented below. The potential impact of such 'offerings' on patient care/services is highlighted where applicable.

5.3.2.1.1 The PE gift of student feedback

Most students (11) received informal verbal and/or written PE feedback in addition to their formal assessment. However, this was at the discretion of individual PE gatekeeper/gift-holders. Variability in the level, style and timing of student feedback, according to PE-dictated norms, is illustrated in the student quotes below.

> She picks out little things that I think other PEs might just sort of brush over. But I think that those little things will kind of stand me [in good stead].
>
> (Erica, Interview)

> … until I have my midway review I feel like I am still a little bit in limbo of what is expected.
>
> (Fidelma, Interview)

> … there was lack of feedback. Anyway, it just wasn't my ideal learning conditions I think, that was the problem, but ach, you've got to have one bad placement you know [laughs].
>
> (Martha, Interview. Referring to a previous placement)

As revealed previously in Section 5.2, these quotes indicate that students looked for feedback to gain a sense of PE expectations as well as advice on their performance. However, the quotes above also suggest powerlessness on the part of students; they got what they got. This also applied to individual PE-dictated permission-giving rules, which will now be discussed.

5.3.2.1.2 PE permission-giving

In this sub-section I show how permission-giving emerged saliently as part of the PE gatekeeper/gift-holder position in the PSPE activity system division of labour. Physiotherapy students require permission to attend practice placements in the first place. This permission relies on student checks associated with issues such as health, criminal records, and expected knowledge, skills and behaviours and as explicitly established between HEIs and placement providers; often in the form of a written agreement. However, when on practice placements, all of my student participants had to learn (not always wittingly) the permission rules of each practice placement; what they would be allowed to have or to do, as defined by their PEs. This could be determined explicitly or implicitly.

To illustrate PE control over student participation and learning in the PSPE activity system, I present below some examples of conflicting PE permission rules between practice placements for students. In each example I highlight the potential impact on student learning, or impact as perceived by students. These PE-dictated PSPE activity system permission rules related to students being allowed in the staff room, spending time with other team members, following physiotherapy approaches and how they used their time.

Allowed in the staff room?

Gail and Martha found that rules for students on this differed between practice placements. For example:

> … we were sort of told you can have your lunch in this room […] So we were shunted into this other room [laughs] ... I think, because there is lots of different types of physios, if I was sitting in with them, I could maybe hear what they are talking about and get a better idea about the kind of things they are dealing with and not just what I am seeing. On my last placement, when we had lunch, we all sat together so I was getting all those things …
>
> (Gail, Interview)

This quote indicates that for Gail, not being allowed into the staff room with physiotherapists had a detrimental effect on her learning but also positioned her as an outsider. Gail's quote illustrates the power of the PE gatekeeper to allow or deny student access to other physiotherapy staff as well as to influence team inclusion. As well as spending time with physiotherapy staff on lunch breaks, permission for time and learning with other team members was also controlled by PEs.

Spending time with other team members?

Most students (8) were given and enjoyed learning opportunities with other (non-physiotherapy) team members. However, this was not a constant PSPE activity system norm for students. Jean and Heather were directly advised by their PEs not to speak to nurse and occupational therapy team members. For example:

> Yeah, just, I was told off for talking to a nurse because we don't do that. I was like, why? It just didn't make sense to me.
>
> (Jean, Interview)

However, Jean and Heather felt sufficiently empowered to break these PE-dictated rules. They took subversive action and spoke to other team members anyway. For example:

> The nurses in ITU are magical, they know so much. So sometimes I was conscious that I am going to be struggling a little bit for time and I might not please my PE but I just decided I want to know this. That is more important for me now.
>
> (Heather, Interview. Referring to a previous practice placement)

Heather's quote illustrates contradictions between pleasing her PE and satisfying her own learning needs. However, these contradictions do not lie simply between the object motives of individuals. Examples of PEs barring inter-professional communication and learning (as a PSPE activity system rule) contradict the (assumed) object of inter-professional education for health and social care students over the last 20 years. As indicated in Chapter 1, inter-professional education/learning has been promoted and supported, by the WHO and relevant professional and regulatory bodies, to improve collaboration and patient care. The CSP expects that opportunities for inter-professional learning should be made available to physiotherapy students in both university and practice settings (CSP 2015a). All physiotherapists working in the UK, including PEs, are expected to: "work in partnership with colleagues, sharing your skills, knowledge and experience, where appropriate, for the benefit of service users" (HCPC 2016a, p. 6). However, it would appear that some PEs may have exposed students to a more isolationist physiotherapy approach in which teamwork was de-prioritised. This represents a potential contradiction between a PSPE object of professional and regulatory body activity systems (inter-professional learning) and student object motives to please PE gatekeepers. Given the power differential between PEs and students that has emerged strongly in my analysis, more compliant students may just have accepted and adopted non-team-working/learning as a healthcare activity system cultural norm. Jean showed evidence of learning from a negative situation and took self-determined action:

> You just kinda realise how limited you are if you are not working together.
>
> (Jean, Interview)

However, for others, being directly instructed not to communicate with other staff groups could mean losing out on important sources of learning; most

importantly, about the need to prioritise patient care over professional boundaries. However, PE rules (possibly as part of healthcare activity system cultural norms) in some areas may have inhibited this. Students also gave examples of how PE-dictated rules and norms applied to physiotherapy approaches in their practice-placement areas.

Physiotherapy approach/theory to follow?

I found examples of PEs implicitly or explicitly guiding students towards their own knowledge interests and physiotherapy approaches to practice. For example, handouts provided to Nina by her PE mediated more than information about clinical conditions.

> [PE] is a superintendent so he does a lot of the training for other people […] printed off a tree's worth of information for me to read […] He loves a pneumothorax – so he gave me a lot of information on that and just general conditions that people might present with on his wards. If I am not sure about something throughout the day […] I'll come and check what he has given me.
>
> (Nina, Interview)

These handouts for Nina also mediated messages about her PE's standing, preferences and expectations; about his eminent and powerful position in the practice setting as well as in his role as a PE. These handouts also represented the PE as a supplier of the knowledge required for practice in his area.

As well as in the material, PEs also mediated rules about what they would permit students to do with patients through their own ways of working; their language, behaviours and the theories of practice they supported. For example:

> I have been mainly shadowing my educator […] I have been learning their ways of carrying out treatments.
>
> (Danny, email communication)

For Jean and Iolanda, PE rules about the treatment choices available to students were more overt.

> You are basically told that yes, it is nice that you know this stuff but that is not what we want to do.
>
> (Jean, Interview)

> … from the start, my PE made it clear that, you know, it's very self-management style at [practice-placement name].
>
> (Iolanda, Interview)

Some students, therefore, such as Danny, Jean and Iolanda, indicated learning that physiotherapy treatment approaches were directed by local, culturally accepted healthcare activity system norms; rather than by individual patient needs. Furthermore, they learned that they were expected to follow these norms of practice. This may have reduced these students' scope for clinical reasoning, exploring and experimenting with different physiotherapy approaches and preparing for autonomous practice on graduation.

Rules about how time was to be allocated and used by students, also mediated through language and PEs' behaviours, likewise influenced how students participated in PSPE.

Use of time

Half (6) of the students interviewed commented on how their PE gatekeepers/gift-holders gave or did not allocate them their time or give them time to do things. Although the most powerful quotes related to this observation came from students on outpatient practice-placements, the need to become more time-efficient was raised by most (7) interviewees. Some students showed awareness of how PEs themselves had to conform to healthcare activity system 'time management' rules and norms. Fidelma, Iolanda, Martha, Alex and Nina knew how busy their PEs were and this is demonstrated in the three selected quotes below.

> … like I would never have a full day like the qualified physios would. I would normally have a break and things.
>
> (Iolanda, Interview)

> … a lot of them are just back-to-back, you know, half hour, 45, half hour, ehm, and what I struggle to do as well, I've got notes to do so it's fitting it all in and the seniors are saying quite often their return patients they're seeing in 20 minutes and get the notes written up so the half hour includes note writing which for me, it's all a bit overwhelming, ehm …
>
> (Martha, Interview)

> I am completely aware of staff cuts and all this sort of thing, they were short-staffed and having a student seemed to be a bit of a burden to them ehm.
>
> (Nina, Interview. Referring to a previous practice placement)

These quotes indicate that, through PE language and behaviours, healthcare activity system cultural messages were mediated about timed slots with patients, staff not taking breaks and expectations that students and graduates should work in the same way and not burden busy PEs. However, some students, as illustrated below, provided insight into how these rules and norms affected the way they worked directly with patients.

> … I would take my watch in with me and watch the time, make sure that I was trying to stick 15 minutes for my subjective, 15 minutes for my objective and 15 minutes for treatment and then try to cut them down so I would have time for the notes afterwards.
>
> (Iolanda, Interview)

> … sometimes the patients get a bit, you know, start talking and going off on a tangent and it's just being able to reign it in […] I had a patient last week where it just wasn't happening and I'd decided ok we're not going to get a full assessment done, I said to her, I said we'll just do an initial assessment and we'll see you next week, passed that by with my senior and she said that's fine …
>
> (Martha, Interview)

These quotes indicate the level of student focus on time in patient treatment sessions. Albeit that students have to learn to manage time, these quotes raise questions about how Iolanda and Martha were appropriating culturally acceptable practice norms. As an experienced member of the physiotherapy profession, I personally do not recognise a healthcare activity system cultural norm where getting patients to return to a clinic for treatment after running out of

time at the initial appointment would be acceptable. Also, as a potential service user, I would be dissatisfied if this happened to me.

Further discussion with Martha and Iolanda revealed additional consequences of time-related rules on patient care. For example, when I asked Martha why she needed to be quick with her clinical reasoning, she replied in a distinctly student-centred rather than a patient-centred way:

> Just because we don't have a lot of time with the patients […] it's also one of my objectives you know for the placement. I've got to be able to do all that within a good time …
>
> (Martha, Interview)

As also suggested in the student quote above, when I asked Martha and Iolanda why their appointment times with outpatients were so limited I could see the impact of and detect resignation towards a healthcare activity system rule of getting patients through the healthcare system.

> I think the way they see it, well, everybody's half an hour, yeah, well they're basically trying to get me to work at junior level cos they say I'll graduate this year and I'll need to go straight into that and work at that level so ...
>
> (Martha, Interview)

> There is a massive waiting list to start with and they have quotas and things they have to reach a certain number of new patients in a week and things like that and just to get through the number of patients that are being seen at the moment. They just need to be seen that quickly.
>
> (Iolanda, Interview)

Martha and Iolanda appeared to unquestioningly accept short times with patients and adapting to this for them seemed part of what PSPE was about. Although some students, such as Heather and Jean, expressed reservations, their concerns related to their needs as students rather than patients' needs. Heather articulated how being pushed to work faster competed with practice learning:

> I feel that sometimes actually an issue is the way they pressure you with the time, because when you are actually going to be working in the clinic as a Band 5, fair enough, you know what your time is, your time management, but I suppose they get raised to teach us our time management. But it is more learning for me …
>
> (Heather, Interview)

Although torn, Jean had to prioritise time efficiency over explaining things to patients:

> Cos like I would never want anyone to do anything to me I don't understand. But efficiency-wise it just takes so much longer to just kinda go on for ages and ages without ever getting a result …
>
> (Jean, Interview)

Therefore, although it may be reasonable for students to try and fit with healthcare activity system rules enacted through PE expectations associated with rapid patient throughput, there were signs that this shifted treatment sessions towards being service-, PE- and/or student-centred rather than patient-centred. However, students did not seem to grapple with inter-activity system contradictions, for example, between professional values, such as patient-centred care (professional body activity system object of PSPE) and healthcare activity system rules/operations. Rather, it seemed that students' object motives were skewed by the appropriation of healthcare system cultural norms mediated by powerful PEs.

As well as time with patients and other team members, PEs also variably controlled how students used their time for other learning opportunities. For example, Alex was allowed on more than one occasion to observe surgery and felt that this aided her understandings about physiotherapy and even her place within it. Martha's PE only permitted limited access and Heather's request was denied. Notably, Heather did not persist with her bid to observe surgery for fear of affecting her assessment outcome:

> When I said, "Will there be a chance for me to see surgery?" her response was just, "Well, it is not really necessary for us to see surgery the way we treat patients" […] she definitely had a point but it still helps

> to understand the patient and get an idea of what they are actually going through ... No, they wouldn't allow that or they wouldn't help me to make it possible and I didn't want to push through … I know that the previous student from a different university did not get on well, actually didn't get on well at this placement at all, they actually failed the placement.
>
> (Heather, Interview)

The quote from Heather and other students above illustrate the ultimate control held by PEs as gatekeeper-assessors in the PSPE activity system division of labour over student participation, learning and professional development.

In summary, in Section 5.3, I have presented positions held by players in the PSPE and interacting activity systems' division of labour. Social activity systems, from, for example, the positioning of family and friends as PSPE players, have been highlighted as PSPE interacting activity systems. The weight of Sub-section 5.3.2, concerned with the position of PEs in the PSPE activity system division of labour, reflects the focus of students on PEs in my analysis. This finding is in line with the strong emergence of PEs as an issue in existing PSPE research/literature (discussed in Chapter 2). I have shown in this sub-section how individual, variable, sometimes implicit PE-gatekeeper-assessor-gift-holder rules directed, controlled and permitted student participation (actions and interactions) and learning (such as by permitting or not permitting time with other team members). I have also shown how this impacted directly on patient care. Messages about PE rules were mediated through PE language, behaviours and material tools/artefacts (e.g. handouts to students). The exposure of PE rules has surfaced inter- and intra-systemic object contradictions that are worthy of further attention in the future.

Next, I present how physiotherapy students, the subjects of the PSPE activity system, negotiated these PSPE contextual dynamics to achieve their aims. I show that students did what they needed to do by enacting PSPE activity system norms.

5.4 PSPE norms enacted by students

In the previous two sections of this chapter I have shown how students' PSPE activity system object motives were skewed towards HE and healthcare activity system rules, norms and divisions of labour (mainly related to student assessment and healthcare workplace pressures). I have also revealed the position of players in the PSPE division of labour and focussed on key PSPE players, PEs, as gatekeepers/assessors/gift-holders. I have highlighted the impact of these dynamics on student participation and learning as well as on patient care. Within this topic, I have revealed examples of contradictions between HE and healthcare activity system rules and norms, enacted by PEs in the PSPE activity system, and in the professional body activity system rules.

Continuing with my exploration of what PSPE was about, in this section I present strategies employed by students to negotiate the PSPE contextual dynamics already discussed and to achieve their aims. I portray how students enacted PSPE norms through adopting expected learning practices and positions in the PSPE activity system division of labour. I begin with my analysis of common learning practices adopted by students.

5.4.1 Students' learning practices

Students' learning practices were revealed through responses to questions about how students addressed challenges on practice placements and achieved things, including when they learned something really useful on their journey to becoming a physiotherapist. Below, I discuss learning practices cited by all 14 student participants: 'reading and writing' and 'using the physical body'.

5.4.1.1 Reading and writing

In this sub-section I explore how students experienced the role of reading and writing in their learning. As the analysis shows, students commonly focussed on propositional knowledge in reading texts and self-produced copious written notes as learning activities for practice placements. This led to the potential for blind spots, related to practice knowledge, in their understanding.

All 14 study participants sought knowledge in reading. For example, Iolanda, when asked about the knowledge she needed to practice successfully on her outpatient placement, responded:

> Ehm, probably a lot of the anatomy and all the stuff that we did way back in first year that had just gone from my brain … ehm and all the stuff from second year as well, all the different conditions that they see ...
>
> (Iolanda, Interview)

This quote from Iolanda is typical of students' responses, which indicated a need to study using written resources to gain knowledge for practice. Students interacted with large volumes of reading materials including pre-placement student information, textbooks, journals, hand-outs, folders of information from previous placements, copies of previous 'in-service' sessions, PE's notes, lecture notes, dissertations, patients' notes, students' notebooks, treatment guidelines/protocols, hospital standardised joint pathways and patient assessment forms. Students also interacted with online sources such as websites.

Studying through reading could be extensive. For example, when asked how she addressed challenges related to tiredness and lack of knowledge, Heather replied:

> Going to bed earlier, which steals reading times at night. Do reading on the train to work or back, as well as being more organised at night when I get home to find space studying.
>
> (Heather, Interview)

Heather's quote illustrates the perceived importance of 'book' studying to physiotherapy students on practice placements. The precedence given to text-based knowledge sources was also evident in what eight of 12 students brought to interview (or said they would have brought) to signify PSPE; a textbook, handouts, notebooks or patient-assessment forms. For example:

> … basically I call it my folder of knowledge, basically everything that I've accumulated, notes that I've written, printouts I've got at work, I carry it

> in to work every day, carry it home and that's, you know, I've been ridiculed a bit with it (laughs), but it gets bigger and bigger as the weeks go on but that's, you know, I just feel that's how much I'm learning […] I would say that's the thing that kinda maybe symbolises how I've been learning and gathering information.
>
> (Martha, Interview)

For Martha and other students, interestingly, all three on outpatient placements, as illustrated in Martha's quote above, carrying a big folder of papers signified the variety, breadth and depth of their learning. Martha and others (5) kept textbooks and folders close to hand throughout the day so that they could refer to or add to information quickly. For example:

> So *that* is all my learning [laughs] … yeah, I should know all that [laughs]. Whenever there was something I didn't know or wanted to look up I would go to here […] I would flick through things and sort of look it up.
>
> (Iolanda)

In the quotes above, Martha and Iolanda indicated that they carried large volumes of physiotherapy knowledge and learning in folders around with them on practice placements. The notion of physiotherapy students as pro-active learners who do not need to mentally 'carry' large volumes of propositional knowledge but rather know where to find it as required is familiar and fits with the accepted image of future graduates as independent, ongoing learners. However, these quotes also seem to suggest that, for Martha and Iolanda, the information/knowledge in their folders was privileged. Through their words, Martha and Iolanda revealed that their large folders showed '*how*' they perceived they had been learning and '*all'* their learning, respectively.

However, the force to read did not come only from students. Student reading was clearly driven by PE gatekeepers in most (8) cases rather than by the students themselves. This is illustrated in selected quotes below:

> The majority of applicable information [reading] has come from my senior.
>
> (Alex, Email communication)

> … go home at night and continue learning just to make sure that you have enough knowledge for the following day […] I have been given tutorials to read at home, along with some quizzes to ensure I am learning. This helps me to feel confident the next day.
>
> (Danny, Email communication)

> … I find taking the forms [home] very helpful, it gives you a reminder of the kind of things they [PEs] are looking at in those particular areas and the kind of things I need to read up on.
>
> (Fidelma, Interview)

These quotes indicate that PEs directly or indirectly dictated and even provided students with evening reading. Furthermore, that students perceived that this would give them the knowledge required for practice. Reading as a learning practice is, therefore, positioned as a PSPE activity system cultural norm. This may make sense, particularly where specific specialist propositional knowledge is required for practice, but this can also be problematic. Primacy (perceived or real) awarded to propositional knowledge may detract from physiotherapy practice knowledge (as discussed in Chapter 2). Also, PE-directed reading as a learning practice does not portray physiotherapy students as proactive, self-led learners/future graduates/future autonomous practitioners. Furthermore, PE control over student reading and expected ways of learning may serve to reinforce PE command as gatekeepers.

In terms of writing as a student learning practice, PE control was also evident in student-generated text-based materials. Six students took notes of what staff said, what to 'look up' and questions for PEs. Students' note-keeping and writing could be extensive, for example:

> As I am learning I usually have my small little notebook and then later on in the day when I am coming back home, I write it up in full in my big note book. Usually I have quite a bit and then I summarise like at the end of the week.
>
> (Chris, Interview)

Chris's quote positions writing for practice learning as a solitary mental activity. Similarly, Iolanda and Lesley wrote treatment plans when physically removed from patients. For example:

> I would go and prepare it and try and write it down stage by stage so that I've got it in a logical manner, again so that if I do start to get anxious I could say, no, you've worked this out, you do this and then do that.
>
> (Lesley, Interview)

Although these students felt that this helped their ability to treat patients, writing seemed to divert them from interacting with patients. Although writing treatment plans may be useful for providing ideas, interaction with patients is required to make treatment plans and decisions in a patient-centred way. Individual patient communications, opinions, choices, and emotional and physical responses are part of a patient-centred physiotherapist's approach and clinical reasoning processes (Jones et al. 2008). This writing activity may have prepared these students for pre-planned treatments but not for on-the-spot clinical reasoning and adapting to individual patients. As recounted previously, some students found dealing directly with patient variability and unexpected responses challenging and, therefore, writing pre-set plans while away from patients, may not be the best way of learning how to deal with this. It is possible, therefore, that focus on the written word, as a PSPE activity system cultural norm, could alter face-to-face patient engagement and how these interactions worked for students and patients.

Writing was seen by some students as part of reflecting, either as part of healthcare activity system norms (what went on within the workplace) or to satisfy HE activity system assessment rules. For example, Iolanda watched and copied how qualified staff used reflection sheets in healthcare practice as part of CPD:

> … after the in-services they would hand out reflection sheets and so people would reflect on it and they would put that in their CPD folder.
>
> (Iolanda, Interview)

Five of the six students who mentioned reflection during interviews (perhaps a small number, given the professional emphasis placed on reflection discussed in Chapter 2) referred to having to submit written reflections for HEI coursework (two students participated in my study to help with this). Similar to students in previous studies (Clouder 2000; Roche and Coote 2008), Chris expressed reservations about sharing written reflections in coursework with others:

> I don't like it but [laughter] I mean if I am doing it for myself it is ok but it kinda scares me that someone else has to read what I am thinking.
>
> (Chris, Interview)

Students on practice placements were therefore driven to read and write extensively by HE and healthcare activity system rules and norms, not necessarily in response to their own self-identified learning needs. However, six students expressed the limitations of reading as a PSPE learning practice. For example:

> You could sit and read for hours and hours out of a book or through my folder but actually doing it on a patient is the main part I think and just the more and more I do it the better I get, I think.
>
> (Iolanda, Interview)

> … I think it [practice-placement] is ten times better than any amount of lectures you can give someone, on any subject. I think it actually prepares you for being […] that professional you are training to be that I don't think you could *ever* learn from a book ...
>
> (Erica, Interview)

> I could read it in the books and I have and I know it and I've passed the exams but unless you're actually doing it all the time and you're doing it on a person that has problems. So it's only when you're really out there doing the job that you really know what's required and the best ways of going about it.
>
> (Lesley, Interview)

The quotes above indicate that some students recognised that reading for practice learning had limitations. Regardless, I have shown in this sub-section

that students gave text-based learning precedence because that is what they thought they had to do in response to HE, healthcare and PSPE activity system cultural rules and norms. Primacy being awarded to propositional knowledge in written text may indicate an imbalance in the kinds of knowledge sources and learning that is valued or given precedence within physiotherapy culture. As discussed in Chapter 2, awarding primacy to certain types of knowledges may prevent PEs and students from seeing or even looking for other kinds of professional knowledge. An emphasis on propositional knowledge for practice learning as a PSPE activity system cultural norm may, therefore, push understandings of practice knowledge into the background.

In this sub-section, I explored how students experienced the role of reading and writing in their learning. As the analysis shows, students commonly focussed on propositional knowledge in reading texts and self-produced copious written notes as learning activities for practice placements. This led to the potential for blind spots, related to practice knowledge, in their understanding. However, PSPE was also recognised by all 14 students in some way as an embodied as well as an intellectual experience. Selected aspects of how students used their own bodies and the bodies of others in particular ways when participating in PSPE will now be discussed.

5.4.1.2 Using the physical body

In this sub-section, I explore how students used the human body in particular ways in their PSPE participation and learning. Although they did so less explicitly and more incidentally than about using written text, all students recounted learning through physical human bodies; their own or others'. However, examples were found of students using language that seemed to position patients' body parts over the people who owned them, perhaps reflecting cultural norms in some practice areas. The adoption of cultural norms may also account for students continuing to practise physiotherapy techniques on 'normal' bodies whilst on practice placements, even whilst recognising the limitations of this for practice learning.

Regarding their own bodies as tools/mediating artefacts, I could see that PSPE was an embodied experience for all 14 students; involving seeing/watching, listening, touching and feeling. All 14 students used their physical senses to learn from staff as well as patients; revealing the socio-material dimension of PSPE. For example:

> … I feel my anatomy was quite good […] and I know about conditions but I've realised that until I actually see it […] for example, we had a guy with a shoulder and um … I was in with my senior and she was showing me how different the shoulders were and why and even though I knew all what she was saying I hadn't noticed it on the guy […] I thought ... uh … I knew all that and I hadn't picked it up and I think it's just applying your knowledge to practical, it's just, I realised it's just basically placement is where you learn everything, you need all that background knowledge but it's actually seeing and touching the patients and [...] there's just been a few moments I'm like … Uuhhh it's good to see that or like feeling the back, it's really good to feel that.
>
> (Martha, Interview)

In the quote above, Martha, who was one of the students who carried an expanding folder of 'learning' around on practice placement, recognised the need for help from her PE to see and make the connection between propositional anatomy knowledge and the patient in front of her. As may be expected of physiotherapy students, all 14 learned through the patients' bodies. Students learned how patients' bodies presented with and showed students the effects of a wide range of physical conditions, how they reacted to physical assessment tests and responded (or did not respond) to treatments. Most students seemed to link their work with patients' bodies to their lives in a more holistic way, however, some students, one in particular, used body parts to describe patients/people:

> … I've got lots of necks. They keep appearing, here's another neck, which is brilliant. And a lot of the time the neck's connected to the shoulder so it's giving me lots of, again, shoulder practice.
>
> … I was jumping between different parts of the body, there was a neck, shoulder and then I had, oh, I had a fractured wrist.
>
> (Martha, Interview)

Martha's language may have been a reflection of healthcare activity system norms related to language or how physiotherapy work was being organised. Martha seemed to appropriate her surrounding culture's (in outpatients) conceptions through language as well as through bodies as a mediating tool. However, the language used seemed to separate body parts from the real people who owned them; posing a threat to the notion of patient-centred care.

Gail also gave an indication of PSPE as a socio-cultural-material activity by recounting how she learned how to use a stethoscope. Gail's learning was mediated through a combination of her own and her PE's bodies, sounds, a stethoscope and computer:

> … she [PE] let me practise on her where I was placing the stethoscope so that was helpful […] I know I am getting a tutorial on it […] and they have the sounds to play on the computer.
>
> (Gail, Interview)

However, Gail's quote reflects a historically familiar side of physiotherapy learning; practising on normal healthy bodies. Most (9) study participants practised physiotherapy techniques away from patients on 'healthy' PEs, peers, family and friends internally or externally to practice placements. For example:

> I am practising my handling skills when I get home at night.
>
> (Lesley, Email communication)

However, as with reading and writing, the limitations of working with healthy bodies for practice were recognised by some (4) students. For example:

> … we [peers] practised on each other and on friends and family. It is completely different to going and seeing a patient and knowing how to do that.
>
> (Alex, Interview)

Practising on healthy bodies as a common learning practice, therefore, provides another example of students acting out expected cultural norms; of doing what they needed to do in response to PSPE activity system rules and norms.

In summary, in this sub-section, I have, therefore, shown above how PSPE was, commonly and, at least partly for physiotherapy students, about reading, writing and working with and talking about bodies in particular ways in response to HE, healthcare and PSPE activity system cultural rules and norms; even when students internally questioned the benefits of these learning practices. Some of the findings outlined above suggest that these common learning practices adopted by students in response to cultural rules and norms can distance them mentally and physically from patients and patient-centred care. This highlights possible contradictions for students in terms of where they perceive practice knowledge lies. Although students recognised learning in face-to-face, listening and feeling patient interactions, as indicated, for example, in the first quote from Martha in Section 5.4.1.2, the idea of bringing propositional knowledge into patient treatment sessions seemed to dominate. That is, that the conception of transferring knowledge from reading text to a patient interaction seemed to dominate students' consciousness, rather than the idea that practice knowledge is situated in actions, interactions and activities (these conflicting views of practice knowledge are discussed in Section 2.3.3 of this thesis). These findings may be reflective of the varying conceptions of physiotherapy practice knowledge in physiotherapy culture, across HE, healthcare and PSPE activity systems; as discussed in Chapter 2 (for example Higgs and Andresen 2001, Richardson 2001, Richardson 2004, Larsson and Gard 2006).

As previously discussed in Section 5.3.2, individual PE–student interactions and relationships played a major role in how students participated and progressed in PSPE and even in physiotherapy. In each 4–6-week-long placement, physiotherapy students had to learn quickly how PEs and others enacted gatekeeper/assessor/gift-holder positions. Students had to find out, and play by, the rules of each individual practice placement. How students enacted the position of PE-pleaser within the PSPE activity system division of labour, in response to such PSPE dynamics, will now be discussed.

5.4.2 Students as PE-pleasers

In this sub-section I continue to explore what PSPE was about by considering the position of students in the PSPE division of labour; how they perceived they had to be. I analyse students' descriptions of themselves, their actions and interactions. I focus on the key emerging student position adopted by students for negotiating PSPE contextual dynamics and to achieve their aims: PE-pleaser. I reveal that this student position served to silence students, background their position as learners and perpetuate low levels of student agency in PSPE.

During some interviews, students exposed the extent of PE power over students in, for example, assessment, programme progression, emotional status and employment prospects. This is illustrated by Fidelma below:

> I am also conscious that, as a student, the people you meet and the places you go are going to be the places you go back to when you are looking for a job. If you make a good impression […] it will reflect well later on.
>
> (Fidelma, Interview)

It is not surprising, therefore, as previously indicated in Section 5.2 of this chapter, that students' PSPE object motives were strongly skewed towards pleasing PEs with such broad scope as gatekeepers. All 14 students indicated, in some way, a desire to impress their PEs; their assessors and gatekeepers to success, happiness and career. However, my analysis revealed some undesirable consequences of this PE–student dynamic. In the PE-pleaser position, within the PSPE activity system division of labour, students sometimes said nothing when they wanted to speak and/or had to show themselves as knowers rather than learners. This will now be discussed further.

5.4.2.1 When students said nothing when they wanted to speak

Below, I show how students said nothing when they wanted to speak and were not, as may be hoped for, facilitated to openly question practice, to make contributions to practice and practice discussions, or to even ask the PE questions. Although most students interviewed (8) felt they had permission to

approach and ask their PE questions, rules, which were mostly implicit, could vary between practice placements. For example:

> My senior wasn't approachable, I did not feel she was approachable to ask questions … ehm
>
> (Alex, Interview. Referring to a previous placement)

Like Alex, Fidelma also felt that she could not approach her PE with questions.

> I do keep thinking should I mention it. She is always so busy. It's that kind of, slightly torn, kinda feel like it would be helpful but I don't want to add to the pressure that is already there.
>
> (Fidelma, Interview)

Alex and Fidelma wanted to ask questions of their PE but were suppressed by implicit rules about approaching their PEs. A further quote from Fidelma reveals more:

> … I am with a different physio at the end of this week, because my educator is away so I'll get a chance to say I am a bit unclear how to format kind of problems and goals and plans – can we go over it again? Because you also don't want to, I wouldn't want my educator to feel like I am going '[PE name] is crap at this', I need to ask someone else.
>
> (Fidelma, Interview)

When I asked Fidelma more about this situation, she expressed that she did not want to stand on her PE's toes. Fidelma had learned the rules of this practice placement: not to bother her busy PE with questions, approach others for help covertly and not to undermine the PE. Fidelma did not want to displease her powerful PE assessor. But working to please or not displease PEs could be problematic for students. For example, by pleasing the PE and doing what they wanted, opportunities to discuss and experiment with different physiotherapy approaches, knowledge and skills were closed down for Jean, who was also wary of PE–student power dynamics in the PSPE activity system division of labour:

> I don't want to just follow, I want to make suggestions, I want to be able to discuss and understand why I am doing what I am doing. But at the same time, you always try to, you know, make a good impression.
>
> … there is a discussion, yes, and I can literally discuss anything and everything if I wanted to but at some point you just get tired of discussing and just kinda do whatever she [PE] wants you to do, basically.
>
> (Jean, Interview)

These quotes indicate that Jean felt that she had to please her PE/gatekeeper/ assessor by conforming to their PSPE activity system rules and norms. Jean thus missed opportunities to explore treatment options and develop clinical reasoning and autonomy in practice.

During her interview, Jean shared another experience of holding back when she wanted to speak:

> … I overheard my PE was standing next to me, talking to a colleague saying, 'I don't like my student.' I was like, oh well, thank you. But there is nothing you can do about it you know, just stand there and I just pretend I didn't hear this and everything is going to be fine. And it was in the end, and you know, it is just a matter of getting through it.
>
> (Jean, Interview)

During her interview, Jean explained that she had to silently tolerate personal insult from her powerful PE gatekeeper and just had to get through the placement. Martha responded similarly to equally difficult treatment from PEs.

> … felt like they were treating me like I was ten and I was walking behind them all the time.
>
> (Martha, Interview. Regarding a previous placement)

Martha explained in her interview how she silently endured having to walk behind PEs and responded by showing enthusiasm. Jean and Martha said nothing, rather than address these situations with their PEs. Both spoke of 'surviving' these particular practice placements. In these cases it would appear that learning opportunities were lost as a result of PSPE activity system rules to please and not to displease PEs. These students could have used these

situations to develop assertiveness and communication skills. Furthermore, the PEs concerned would have benefitted from student feedback. This may have also been the case for Nina and her PE. Nina also put on a brave face when coping with a PE, who:

> … tends to just pick me out and quiz me on the spot […] ehm, for long periods of time, yesterday it was for about an hour and a half so ehm …
>
> (Nina, Interview)

When asked more about this, Nina indicated acceptance of her PE's approach:

> Oh, he is a fantastic teacher. I think he is just so involved in everything he wants me to know as much as I possibly can. Whether I use it or not is a different thing, so ...
>
> (Nina, Interview)

Even if Nina was not sure of the relevance of everything her PE was 'teaching' her about, rather than question his approach, she tolerated the discomfort of being quizzed by him in deference to his superior knowledge and his status as gatekeeper/assessor within the PSPE activity system division of labour. Nina positioned her PE, who quizzed her on the spot for 1.5 hours, as a 'fantastic teacher'.

Heather also maintained silence/deference in an uncomfortable situation, this time related to a PE's response to death.

> It felt like because they have been there for so long they try not to deal with it as much anymore […] you just come in to the ward and […] they are like, ok, this person has died […] and that is about it. For me it was more questioning, omg, why did this person die? [...] I couldn't talk to them about that, there didn't seem to be time for that. For me it was, it kinda was a bit almost shocking because it was like ... just moved on … but I suppose, I don't know, everybody has a different way of handling that ...
>
> (Heather, Interview)

Several points arise from Jean's, Martha's, Nina's and Heathers' quotes above. Although thinking critically about situations, these students fell in with how

others behaved and did not or could not openly discuss their feelings in the culture they found themselves in. These students enacted PSPE activity system norms and said nothing. Multiple potential learning opportunities, therefore, for PE and others as well as students, may have been missed; for example, due to the stifling effect of unseen rules about responses to death or how time should be used in the workplace.

Heather and others interviewed gave additional instances of avoiding confrontation with PEs. For example, I mostly did not pick up a sense of student outrage or defiance about how long they could spend with patients and how this could affect patient care and their own practice development. The students who had to interact more quickly with patients (quoted earlier), even when questioned, seemed to accept the short times they were allowed to spend with patients as a cultural reality they had to learn to adjust to. For them, adapting to such healthcare activity system norms was part of what PSPE was about.

My analysis revealed that this may also apply similarly to silence around making mistakes in healthcare practice. I noted that only three students, including Erica, acknowledged learning from making mistakes in PSPE.

> I think that is one of the biggest parts of it [PSPE] *is* making mistakes. I mean you would never be in a position where you could make a big mistake.
>
> (Erica, Interview)

I can only speculate that the need to demonstrate their ability to PE gatekeepers or fear due to patient care/safety implications, as alluded to by Erica, may have rendered mistakes as unspeakable, even in relatively safe, research conditions. This may be illustrative of a dilemma shared across healthcare. Making mistakes can provide workplace learning opportunities but are not and cannot be acknowledged or discussed due to shame and, as Goldman (2011) puts it: 'fear of losing false prestige'. This may also partly explain why physiotherapy students look to non-patient activities, such as

reading and practising on healthy bodies, as discussed above in this section, for practice learning.

However, it is worthy of note that, most of the situations described above, according to HCPC guidance on conduct and ethics for students (HCPC 2016b), required critical thought and student action; at least to report situations to education and practice placement providers. This also applies to a situation described by Chris, who could not raise concerns about unprofessional staff behaviour because their PE was present at the time of the incident and did not appear to react. In this case, standards and expectations of physiotherapists and students, particularly relevant post-Francis[14] (Francis 2013), were compromised due to the PE–student power relationship. The student missed an opportunity to learn about responding to breaches in professionalism, but also learned that problems are not always appropriately acknowledged or addressed in the NHS. In line with other PE-related research (for example Grace and Trede (2013) and Kell (2014), as discussed in Chapter 2), my findings indicate that a critical, questioning approach of students towards PE actions and norms would be conducive to the professional development of students and PEs.

I have shown in this sub-section when physiotherapy students said nothing, when they wanted to speak, in response to often implicit healthcare and PSPE activity system rules and norms. I have also provided examples of where student and workplace learning was lost as a result of this dynamic. I have shown that the silencing of students in the healthcare activity system carries the risk that unacceptable staff behaviours and inadequate staff and students' responses to these may remain as cultural norms if, as exemplified above, related learning opportunities are not recognised and grasped and if critical thought is not enabled.

Linked to issues around students being silenced (for example, when they were unable to ask questions), a real or perceived expectation of physiotherapy

[14] Post-Francis' refers to the assumption that a shocking lack of patient care in a UK hospital Trust will not be allowed to be repeated post the publication of a related report by Francis (2013).

students to show themselves as knowledgeable, skilful and competent practitioners rather than learners emerged repeatedly in my analysis. This is discussed further in the next section.

5.4.2.2 Students had to show themselves as knowledgeable practitioners

Perceived or real expectations of physiotherapy students as knowledgeable practitioners rather than learners in practice emerged as a recurring theme when I examined students' positions within the PSPE division of labour. Examples of this have previously been highlighted in Section 5.3.2, however, in this sub-section, further examples are provided that illustrate how some students struggled with their standing as, and even looked permission to be, learners as opposed to competent practitioners. This is linked to a PSPE activity system culture of assessment and a need to be knowledgeable and competent to be accepted by others in the healthcare team. Although students had to show themselves as knowers, they required prompting to recognise that they made any contributions to the practice setting. This reflects low levels of student agency that are a recurring theme in this analysis.

Fidelma's quote provides an example of a student perceiving the need to know 'everything' on practice placements:

> … he doesn't know everything and he is qualified … I guess that is kind of reassuring because I do feel sometimes I kind of need to know everything here and I just don't.
>
> (Fidelma, Interview)

Meanwhile, as shown in the interview exchange below, Jean felt frustrated when she did not automatically transform propositional knowledge into practical knowledge/ability:

> Today I had a patient […] he couldn't hear […] I was standing there shouting at him and my senior just walked in and just did some signs or something. And I thought, ok, I could have come up with that. He just stood up. I was getting to the point I thought he couldn't move. She walks in and like he just stood up […] it kinda makes you feel helpless […] and you are just standing there feeling like a complete numpty.
>
> (Jean, Interview)

> Interesting. Why do you feel like a numpty if you are there to learn that?
>
> (Interviewer/me)

> Because I know those things […] and I should know how to do it. I should know that for the hard of hearing you need to be clear in what you say, be concise, don't use too many words and all this. I do know it […] You just stand there trying to do what you planned to do. It's not like you just made that up as you go long but it just doesn't work the way you want it to.
>
> (Jean, Interview)

These quotes illustrate that some students, such as Jean and Fidelma, found it challenging to show or accept themselves as learners and view mistakes or understanding gaps in their knowledge/skills as part of practice learning. There may be several reasons for this, some of which have been previously discussed and may include unconsidered dimensions such as student personality traits. However, my analysis revealed that this may, at least partly, be related to an overbearing PSPE activity system culture of assessment. This is supported by further analysis of how students practised on placements. Although most (9) students referred to practising skills, perhaps surprisingly, in a healthcare workplace environment, only five students, including Lesley, acknowledged having practised with patients (with more, as discussed previously, acknowledging practising on normal, healthy bodies):

> My senior said to me, 'Right, next time we're in the resource centre just go and kidnap a patient, take them to the physio room and just go and practise, on your own or with the carer, and I'm not going to watch you, I'm not assessing you, but just go and practise.'
>
> (Lesley, Interview)

This quote indicates that PE permission was required for Lesley to go and practise physiotherapy techniques with patients without fear of affecting her practice-placement assessment. This was a new experience for Lesley as illustrated below:

> I always felt before that there was somebody looking over my shoulder and they were, well you should do this or you should do that ...
>
> … when you're on placement you're assessed, you know that somebody's watching you all the time and they're making decisions about you that's going to affect your mark.
>
> (Lesley, Interview)

In trying to give a good impression or perhaps avoid giving a bad impression to PE gatekeeper-assessors, as discussed earlier, some students turned to practising on healthy bodies. Some students questioned others, sometimes covertly, rather than approaching their PEs in order to progress their knowledge. Jean selected who to go to with certain questions, whilst Nina directed questions via a third party:

> … whenever you have a question, you know you have questions a bit too basic to ask a senior, she [physiotherapy assistant] is always going to be the one explaining it to you …
>
> (Jean, Interview)

> … my flatmate was also on an outpatient placement … but had a very good teacher ehm so I sort of offloaded onto her a lot. Yeah, I would direct questions to him through her. Would you ask your senior what he thinks about this?
>
> (Nina, Interview)

Similar to a group of physiotherapy learners studied in Ireland (Roche and Coote 2008), the knowledge that they were being graded seemed to discourage the physiotherapy students from being open with their PEs. Jean and Nina, respectively, turned to a physiotherapy assistant and a PE on a different site to ask questions rather than to ask their PE gatekeeper-assessors. Learning to tap into available learning resources may be an important part of PSPE, however, the covert way in which some students had to do this raises further

questions about what PSPE is about and whether learning is given as much credit as knowing and doing. Furthermore, as highlighted previously, asking questions and spending time with other team members was not a guaranteed part of PSPE and could be tightly controlled or even denied by PE-dictated PSPE activity system rules.

However, some (7) students felt that they fitted into teams when they were talked to and positioned by team members as physiotherapists, as opposed to students. Chris, Jean and Nina felt they fitted in when asked questions about patients by medical staff, that is, when they could show physiotherapy knowledge to others. As Jean put it:

> … from being the useless student just hanging around to actually being part of a team within the team. Actually being worth talking to.
>
> (Jean, Interview)

Perhaps surprisingly, for a smaller number of students (5), affirmation of their role as practitioner came from patients. For example:

> … they [patients] are listening to me and taking my advice as a physio ehm on one other previous placement I have had an experience where ehm a patient didn't want to be treated by a physio student ehm.
>
> (Alex, Interview)

It therefore appeared that some students needed to be seen by others, mostly staff, as knowledgeable, competent practitioners rather than learners to feel as though they fitted in. In agreement with Clouder (2000), physiotherapy students felt pressure to convey an air of competence. However, students did not easily self-recognise themselves as contributors to practice workplaces.

Despite their stated goals to work confidently with patients, only four students recognised their own abilities to provide physiotherapy (it is recognised that most students were only at the mid-point of placements, however, most students (10) had also experienced previous practice placements). For Alex and Heather this was being able to diagnose patients' conditions, for Chris it was being able to modify work with individual patients, and for Lesley it was

about feeling confident in her abilities and being able to practise when qualified. Low self-belief in the students' abilities was also revealed when I asked the students, 'What did you bring to the placement?' and 'Do you feel that the placement or the people involved learned anything from you?'

All interviewees initially proposed that they gave nothing to practice placements or healthcare workplaces. Most responses were similar to this one from Martha:

> Ehm ... what they're getting from me [laughs]? I'm making cups of tea. I don't know.
>
> (Martha, Interview)

Therefore, although students felt that they should show knowledge and skills to their PEs and the wider team, they did not feel knowledgeable or easily recognise that they contributed to practice. This is further illustrated in the exchange below with Iolanda.

> … because I don't know everything, I wouldn't be comfortable with me treating myself. I thought other people would feel like that but no, no problems.
>
> (Iolanda, Interview)

> Why do you think they [patients] have that confidence in you?
>
> (Interviewer (me), Interview)

> I don't know. I've been told that I've got good communication skills and that I sort of reassure patients and even if I am feeling nervous I don't show it. But that's not something I have noticed myself because inside I just want to cry sometimes because I don't know what is going on and things ...
>
> (Iolanda, Interview)

The interview exchange with Iolanda above also demonstrates that she had learned healthcare activity system rules about transmitting confidence to patients even if you do not have it. Therefore, although students were expected to show knowledge and ability to patients and staff in the healthcare activity

system, they did not easily recognise themselves as knowledgeable and able to contribute to practice unless this was confirmed by others.

However, after some prompting and further consideration, most interviewees (11) realised that they contributed to practice in some of the following ways: bringing fresh ideas and different views to placements; providing an extra pair of hands; finding out more about patients than their PE (getting patients talking); helping PEs to learn by offering feedback; helping others to learn (patients, peers and physiotherapy assistants); and contributing to PEs' CPD (when explaining things to students, having to think about things a bit more, going over their skills, learning how to listen, learning about their role, having to keep 'on top of their game' and 'in tune' with what is being taught in HEIs).

Most students, therefore, needed prompting to realise their contributions to practice; for example, that they helped others to learn (a core expectation of all CSP members according to the CSP Framework 2010 rev. 2013), brought enthusiasm, fresh views and ideas to physiotherapy workplaces, and contributed to patient care and service delivery. This again reinforces the low level of student agency in the PSPE activity system division of labour that has been a recurrent theme in my analysis.

As students felt of value mostly when their knowledge and competence was recognised by others in the workplace, this raises questions about how pre-registration students are perceived, including their own self-perceptions, in the healthcare activity system; although all qualified physiotherapists (and other staff) at all levels of experience would still be considered and expected to be learners (CSP 2010 rev. 2013). This may also again be reflective of an overbearing culture of assessment; pushing students to show knowledge/ability to others rather than openly pursue self-directed learning practices.

In this section I have presented how physiotherapy students enacted PSPE (and overlapping HE and healthcare) activity system norms through adopting expected learning practices and positions in the PSPE activity system division of labour. Common learning practices were reading and writing and practising

on healthy bodies, despite students recognising the limitations of these for practice. In adopting the position of PE-pleaser as a norm in the PSPE activity system division of labour, students sometimes said nothing when they wanted to speak and had to show themselves as knowledgeable and competent practitioners to others rather than learners. However, students found it challenging to recognise their own knowledge, skills or contributions to practice and the workplace. These norms are linked to a PSPE activity system culture of assessment and required student acceptance by the healthcare team. Furthermore, as proposed by Clouder (2009, p. 289), "the extent to which students are allowed responsibility in the workplace appears to have a fundamental impact on their perceptions of personal efficacy and professional development". Throughout this section, implications for student participation and learning and patient care have emerged.

In the next section, I look further at students' perceptions of what they were learning and the knowledge they needed in/for physiotherapy practice. From this, I reveal that students on practice placements narrowly represented physiotherapy knowledge for practice.

5.5 Students' perceptions of knowledge for physiotherapy practice

In this section, I focus on how physiotherapy students on practice placements constructed the knowledge they believed was required in/for practice. However, it is important to reiterate that I communicated with most students in the early and middle stages of practice placements (specifically to avoid assessment periods). I do not comment, therefore, on whether responses would have differed later in practice placements. I am analysing the PSPE activity system from students' perspectives rather than against formally expected student outcomes.

I do not attempt to provide a comprehensive list of physiotherapy student learning on practice placements, but rather, I present key findings on what was recognised, assumedly valued and brought to the surface by students during my communications with them. I discussed earlier how students' PSPE object

motives were skewed by HE, healthcare and PSPE activity systems themselves through rules, norms and divisions of labour. Next, I present my analysis of the open discussions with students and their responses to email, interview and follow-up questions concerned with knowledge 'whats', including the following:

Email questions

What sort of things are you finding out about at this stage in the placement?

Can you tell me about anything you have been surprised about on placement so far?

Interview questions

Can you tell me about anything you have realised that you hadn't realised before the beginning of the placement?

Can you tell me about something that you can do now that you couldn't do before the placement started?

Tell me about a time on this placement when you have felt that you have learned something really useful on your journey to becoming a physiotherapist?

Examples of follow-up questions

Can I ask you about some of those things?

What did you find out about at those team meetings?

So, anything else you learned about dealing with aggressive patients?

What did you pick up from watching that other physio?

What did you see?

When I initially synthesised all related responses, I could see that students, as a group, expressed learning about anatomy and physiology, pathological conditions, patients, patient care, patients' records, patient assessment approaches, treatment approaches, professionalism, pharmaceuticals, diagnostic tests and service routines in practice placements. Some students also expressed learning how to do things such as communicate, assess and treat patients, identify their learning needs, team work and note-keep as well as how to justify and adapt approaches in different care settings. Most (9) interviewees believed that they were learning everything they should be; with only Fidelma, Iolanda and Jean feeling that they should have been learning more (about 'note-keeping', 'manual therapy' and 'team-working', respectively).

However, most individual students gave a narrow, rather than broad account of what they were learning about. In response to an email question related to what students were finding out about in the early part of their placements, most (8) said they were finding out about physiotherapy treatments and how to apply them. However, individually, most of these students said that they were finding out between one and three 'things' in total. For example, Billy and Fidelma said they were finding out about treatments and patient assessment, Kerry about treatments and anatomy, Lesley about patient assessment, and Chris about the ageing process only. Jean's, Martha's and Nina's responses included some non-patient, but student-centred, aspects of PSPE.

> All the unwritten rules. Who to ask for what, how the team dynamics work and so on. Obviously, I am learning loads about the subject [stroke rehabilitation] as well. I have been made aware of a few flaws in my treatment methods.
>
> (Jean, Email communication)

> I was thrown in at the deep end from day one with three patients to assess, which made me realise how much I had forgotten from my previous outpatients placement and how much I still had to learn.
>
> (Martha, Email communication)

> That I don't know as much as I think I do! I am finding my knowledge has some large gaps in it, and that the more detailed aspects are not as sharp in my memory.
>
> (Nina, Email communication)

With her 'CHAT-esque' response, Jean was learning about team rules. However, the quotes above indicate that all three students were learning about what they did not know or could not do. However, most student participants were focussed on their goals to learn about patient assessment and treatments early on in practice placements. This is supported by other findings. When students were asked (by email) about what was surprising them in the first half of their placements, most (9) responses were again concerned with patients; the volume and type of patients, patients' and carers' responses and behaviours and how patients moved through the care system. At this early stage of practice placements only seven students were surprised by non-patient issues but all of these related to how they, as students, were settling in. Three students were surprised at the PE support available, two at feeling left out by the team, and two that the environment was calm and stress-free. Interestingly, all seven of these students had experienced previous practice placements. It is worthy of particular note that one of these, Heather, was surprised to observe staff listening to patients:

> I was also surprised to see that professionals do take the time ... to really listen to patients if they are in need for talking cause of emotional circumstances and prioritise what is best for the patient in this moment. Despite losing time to get on with the actual physical problem. That was a very nice experience which I was positively surprised about.
>
> (Heather, Email communication)

Most students, therefore, in the first half of their placements, mainly focussed on and responded to how other people (mainly patients and PEs) were presenting, needing, expecting, behaving and reacting in practice according to the rules, norms and division of labour of the healthcare activity system. These object motives may be understandable as I have already discussed that, for these students, PSPE was about learning to provide physiotherapy, showing capability to others and passing assessments. However, focussing on specific

areas for immediate learning may result in students losing sight of a broader range of learning available early in practice placements (for example, about issues such as service quality improvement or leadership).

When I asked students later (mostly at least two weeks into practice placements) about something that they could do at the time of interview that they could not do before their current practice placement started, responses were still mainly patient-orientated. Most (8) interviewees said they could treat patients better and felt that they were competent in certain techniques, such as handling, exercise prescription, respiratory suction, or using specialised equipment. Five felt that they could assess patients better.

When interviewees were asked about what they needed to/aimed to know on practice placements, individual students again provided narrow, specific, mainly patient-contact-related responses. Six students needed to know anatomy/physiology, four about patient assessment/treatment, two about pathological conditions, two about clinical reasoning, one about their role, one about the roles of others, and one about professionalism; in varying combinations. When I asked interviewees in a different way about learning, that is to say, about what students were realising that they had not realised before, responses were a bit broader; although, still 'individual-student-specific'. For example, some students realised the benefits of physiotherapy for patients and that they felt rewarded. Through empathising and connecting with patients, Lesley and Heather seemed to become conscious of a new identity for themselves. For example:

> I started to feel more like a physio … I have this one miraculous patient who from last week, the left knee totally giving way and being wheelchair-bound to this week almost throwing the crutches away. It is so nice to see.
>
> (Heather, Interview)

The quote above illustrates that Heather was starting to feel like a physiotherapist and linked this to seeing improvement in her patient. Iolanda and Jean were also learning about professional roles and student-patient

relationships. Jean, who had previously undertaken six practice placements, was struggling with patient consent/choice:

> I realised that actually people do have the choice in this health system. Like although you always talk about patient-centred care. I sometimes feel it is more kinda therapists and medical staff centred because we are just trying to mould the patient around our timetables really. But sometimes, yeah, you just have to accept whatever the patient wants which I find interesting and hard to accept at the same time.
>
> (Jean, Interview)

Jean and Heather (whose earlier quote indicated surprise when staff listened to emotional patients) had already experienced other practice placements in different settings. Their surprise and realisation on current practice placements, therefore, may be reflective of inter-placement variation in healthcare activity system norms around how patients are viewed and treated across the healthcare activity system.

Due to various roles held in physiotherapy practice, education and with the professional body, it is my understanding of most physiotherapy programmes across the UK that, historically, the importance of patient care and acknowledgement of patients' rights is (or at least claimed to be) integral and established early in physiotherapy programmes. This idea is supported by study participant Erica:

> If it happens that the patient says no, you just always respect that … it's something you learn through uni … that's something that was always drilled into us from quite early on in the course. It has always stuck. In uni we had practical exams and you could get every single part of the theory right. We had things called core standards such as just explaining what you were doing ... If you didn't do that, no matter how well you got on in the theory part of the practical, you failed. It always made you remember.
>
> (Erica, Interview)

This quote from Erica highlights the role adopted by the HE activity system in promoting patients' rights in healthcare. My findings therefore indicate that participation in the PSPE activity system itself may have led/taught some

students, for example, to be surprised when PEs gave time to emotional patients or when patient choice came before the expectations of the healthcare activity system. These findings suggest that PSPE, as reflective of local, variable healthcare activity system rules and norms, may take unexpected directions and can have undesirable student learning outcomes. Furthermore, that HE and healthcare activity systems may be disconnected in ways that need to be recognised and further discussed. This could also be relevant to concepts of learning transfer between HEIs and practice placement settings.

During interviews, some (9) students showed that, in practice, they were busy trying or struggling to relearn, transfer, contextualise, apply and understand the relevance of 'HEI-acquired' knowledge and 'HEI-based' learning. This is illustrated in quotes below from Erica and Alex:

> A lot of stuff that never made sense even though I passed exams in it clearly from learning it off word for word, I now put it into place. Actually that's the thing I have done … things that you learn about in theory, they just sort of hit you like, right, that's what that means.
>
> (Erica, Interview)

Alex struggled to connect HE-based learning with practice:

> … on this placement ... there was information that you have to be aware of and my senior was asking me questions about that and I found it really difficult and I actually at one point thought I have not been taught this, but since, looking back it was discussed, it has been looked over but not in the context of what … there has been a lot of that within the university learning and it has been quite difficult to translate it over … to pull information together.
>
> (Alex, Interview)

These quotes, along with previous findings, may reflect problems with how 'transfer of learning' between HEIs and healthcare was expected by these students. Transfer of learning concepts are discussed in more detail in Chapter 2. However, it is relevant to consider here that Erica and Alex may have a shared understanding with others in physiotherapy that students are enabled to transfer and translate knowledge and learning from the academic setting to and

between a variety of practice settings (Plack 2006). However, this may not be viewed as a physiotherapy cultural norm as some physiotherapy researchers maintain that there is little evidence of the integration of UK physiotherapy university education into clinical practice (Thomson and Hilton 2011). 'Transfer of learning' is a contentious concept and outwith the scope of this analysis. However, rather than knowledge being considered as portable within individuals, it may be more useful to promote socio-cultural views when students move between HEI and the workplace (Tuomi-Gröhn and Engeström 2003) and to reformulate transfer as a process of 'transition' between activity systems, as suggested by Guile and Young (2003).

As well as between learning in HE and healthcare activity systems, some (4 of 10 who had experienced previous placements) physiotherapy students compared knowledge for treating patients on different practice placements within the PSPE activity system.

> I knew before that I needed a lot more in-depth anatomical and physiological knowledge for outpatients and it's just proving that. It's just a different environment and you have to have different skills. And as much as you still have to be able to communicate with your patients and things and you have to have time management which is the same as my last one [placement], it's a different way of looking at a patient and yeah, I feel like I need a lot more knowledge.
>
> (Fidelma, Interview)

> The area that I am in just now … it is kind of … It is beyond physio as what I thought [...] it is very much you have to be aware of everything that's going on with that patient at all times. So you have to be aware of what drugs they are on and you have to know what each drug does. You have to know what all the lines and drains do.
>
> (Nina, Interview)

The quotes above indicate that Fidelma and Nina felt that they needed a lot more knowledge for their current practice placement compared to previous ones. As an experienced registered physiotherapist, I felt a sense of unease as I listened to how these students compared what they were expected to know on different practice placements. For example, no matter where they work, physiotherapists have to be aware of the effects of patients' medications (HCPC

2013). My discomfort continued as Fidelma seemed to privilege anatomy knowledge over patient communication when asked what she was expected to know about:

> Just ehm, you know, bones, muscles. The actual kind of knowledge, rather than just being able to communicate with people effectively or write notes ... like actual physical bones, muscles, ligaments, tests, ehm, how to test ligaments, muscle. You know the kind of, not the subjective stuff about seeing patients, the actual factual bare bones of the basis of everything.
>
> (Fidelma, Interview)

Fidelma and Iolanda perceived that specific levels and types of knowledge were needed more or less so in different service settings:

> … the variety that I am covering at the moment on outpatients which is quite different to my last placement […] You know the breadth of knowledge in outpatients is big. As much as there is a similar pattern to everything I am doing, it's more specific to regions and things so it's always different. A lot of the patients [in last placement] were acutely ill elderly people. So it covered a variety of things – falls or infections or heart and lung problems … we weren't really dealing with the cause we were dealing with getting them back to their mobility levels ... more functional really. Whereas here, you are much more looking at the cause of someone's problem – sore shoulder or broken wrist.
>
> (Fidelma, Interview)

In the quote above, Fidelma implies that more detailed knowledge of pathology and diagnostics was required in outpatient physiotherapy than in a care setting for acutely ill elderly people who usually have multiple pathologies and complex presentations (BMA 2016). Iolanda also compared the level of knowledge she felt was required in three complex practice-placement areas:

> It is kinda quite straightforward [in the cardio-respiratory field] in that when you have this problem you do this. Whereas with outpatients it's kind of there is no right or wrong, you can just do whatever you want as long as you can reason it. With cardiac rehab it was kind of *just* hearts that I had to worry about so I could know everything that I needed to know about hearts and heart attacks and all the things that was wrong with them.
>
> (Iolanda, Interview)

These quotes indicate that these students seemed to compartmentalise, quantify and distinguish the level of knowledge required for work in certain areas of physiotherapy. This does not match my own understandings, as a physiotherapist for over 30 years, of the complexities involved. Furthermore, these students' perceptions of the knowledge required seemed to focus on physical aspects of care; where understandings of psycho-social aspects of conditions such as falls or heart attacks would be vital for patient-centred physiotherapists.

As a researcher, I did not challenge or question these students' assumptions but rather tried to explore them in more detail. However, as I did this, it is of interest that these students continued to re-affirm their position and did not question their stated position about knowledge required on different placements. These students therefore seemed to be appropriating cultural belief norms relating to knowledge for physiotherapy and patient care; perhaps not as critically as may be expected of future physiotherapy graduates.

As I am unfamiliar with such cultural norms and cannot source them in my analysis, given my other findings, I can only speculate that students' perceptions of knowledge for physiotherapy may reflect (real or perceived) healthcare activity system rules and norms about knowledge for physiotherapy, mediated by the practitioners within it. It may also be that the immediate needs of students on practice placements, in attempts to cope with large volumes of information, as discussed earlier, may variably determine students' views on the knowledge required for specific areas.

It is worthy of note that comparisons of practice placements in particular fields of physiotherapy also gave some (5) students an understanding of where they would prefer or not prefer to work in the future. One student was able to be(come) a physiotherapist (after six other placements) as a result of her current practice placement:

> … my view has changed quite a lot on the whole profession of physiotherapy […] I just realise how much more a physio is. I am much happier about being a physio […] the way it was before I felt that physio

> was very limited, you kinda go in and tell people what to do, go out, and that is it. But this placement has helped me to see the bigger picture really, you know to feel how important you can be to someone's' life how much of a change you can make to them and not just ...
>
> (Jean, Interview)

It seems remarkable that Jean only realised her ambition to become a physiotherapist on her seventh practice placement, her quote above revealing that that was when she recognised her potential as a physiotherapist to improve patients' lives. Reasons for future career choices are outwith the scope of this study, but students may have been responding to how physiotherapy in particular fields seemed to be culturally valued (gauged by the amount, depth and level of knowledge needed). Although it may be natural for students to use their practice-placement experiences to inform future work decisions, it is perhaps unwise for students to be drawn to or repelled from various fields of physiotherapy work or even physiotherapy as a result of PSPE; given, as indicated throughout this thesis, how unpredictable, variable, conflicting and messy individual practice-placement players, rules, norms and divisions of labour can be for individual physiotherapy students to make sense of.

The findings in this chapter section provide some insight into what physiotherapy students perceived they were learning on practice placements. Individual students appeared to consciously grasp and be able to represent particular aspects of physiotherapy knowledge at particular times, in particular circumstances and in particular contexts. Their programme stage did not seem to make a difference, however, I did not set out to formally compare this among students. Although some examples of broader learning could be gained from asking about learning in different ways, as explained in Chapter 4, most students focussed on direct work with patients rather than more varied practice/service or learning matters. Student participants seemed to individually construct, represent and narrowly focus what they should learn and what they believed they were learning. Some students represented skewed perceptions of a patient-centred approach to physiotherapy and revealed a bias towards the knowledge required to work in different areas.

Students, therefore, may have missed out on opportunities to engage with a wider critical appraisal of healthcare/physiotherapy and relationships between aspects of care/service provision, such as: psycho-social considerations; patients' rights and experiences; service delivery across health and social care; quality improvement issues; evidence-based practice; dealing with work pressures; ethical challenges; leadership; effective team working; learning from mistakes; appropriately reporting concerns; and other professional responsibilities such as CPD, all of which are highly relevant to contemporary physiotherapy practice (CSP 2010 rev. 2013).

5.6 Summary of findings

In this final section, I present a summary of my key findings set out in the previous four sections of this chapter. These show that, for students, PSPE was overtly about confidently assessing and treating patients. However, employing CHAT concepts to analyse PSPE has enabled me to show other, less explicit, student object motives in response to assessment and other HE, healthcare and PSPE activity system rules, norms and divisions of labour (related to unpredictable, variable individual PE rules, acting out expected norms in relation to learning practices, and adopting cultural norms related to division of labour and perceptions of physiotherapy knowledge). Revealing these less explicit student object motives has allowed intra- and inter-systemic contradictions to surface. The findings are summarised below, organised under my main and operationalising research questions.

Main research question:

What is PSPE about from students' perspectives?

Operationalising Research Question 1:

What might be revealed about PSPE and interacting activity system objects, players, rules, norms, division of labour and tools/mediating artefacts?

Although physiotherapy students overtly aimed to confidently assess and treat patients, students' object motives were skewed by PSPE, HE and healthcare activity system dynamics. Students' object motives were skewed towards assessment requirements and also towards following HE, healthcare and PSPE activity system rules and norms mediated by powerful practice educator (PE) gatekeepers. Examples of contradictions between student object motives, skewed by these dynamics, and qualitative dimensions of the inter-systemic qualitative object of PSPE are highlighted; for example, between students aiming to work faster and the need to provide patient-centred care. The analysis has shown some of how professional and regulatory body activity systems and wider interacting social, family and employment activity systems interact with the PSPE activity system (as well as HE and healthcare activity systems).

A broad range of players, across interacting activity systems, enacted supportive and educational positions for the benefit of students. However, the nature of student support from non-PE 'others' in healthcare was inconsistent, covert and collusive. These inconsistencies reinforced the high power status of PE gatekeepers who were found to control student interactions with non-PE others.

PEs disproportionately influenced student participation and learning. PEs, as gatekeepers/assessors, dominated and controlled PSPE through the creation of distinctive sets of rules and norms. PE gatekeepers also held discretionary gifts and were sub-positioned as gift-holders. 'Gifts', such as time, feedback, access to other team members and permissions, were awarded variably to students at the discretion of powerful PEs.

PSPE was not only about human interactions. PSPE activity system rules, norms and division of labour were mediated via written text, bodies, language, technical equipment and staff behaviours.

Next, I summarise my findings in response to my operationalising question 2.

Operationalising Research Question 2:

How do physiotherapy students negotiate the contextual dynamics of PSPE in order to achieve their aims?

Students enacted PSPE activity system norms relating to expected learning practices and positions adopted in the PSPE activity system division of labour. Reading and writing were dominant learning practices, even when some students were aware of the limitations of reading for practice. Students read and wrote, sometimes excessively, in response to HE, healthcare and PSPE activity system rules and norms. PEs promoted, expected and dictated reading as a PSPE activity system learning practice norm and students obeyed in deference. This may be an indication of the status awarded to propositional knowledge by the physiotherapy profession across overlapping PSPE activity systems. The privileging of propositional knowledge as a physiotherapy profession cultural norm may detract from the recognition, development and sharing of physiotherapy practice knowledge.

PSPE was an embodied experience. Learning was mediated through the bodies of others as well as students' own. However, when on practice placements, students still practised on 'healthy' bodies, even though some recognised that this did not and could not prepare them for practice. Only five students acknowledged rehearsing with patients as a learning practice; perhaps demonstrating anxiety over healthcare activity system rules about not making or showing mistakes or indicating that showing knowledge/ability had to be prioritised over displays of learning.

In response to PSPE activity system dynamics, students adopted the position of PE-pleasers. Consequently, students sometimes said nothing when they wanted to speak; for example, they refrained from asking their PEs questions or from discussing or reporting challenging situations. Examples are provided of how this had a negative impact on student and workplace learning. With few exceptions, students readily and unquestionably responded to and complied with PSPE and healthcare activity system rules and norms mediated by

powerful PE gatekeepers. However, PSPE and healthcare activity system rules and norms were not always professionally desirable (such as referring to patients/people as body parts or running out of time to treat patients), and were variable and unpredictable between practice placements. Such rules and norms had to be learned and sometimes unlearned (for example, not to be surprised when physiotherapists listened to patients) by students anew on each practice placement. Examples provided of undesirable PSPE and healthcare activity system rules and norms include the prevention of students from raising concerns, discussing challenging issues, asking questions, critically evaluating services, team working, exploring treatment options and assertively protecting their own rights (for example, to dignity in the workplace).

Furthermore, some students looked for permission to be learners within the healthcare activity system and contradiction could exist when they perceived rules such as that they were expected to be competent practitioners as opposed to competent learners in practice. In relation to this, showing knowledge and ability rather than learnability, fear of making mistakes, or unwillingness to 'stand on PEs' toes' could inhibit student participation and learning in healthcare and PSPE activity systems. Students had to quickly learn associated rules and norms for being PE-pleasers, such as what to read, how to work or what physiotherapy theory to follow in individual practice placements. Levels of student agency consistently emerged as low in my analysis. In keeping with this, students needed prompting to acknowledge and identify the contributions that they made to healthcare practice and PSPE.

Next, I summarise my findings in response to my operationalising question 3.

Operationalising Research Question 3:

How do students construct the knowledge that they believe is required for success in PSPE?

Students on practice placements narrowly constructed knowledge for physiotherapy practice. Taking a CHAT perspective of what physiotherapy

students aimed to achieve and learn through PSPE provided examples of how students' object motives may be skewed. Although all students aimed to confidently assess and treat patients, multiple, sometimes covert, implicit, complex and contradictory HE, healthcare and PSPE activity system rules, norms and divisions of labour led to students, for example, concurrently, learning to work faster and get good grades, which could potentially detract from learning about patient-centred care.

When asked what they needed to or aimed to learn, students focussed mostly narrowly on patient assessment and treatment-related issues. Some students believed that different volumes, types and levels of knowledge were required on different types of practice-placements. My analysis did not reveal a reason for this, but it may be that individual practice-placement rules about service delivery and workplace culture influenced students' perceptions of physiotherapy knowledge. It may also be down to how knowledge was perceived by students coping with large volumes of information on practice placements.

All interviewees believed that they were learning everything they should be on their practice placements. However, individual students' narrow, specific accounts of what they were learning did not reflect the rich and diverse range of learning that was potentially available from the wide range of human and non-human interactions within physiotherapy practice. During the interviews, most students did not or could not express learning about broader, highly contemporary, aspects of practice (as suggested in detail in Section 5.5).

However, the PSPE activity system posed numerous related contradictions for students. For example, exposure to work within a stretched healthcare activity system could skew students' object motives towards prioritising quick throughput of patients or not allow time to liaise with other team members. Some students recognised contradictions, for example, between healthcare activity system objects, rules and norms, HE activity system assessment rules and norms, PSPE activity system player rules and norms, and professional/regulatory activity system rules and personal values. Examples of these identified in my analysis are:

- Healthcare and PSPE activity system object, ‘quick patient throughput’ contradicting professional/regulatory body activity system PSPE objects, ‘whole-patient-centred care’ and ‘team communication’;
- Individual PE assessment rules contradicting HE activity system assessment rules (by applying variable implicit layers to student assessment);
- Individual PE ‘team working’ rules to not talk to other professionals contradicting professional/regulatory activity system rules;
- Healthcare activity system PSPE activity system object, ‘quick patient throughput’ contradicting student’s personal values (such as wishing to take more time to explain things to patients);
- Contradiction between students’ position as PE-pleaser in the PSPE activity system division of labour and position as pro-active learner (for example, students showing themselves as knowledgeable, competent practitioners as opposed to proactive learners).

However, no students indicated that they had openly discussed, questioned or challenged these contradictions in practice placements or that they had the space to do so whilst participating in the PSPE activity system. Most students did not do so even when this might have been facilitated in a ‘relaxed’ and neutral research environment.

5.7 Chapter conclusion

In response to my main research question, I set out to explore, from the perspectives of my physiotherapy student study participants, what PSPE was about for them when given the opportunity to discuss PSPE under the research conditions described in Chapter 4. Employing CHAT concepts enabled me to reveal detailed, normally implicit and powerful aspects of HE, healthcare, PSPE and other activity system objects, players, rules, norms, division of labour and tools/mediating artefacts. I have shown how physiotherapy students’ PSPE object motives were skewed towards assessment and potentially away from patient care and broader aspects of PSPE learning. I have also shown how physiotherapy students negotiated PSPE contextual dynamics to achieve their

aims by enacting PSPE ‘learning practice’ norms (reading, writing and practising on ‘normal’ bodies) and adopting the PE-pleaser position within the PSPE activity system division of labour. I have provided an account of how students narrowly constructed the knowledge that they believed was required for success in PSPE. This reveals some undesirable cultural norms related to how types, level, depth and breadth of knowledges for physiotherapy and across different specialty areas were perceived and sought by physiotherapy students. I have highlighted intra- and inter-systemic contradictions for further attention in the physiotherapy profession and beyond where appropriate. The implications of my analysis, along with the limitations of my study and recommendations for practice and future research, are discussed in the next chapter.

Chapter 6

Limitations, implications and recommendations

6.1 Introduction

In this chapter, I present the limitations and implications of my findings as well as recommendations for the future. I discuss implications for the PSPE object, PSPE and student learning, student assessment, and healthcare workplace learning. In response to the implications highlighted, I recommend consideration across the physiotherapy profession of the PSPE object and make recommendations for the physiotherapy PE, student assessment, the positioning of students in PSPE, HE practice-placement management and further related research. To end this chapter and the thesis, I give a summary of my thesis and include a brief account of my learning journey throughout this doctoral project.

6.2 Limitations of the findings

I acknowledge several methodological limitations of my study and the implications of these in Chapter 4. In this section, I discuss the limitations of my findings.

My study does not attempt or claim to reveal 'facts' about PSPE. Although how students interpret their experience will affect how they recall it (Fenwick 2003), important to this study is the idea that this also affects what they learn from it. So, although interviews only allowed me to listen to what students 'felt' they had done/learned in practice, this is of value as it is reflective of their practice education.

However, despite efforts to encourage students to talk about PSPE, my findings are limited by what students could tell me. Students may well have been unable to recognise or express some of the more tacit, less accessible aspects of PSPE. I also acknowledge that what students could tell me was influenced by how I asked them questions and the nature of the questions; and that this may have influenced my findings.

Due to the nature of my study, I did not set out to present findings that could be generalised, but rather, I looked for richness and depth in communications with students to respond to my research questions. Nonetheless, it is important to note that my findings emerge from interactions with 14 individual physiotherapy students from two UK HEIs. I acknowledge that individual students were responding to my questions about PSPE in a particular way, at a particular time, in a particular place and no doubt for particular reasons (for example, Alex wanted somebody to do something about PSPE). My findings, therefore, may not be applied to all UK PSPE experiences, but rather, may be used to stimulate interest and provoke others to consider my findings in relation to their own areas of practice.

PSPE is a complex issue with multiple valid perspectives, all of which merit exploration and dissemination. For reasons outlined previously, in Chapter 4, I have only sought students' perspectives. It may therefore be seen as a limitation of my study that the perspectives of highly relevant others (such as PEs) are not represented at this time. However, the opportunity to engage and interact in an in-depth way with 14 physiotherapy students in relatively neutral circumstances and to subsequently analyse their told experiences, has brought significant and possibly normally covert/implicit PSPE issues to the fore that are worthy of attention within the physiotherapy profession and beyond. Despite its limitations, the implications from this study are relevant to researchers and practitioners who are interested in student practice education and to those who: provide healthcare, employ new graduates, employ PEs, develop and deliver undergraduate/pre-registration physiotherapy curricula; as well as policy makers concerned with healthcare education.

6.3 Implications

In this section, I discuss implications arising from this study for the PSPE object (what is being worked on) and therefore as well for PSPE and learning, student assessment and, for healthcare, workplace learning. As all physiotherapy student/workplace learning ultimately has implications for service delivery, implications for patient care are integrated into the discussions.

6.3.1 Implications for the PSPE Object

In this thesis, I have shown that the delivery of assessed PSPE is a shared object of multiple activity systems, including HE, healthcare, general societal and professional body systems. This shared object and the assumed object of the PSPE activity system are not contested in this thesis. As supported by the numbers of UK physiotherapy graduates finding employment, it may be assumed that physiotherapy students are becoming able in practice to "participate with the requisite competence in the complex web of relationships among people, material artefacts and activities" (Gherardi 2009, p. 118). However, a CHAT approach has enabled me to question PSPE as a legacy practice and see some of how, particularly the qualitative aspects of the shared PSPE object (having a role in "ensuring the delivery of safe, effective, high quality, person-centred, evidence-based physiotherapy" (CSP 2014)), are skewed by healthcare and HE activity system rules, norms and divisions of labour. For example, HE and healthcare activity system dynamics pushed students' PSPE object motives towards 'successful' student assessment and quick treatment sessions with patients, respectively. Related to these object motives, I have shown how students, according to PSPE and HE activity system norms, enacted learning practices that they may have reservations about and took up the position of PE-pleaser in the PSPE activity system division of labour. I have shown how these object motives skewed students towards PE and assessment rules and away from fulfilling student-centred learning and whole-patient-centred care. I have therefore shown that communities, and even individuals, can be working covertly or overtly towards different/contradictory things; all under the umbrella of PSPE. Highlighting some of these intra- and inter-systemic object contradictions, which are also summarised in Section 5.6

of the previous chapter, provides substance for essential learning across professional education. Some recommendations for this are made later in this chapter. Next, I discuss the implications of my findings for PSPE and learning.

6.3.2 Implications for physiotherapy student practice education and learning

Physiotherapy student practice placements are short (normally 4–8 weeks long) and examples of variance in individual practice-placement PSPE rules, norms and divisions of labour have been illuminated in my study findings. At one level, this is unproblematic; students have to learn how to work with different people in different settings. I do not suggest that variability within PSPE is wrong, but rather, that it is worth considering that it is not always right. My findings show that healthcare, HE and PSPE activity system dynamics can skew student PSPE object motives, in the short time available; for example, towards finding out who will support them and how, what the PE as gatekeeper's rules and norms are (e.g., level and type of knowledge required), how to please the PE (e.g., how to study or work with patients) and get a good grade. I do not suggest that these object motives are exclusive, but predominance in my findings and the implications for student learning and development suggest that these findings are worth paying attention to.

In keeping with the findings of Grace and Trede (2013), students, mostly, seemed to accept and try to conform to PE ways of working (rules), although these could challenge their professional values (such as not having time to explain things to patients). Whilst this may be understandable in a PSPE activity system culture dominated by student assessment, I am surprised at the paucity of awareness, critique and resistance expressed by students, even in safe interview environments, to practices (such as language used or work schedules) that may be fine for staff members (I do not comment on this as this is outwith the remit of my thesis) but confusing, contradictory and challenging for students.

I do not propose that challenging situations are bad for students, or that students do not inwardly question practice. However, I do question where the

safe space is in such imbalanced power relationships (particularly PE–student) for students to engage and grapple with problems, challenges and contradictions they encounter in practice placements. It may be that fear of affecting assessment grades by, for example, standing on PEs' toes or showing that they do not know, as I have demonstrated in Chapter 5, may be inhibiting student learning. Without such a safe space, students will miss out on, for example: participating in discussions to enable the development of clinical reasoning and coping strategies in a healthcare arena which demands more services in shorter timescales; engaging openly and critically with contemporary issues such as the quality of care and patient satisfaction; and candidly discussing mistakes in practice and learning from them and from the mistakes of others, as encouraged by Francis (2013). Perhaps most saliently, students will find it difficult to develop the knowledge, skills and confidence for working autonomously on graduation if they are learning to respond to HE, healthcare and PSPE activity system rules, norms and divisions of labour that can quash independent thinking and problem solving.

If learning activities, such as those outlined above, are not available in practice, where else may they be found for students? HEI-based discussions/learning activities around such issues may be thought-provoking but may viewed by students and practitioners as too far removed from the realities of practice or, as Higgs et al. (2004a) put it, seen as mere mental gymnastics. Furthermore, dilemmas arising for students, for example, between patient-centred care and time management, pleasing a PE versus fitting in with a team or learning for others versus self, regardless of workforce pressures, will not find homage in NHS, professional and regulatory body, and HEI policies, standards, values and expectations for healthcare students and staff. Across the board, relevant policies (examples of which are listed in Appendix 5) uncompromisingly express, promote and support high quality, safe, effective patient-centred care, team-working for the benefit of patients, and individual lifelong learning. The importance of learning has been emphasised, along with the commitment of the entire NHS to lifelong learning about patient safety and quality of care, in a

'post-Francis'[15] (2013) report (Berwick 2013). Key areas promoted for staff development included: acquiring the skills to actively participate in the improvement of systems of care, speaking up when things go wrong, and involving patients as active partners and co-producers in their own care. Professional leaders, including Karen Middleton, the Chief Executive of the physiotherapy professional body, the CSP, have called for health professionals to have 'big conversations' about professional and unprofessional behaviour in order to develop a culture where professionalism is discussed normally (Middleton 2013). However, for healthcare students, open communication about the potential impact of service strains on patient care may not be possible within cultures where, for example, team communication and ways of learning and working in practice may be dictated by sometimes implicit, variable, contradictory and restraining PSPE activity system rules and norms; including how PEs and students are positioned, for example, as gatekeepers and PE-pleasers, respectively.

PSPE activity system rules and norms could also restrict other potential student learning practices. Although I could see that students attempted to draw on different kinds of learning practices (such as observing surgery or working with other team members), these were often reportedly controlled by PEs. I was surprised at how much PEs directed and controlled student reading, which emerged as a dominant activity in students' attempts to 'gain' and show knowledge for practice. Some of the students in my study recognised the limitations of reading for practice and yet were driven by PSPE and interacting activity system dynamics to read and demonstrate reading to PEs during practice placements. Before I embarked on my current studies, as a member of physiotherapy education and practice communities, I would have considered this to be a good thing. However, I now feel that the primacy awarded to reading as a learning practice in PSPE must be questioned. This PSPE activity system cultural norm may be dampening students' awareness and development of practice knowledge; that which cannot be learned from a book. Furthermore,

[15] 'Post-Francis' refers to the assumption that a shocking lack of patient care in a UK hospital Trust will not be allowed to be repeated post the publication of a related report by Francis (2013).

students read what PEs wanted or directed them to read, thus diminishing the concept of physiotherapy students on practice placements as self-driven learners.

PSPE activity system cultural dynamics may have led to other student learning blind-spots. It is of concern that some students perceived that practice-placement speciality areas (such as musculoskeletal outpatients or elderly care) dictated the volume, type, depth and breadth of physiotherapy knowledge required, rather than the needs of individual patients. This has implications for the quality of patient care but may also send cultural messages about how physiotherapy is valued in specific fields of work (from the amount of work/ knowledge, specialisation required). In turn, a skewed view of physiotherapy knowledge in different work speciality areas may improperly influence where student physiotherapists would like to work once qualified, posing the risk of physiotherapy knowledge myths being perpetuated with other new learners.

As well, most students took or gave a narrow, patient-physical-focussed view of their learning. Crucial though it is for student physiotherapists to become able to assess and treat patients, opportunities to discuss and learn about broader issues, for example, about carers, family dynamics, death/grief, health and social care teams, services, policies, communication, change-management, leadership and service limitations, are essential for a whole-person-centred physiotherapy approach. This is also necessary to prepare physiotherapy graduates for contemporary practice in rapidly changing health and social care arenas. It is worthy of note that other professions, such as teaching (Edwards 2010), medicine, nursing and audiology (Ledger and Kilminster 2015) have also raised concerns about a narrowing of focus in pre-registration practice education. This may therefore be an issue for professional education and the HE system more generally.

However, it is important to re-state that my analysis is based only on what students could tell me. Also, as discussed previously, I do not comment on outcomes at the end of practice placements. I cannot therefore say that students were not learning about broader aspects of practice, only that they, as

individuals, mainly did not recognise, question or represent them in communications with me. This may be for many reasons, including, as I propose, what appears to be valued and require focus by students. Implications are that physiotherapy students/future graduates may be unable to recognise, articulate and share 'broader learning' with others, in the present or in the future as PEs themselves.

PSPE rules, norms and divisions of labour therefore could have implications for present and future physiotherapy learning and development as well as for patient care. For students, rule-breaking could have perceived repercussions on assessment results and future employment opportunities. The implications for physiotherapy student practice-placement assessment are discussed in the next section.

6.3.3 Implications for student assessment

My CHAT-oriented analysis of PSPE, looking at objects, object motives, players, rules, norms, divisions of labour and mediating tools/artefacts, positions physiotherapy student practice-placement assessment as problematic. Although I tried to avoid email contact and interviews during student assessment periods, assessment featured strongly in my communications with students. I have illustrated how assessment skewed students' PSPE object motives. Student pre-occupation with assessment in PSPE was also a finding reported by Morris (2011).

From my findings, the main problem seems to be the positioning of PE as gatekeeper and the immense PE–student power imbalance created by this. PE power could reach further than in student practice-placement assessments. Some students indicated congruence between practice-placement assessment and a job interview; that is, that practice-placement assessment grades mattered to future employment prospects.

It may not be surprising, therefore, that students were positioned as PE-pleasers in the PSPE activity system division of labour. Although it could be argued that contradictions need not/do not exist between pleasing PEs for

assessment and developing knowledge and skills for caring, effective autonomous physiotherapy practice (such as critical thinking, self-direction and teamwork), my analysis shows that they can. I have presented examples of PEs denying students opportunities to work with and learn from teams, dictating theoretical treatment approaches and methods and sources of learning, in ways that could stint critical thinking, self-directed, exploratory learning, and professional development in students. My analysis also reveals that assessment can silence students who can be reluctant to upset PE-gatekeeper assessors. Within this issue, further implications for physiotherapy students as present and future learners arise. I have shown that students, in response to assessment pressures, can try to show themselves as knowing, competent practitioners and hide not knowing, that is to say, hide themselves as learners. This again has the potential to stint learning but also has implications for the future; as undergraduate students are expected to acquire independent life-long learning skills (QAA 2014, CSP 2010 rev. 2013). Physiotherapy graduates need to learn and develop throughout their career in order to keep their knowledge and skills up to date and be able to work safely, effectively and legally (HCPC 2012, 2013).

The PE–student power imbalance could also be played out in how PEs explicitly or implicitly added their own layers of expectations to student practice-placement assessment (such as ways of working and showing knowledge). Student assessment forms/tools could, therefore, be interpreted and used differently by individual PEs, leaving students to work out how. It may be, therefore, that standardised physiotherapy student practice-placement assessment tools/forms are not serving commonly assumed assessment purposes and principles; such as providing feedback, guiding learning, standardisation of assessment, student motivation, reliability and validity (Oxford Brookes University 2011).

These problems bring physiotherapy student practice-placement assessment into question; what it is for as well as what success in assessment may represent (for example, the ability to please a PE and work as they say). Survival of individual physiotherapists as well as physiotherapy in the

challenging, competitive context of today's NHS calls for more than high grades; especially if high grades can conflictingly come at the cost of practice learning or patient care. If students are not facilitated to communicate and address issues and challenges on practice placements assertively (for fear of displeasing PEs and impacting on assessment grades), there are implications for physiotherapy practice. How, as future physiotherapists, will students be armed with the tools required to deal with issues such as threats to physiotherapy services on behalf of the population they serve? How will they help future students to engage critically with practice when they are PEs? How will they assess students in the future? How will this impact on workplace learning?

As I highlight implications for student learning and assessment above it is clear that these also have relevance to workplace learning, which will now be discussed further.

6.3.4 Implications for healthcare workplace learning as a result of the PSPE activity system rules, norms and division of labour

My findings reveal several explicit instances of where, due to PSPE activity system rules, norms and divisions of labour, mostly related to PE gatekeeper power-positioning and student PE-pleaser submission/silencing, opportunities for workplace learning, as well as student learning, were lost. These include, for example, missed opportunities to openly address and discuss death or breaches in professionalism; situations in which workplace learning could lie.

The loss of workplace learning opportunities could apply to all circumstances where students were silenced. Open discussions with students and student feedback has the potential to stimulate workplace learning and changes in practice. This is exemplified in recent research showing that, in one area, new opportunities for PEs to gain insight into physiotherapy students' thoughts about patient deaths have changed how students are supervised but have also informed staff CPD (Powell and Toms 2014). In this case, students are positioned as educators. However, my study, participants did not easily recognise that they contributed to practice in such ways. I did not explore how

this was viewed in the workplace, but students had to be prompted in interviews to recognise that they contributed to practice by helping others to learn, by bringing fresh ideas and by helping to provide physiotherapy (as detailed in Chapter 5); thus, further demonstrating low levels of student agency.

Other opportunities for shared learning in the workplace that could contribute to practice and PSPE, such as sharing learning from mistakes and participating in physiotherapy service quality enhancement, may also have been lost due to PSPE activity system PE–student dynamics. My concern is that the dampening of open physiotherapy student critical engagement with practice (physiotherapy and education) may provide the basis for undesirable "expansive" learning (Engeström 1987). For example, if not challenged, new graduates may perpetuate myths about practice knowledge and, as future PEs themselves, may pass such views on to new physiotherapy students. Also, culturally new patterns of submissive behaviours in health professionals may be re-produced. In today's climate of austerity and cuts to NHS budgets, this is a time for physiotherapy students, as well as qualified staff, to learn how to challenge threats to, and preserve/enhance the breadth of, physiotherapy knowledge and the quality of patient care.

In Section 6.3, I have highlighted the implications of my study findings for PSPE and interacting activity system objects, PSPE and learning, student assessment and workplace learning. I have highlighted several areas that are worthy of further attention in light of my study findings, and, in the next section, I make related recommendations for PSPE practice and research.

6.4 Recommendations for PSPE

In this section, in light of my study findings and the highlighted implications of these, I make recommendations for the PSPE object, PEs, student practice-placement assessment, the positioning of students in PSPE and HE practice-placement management. I begin with recommendations for the PSPE object.

6.4.1 Recommendations for the PSPE object

As I write this, the Chartered Society of Physiotherapy (CSP 2016a), as part of its learning and development strategy, is promoting a series of cross-profession webinars concerned with PSPE. The introduction to the online publicity material about these reads:

> [PSPE] is a vital component of qualifying physiotherapy education that is designed to ensure that the physiotherapy workforce has the capacity to meet the expectations of physiotherapy practice – now and in the future.

As the UK physiotherapy professional body continues to promote learning and debate about PSPE, I recommend that part of this involves a re-examination of the PSPE object (what is being worked on). My study has shown how the PSPE object can be skewed/expanded in various directions and therefore assumptions such as those about the 'expectations of physiotherapy practice' should be explored and tested in and across interacting healthcare, HE and PSPE activity systems. However, a review of the PSPE object should also include how the PSPE object is interpreted by additional interacting activity systems recognised in my findings, such as general society (representing the general public view) and professional and regulatory body activity systems (representing qualitative dimensions of the PSPE object related to physiotherapy professional codes, standards and regulations). Increasing the visibility of interacting PSPE activity system objects, rules, norms and divisions of labour, and highlighting conflicts and contradictions, will allow a realistic view of PSPE as a complex and messy activity. This will stimulate further attention, aggravation, research and development of PSPE.

I therefore suggest that a review of the PSPE object will involve the inclusion of physiotherapy/healthcare service users to represent societal activity system rules, norms and divisions of labour (perhaps represented as expectations of healthcare), as well as a range of players across healthcare, HE and PSPE activity systems. PEs and students should play a pivotal role in this. However, safe space will be required for such a review. As indicated in my analysis, some thorny issues need to be aired and grappled with to allow PSPE, a largely

uncontested legacy practice, to transform and develop. This may involve, for example, frank airing of relationships between healthcare activity system norms, such as work pressures, and professional/regulatory body rules, such as professionalism and/or patient-centeredness.

In response to my findings related to the powerful position of PEs as gatekeepers in the PSPE division of labour, I recommend that a core dimension of a PSPE object review would be to focus on the PE position. I discuss recommendations for PEs next.

6.4.2 Recommendations for PEs: key PSPE activity system players

Although my study does not feature the voice of PEs, from analysing students' perceptions of what PSPE is about, I recommend that support for PEs should be reviewed along with their position in the PSPE division of labour. Given the impact of PEs on physiotherapy students' capacity to participate and learn in practice, as shown in my findings, perhaps a forward-looking question borrowed from the writings of Anne Edwards (2010, p. 63), who has extensively studied teacher education, would help to guide this: 'What kind of teachers for what kind of learners?'

In physiotherapy, HEIs provide an array of PE training programmes. My findings suggest that the following questions may be useful to guide contemporary, critical development of such programmes:

- Is HEI support for PEs PE-led? What support do PEs need?
- How do PEs recognise, interpret and act on the PE–student power differential in PSPE?
- How can non-PE 'others' participate in and contribute to PSPE?
- What is the status of student learning (as opposed to knowing) in the healthcare workplace?
- Are PEs given the opportunity to explore the relationship between practice and HEI-based student learning?
- Do PEs need help to recognise and confidently share practice knowledge?

- Do PEs engage in PSPE-related CPD?
- Do students contribute to PE programmes?
- How may PEs recognise and embrace students as contributors to the workplace?
- Do PEs learn from/with students in practice?

In relation to this last question, I propose expansion of the PSPE object to promote shared learning between PEs and students. This is particularly relevant as healthcare policy moves services into territories that are new for all, for example, the integration of health and social care or new roles for physiotherapists. Shared learning would promote ongoing learning for all, reduce the pressure for students and PEs to know all and narrow the PE–student power differential.

A recent CSP publication (CSP 2016b), suggests that myths surrounding PSPE, such as 'Taking on students drains available resources' and 'Student numbers shouldn't expand because it will exacerbate service pressures', may be having an impact on physiotherapy student practice-placement capacity. PSPE should be seen as part of a responsible professional activity for all and supported clearly at healthcare policy level and by health/social care providers as well as by HEIs. However, I also recommend a review of the PE–student PSPE division of labour to assist with this problem; to explore the potential of re-balancing the control of student learning activities and practices from 'busy' PEs to students (as pro-active life-long learners) as a means of easing staff PSPE-related workloads and promoting student agency. Related to this, recommendations for physiotherapy student practice-placement assessment and for the positioning of students in the PSPE activity system are discussed next.

6.4.3 Recommendations for student assessment as a shared PSPE and interacting activity system object

On the basis of my findings, I recommend that PSPE assessment practice is reviewed. Any revision should firmly position the physiotherapy student as learner in the PSPE activity system division of labour. Practice-based learning

should be supported and rewarded as much as the demonstration of physiotherapy knowledge and skills. I also suggest a re-centring of service users, carers and other staff members of all levels and decentring of PEs in assessment processes within the PSPE activity system division of labour. Finding ways for 'non-PE' others to openly provide informal and formal feedback to students, whilst increasing the status of these players as joint student educators/assessors, may help to redress the PE gatekeeper-student power imbalance. This would also position/reposition the service user at the centre of the PSPE activity system division of labour.

However, my findings suggest that the physiotherapy profession needs to further interrogate the practice of assessing physiotherapy students on practice placements with the following questions:

- Is assessment necessary?
- If assessment is required, who should assess and what should be assessed?
- What is the purpose of physiotherapy student practice-placement assessment?
- Does assessment success show us what we want it to?
- Would students learn about physiotherapy and healthcare services without assessment? What are the implications of a 'yes' or 'no' answer to this question for CPD once students have qualified?

Responses to the questions above would have to involve consideration of the position(s) currently adopted by physiotherapy students in the PSPE activity system division of labour. In the next section, I recommend a review of physiotherapy students' positioning in the PSPE activity system division of labour.

6.4.4 Recommendations related to the positioning of students in the PSPE activity system division of labour

My findings suggest that more work is needed, across HE, healthcare and PSPE activity systems, to empower all physiotherapy students as proactive,

assertive independent learners within the PSPE activity system division of labour (not to be confused with ‘independent practitioners’). Redressing the PE gatekeeper position in the PSPE activity system division, as discussed in Chapter 5, may help with this.

However, my findings suggest that it would also be valuable to consider ways of shifting how physiotherapy students themselves are positioned in the PSPE activity system division of labour. This is so that students may be recognised more as contributors to service and to reduce the risk of them becoming passive, obeying, uncritical PE-pleasers (the implications of which are discussed above). However, this is not to be confused with students working in the PSPE division of labour as qualified physiotherapists. Rather, this would be concerned with facilitating students as independent *learners* who can contribute to practice in a manner of ways, as, for example, eventually suggested by my student participants after prompting in interviews (outlined in Chapter 5).

I recommend that physiotherapy (and perhaps other healthcare) students are challenged to look for, grasp and value the wide range of PSPE learning opportunities available to inform service provision; as well as those related to direct patient care. The focus on direct patient care by my study participants suggest that students may need help from PSPE players to recognise the benefits of wider learning on patient care and service delivery. Examples of related existing and future good practice to increase the level of student/learner agency in the PSPE activity system division of labour should be shared for learning across the physiotherapy profession and beyond.

As well as recognising contributions to patient care and workplace learning, it would be beneficial for the PSPE division of labour to give all students a position from which to operate, for example, where possible, within service quality improvement activities. Students should be supported in facilitatory environments to critique physiotherapy service provision and develop awareness of the impact of service rules and norms on the quality of services/patient care. This would help to normalise critique and feedback and responses to these as everyday, and therefore less threatening, practices. This

would also provide opportunities for the healthcare activity system to benefit (learn expansively) from comments on routine/established practice by fresh newcomers. In this, students, future physiotherapists and PEs, would be further enabled to develop skills associated with providing feedback and improving services. Such activity would also help to highlight challenges in practice and enable students and PEs, all positioned as learners in the healthcare and PSPE activity system divisions of labour, to engage with thorny issues, for example, those related to implementing healthcare policy against a backdrop of the coal-face reality; and thus promote expansive learning across interacting[16] PSPE activity systems.

Risks of students becoming silenced, which have been highlighted above as multi-faceted, should be recognised and minimised. All physiotherapy (and other healthcare) students should be fully supported in HE, healthcare and PSPE activity systems to act on discomfort (for example, about patient care or breaches in professionalism) they may have in practice without concern for their practice-placement assessment grades.

Some recommendations for HEI practice-placement management are proposed next.

6.4.5 Recommendations for HE practice-placement management (HE activity system norms/operations)

Although my study does not feature the voice of HE, my findings suggest some recommendations for HE practice-placement management. In response to HE, healthcare and PSPE activity system dynamics, my study participants seemed to explicitly focus on 'physiotherapy patient assessment and treatment' concerns whilst responding to individual PE-dictated variable PSPE activity system rules, norms and divisions of labour in the early and middle-late stages of four-to-six-week-long practice placements. As this type of focussed approach may have resulted in students losing sight of broader learning opportunities, as discussed previously in Chapter 5 and above in Section 6.3, I

[16] Interacting PSPE activity systems include (but are not exclusive to) HE, healthcare, general societal and professional body activity systems.

recommend that the length of physiotherapy student practice placements be reviewed. This would allow consideration of the student time and effort required to grasp PSPE rules, norms and divisions of labour in individual four-to-six-week-long practice placements. Longer practice placements may allow students to focus more on learning rather than fast approaching assessments. Rather than give students a wide range of six–eight short practice placements, it may be beneficial for HEIs to arrange longer physiotherapy student practice placements in fewer areas to allow broader and deeper student practice-based learning.

Linked to this recommendation, practice-placement labelling for the purpose of placement allocation to students may be problematic. I observed that (some) students perceived, rightly or wrongly, that placement labels, such as 'elderly care' or 'musculoskeletal out-patients', may carry messages about the volume, level and type of knowledge and work required. This is worthy of further attention by the physiotherapy profession as my findings indicate that such cultural assumptions may detract from a patient-centred physiotherapy approach. I recommend that ways are found to facilitate physiotherapy students to take individual patients' needs into consideration to guide learning and treatment approaches rather than fall into apparent or real cultural rules and norms about levels of physiotherapy knowledge in different speciality areas. Perhaps encouraging students to place themselves in patients' shoes would be helpful. For example, encouraging students to think about what a patient who has suffered a myocardial infarction with associated, physical, psychological and social implications would think if health professionals caring for them said they only had to know about hearts. Furthermore, to consider what patients would think if healthcare workers based future employment decisions on such limited views of knowledge required in particular areas.

Differences between individual practice placements, even in the same speciality, should be highlighted in physiotherapy programmes to avoid students making future career choices based on short, perhaps one-off, practice-placement experiences. It would also be beneficial for physiotherapy students to have opportunities within PSPE and HE to recognise and critically challenge

factors other than patient-centeredness and evidence-based practice (e.g., workplace-driven ways of working and communicating) that influence physiotherapy treatment choices/approaches in practice.

It is important for HE, healthcare, PSPE and other interacting activity system rules, norms and divisions of labour, such as those emerging in my findings, to be acknowledged and understood by PSPE players. This may help those involved to understand where contradictions between systems lie (for example, between the professional body activity system object related to patient-centred care and the healthcare activity system object of getting patients quickly through the care system) and use this to learn about and progress PSPE as a complex activity. It would therefore be beneficial for HE-run PE-preparation programmes to provide space to air and debate issues such as contradictions between interacting[17] PSPE activity systems as well as consider the questions proposed previously (in Section 6.4.2).

6.4.6 Recommendations for further PSPE research

My study contributes to the body of knowledge related to PSPE by revealing intra- and inter-systemic dynamics and complexities, and by promoting the voice of physiotherapy students; the subject of the PSPE activity system. However, I fully acknowledge that there are many other ways of studying PSPE and that there is still extensive research work to be done to help us to understand more. PSPE activity system dynamics that have the potential to reduce dimensions of student participation and learning, including, for example, work with other professionals to support patient-centred care, need to be revisited.

My findings suggest that it is important to continue to hear, and learn from, students' perspectives of PSPE. However, it is also vital for the voices of other PSPE players to be heard, particularly those of PEs. The opportunity to focus on PEs' perspectives and relationships with HE, healthcare and PSPE activity

[17] Interacting PSPE activity systems include (but are not exclusive to) HE, healthcare, general societal and professional body activity systems.

systems and PSPE objects would make a valuable contribution to PSPE research. In-depth exploration of HE preparation of and support for PEs, would also be useful. This would be complemented by exploring the views and understandings of HE-based physiotherapy student practice-placement coordinators who have responsibility for the allocation of practice placements to students and the quality of PSPE.

One way of incorporating multiple dimensions in future PSPE research would be to employ the developmental work research (DWR) approach developed by Y. Engeström. Leadbetter (2008, p. 202) provides a succinct description of DWR as:

> … a way of applying the ideas emerging from activity theory. It provides a way of enabling groups of people who are working together, to discuss what they are trying to achieve, what they are currently working on, who they are involving, what the rules are that govern their work, how they divide the work up and what tools they have available to help them to achieve the tasks. This series of questions are used over a period of time and cover current practices, previous practices (rooted in historical and cultural contexts) and then future or desired ways of working.

The potential rewards from a future study with such an inclusive, broad and developmental approach could be immense and much further reaching than is possible by my study. However, whatever approaches are used, my findings suggest that the physiotherapy profession (and others), and ultimately patient care, would benefit from further in-depth studies of healthcare student practice education.

Despite some limitations in my findings, highlighted in Section 6.2 above, I have responded to my research questions and I have shown that my study makes a worthwhile contribution to PSPE.

6.5 Contribution of this thesis

My thesis makes a significant contribution to what is currently a small, existing body of PSPE knowledge and research by highlighting valuable findings relevant to physiotherapy education and practice. My findings offer insight into the PSPE activity system by highlighting the object motives of physiotherapy students, as well as by providing students' representations of PSPE communities, the positions adopted by PEs, students and other key stakeholders, and PSPE actions and interactions. Common learning practices adopted by students in response to PSPE dynamics are highlighted, as are students' perceptions of the knowledge required to engage in practice placements. From these findings, implications for student learning, workplace learning and patient care emerge that deserve the attention of the physiotherapy profession across education and healthcare.

My findings, which seem to be mostly inextricably and consistently linked with physiotherapy students' object motives (embedded in the object and which call forth the response of actors (Edwards 2010)), will, I hope, provoke a cross-profession and cross-activity-system review of the object of PSPE. Inter-systemic contradictions have been uncovered relating to what physiotherapy students are exposed to in practice placements that need addressing in the short-term. Importantly, for students, contradictions existed, for example, between healthcare activity system goals that are focussed on time-effectiveness in student/patient interactions, and a regulatory (HCPC) and professional (CSP) body PSPE object which is concerned with patient-centred care. My findings highlight the need to re-evaluate how students are supported to openly discuss, understand and navigate such contradictions in these complex practice environments.

My thesis encourages PSPE policy makers to set out and reinforce an agreed object of PSPE for the physiotherapy profession. In addition, my findings emphasise the need for all involved in PSPE to work to (re)position physiotherapy students as proactive, independent learners and decentre PEs as powerful gatekeeper assessors.

My thesis also contributes to an understanding of the broader influence of physiotherapy student practice-placement assessment. My findings show how current practice-placement assessment processes may influence students' PSPE object motives, PE/student dynamics and student/patient interactions; highlighting that this is an area that is fraught with tensions, contradictions and power imbalances for students. Building on these findings, my thesis offers a prompt to those responsible for PSPE to review assessment practices, including consideration of what is being assessed and given credit for and by whom.

Furthermore, my research makes a contribution to PSPE through employing alternative research perspectives. Contemporary PSPE is analysed by employing a CHAT-oriented theoretical framework; a perspective which, according to literature searches conducted as part of this study, has not previously been used to investigate PSPE. My study therefore sets out a novel example of employing CHAT concepts to analyse PSPE as an activity system in detail.

My thesis also adds to the small, deficient body of available student-focused PSPE research by providing an in-depth view of physiotherapy students' perspectives. My study findings, therefore, make a significant contribution to PSPE knowledge by foregrounding the standpoint of the subjects of the PSPE activity system. Furthermore, with carefully prepared research conditions, I have been able to elicit students' perspectives that are worthy of attention in the physiotherapy profession and beyond. My thesis brings previously covert factors that may influence and direct student participation in PSPE to the surface, for example, the impact of PSPE conditions on students' interactions with patients and students' perceptions of the knowledge required to take part in practice placements. Perspectives such as these may be usefully drawn upon to inform reviews of pre-registration physiotherapy curricula; taking into account the rich array of conditions, interactions, and contradictions, as my thesis shows, that can come into play in student participation in PSPE.

In highlighting the implications of my findings and in making related recommendations, this study will stimulate further review of PSPE, which is

largely uncontested. It will also promote further, ongoing, much-needed PSPE research as a worthwhile professional activity. In the next and final section, I summarise and conclude my thesis.

6.6 My thesis: a summary and conclusion

In this summary and conclusion of my thesis, I give an account of the steps I have taken to provide a worthwhile study of PSPE. Integrated with this, I give a brief account of my personal learning journey.

In Chapter 1, I provided an introduction to physiotherapy and the dimensions of physiotherapy education, including PSPE. Prior to commencing this study, I knew that I wanted find a way to analyse and interpret PSPE, but I didn't know how or where to begin tackling this complex subject. Due to the complex and multi-dimensional nature of PSPE, and the wide range of possibilities for studying PSPE, my studies have taken me willingly to pedagogical and methodological theoretical places I had never visited; and for which only a fraction can be accounted for in this thesis.

In Chapter 2, I presented selected writings related to the theory and research that are most relevant to the issues of *practice* education as a physiotherapy student learning activity, which is the core of this thesis. Reviewing the relevant literature revealed a paucity of previous PSPE research, particularly from a socio-cultural view and from physiotherapy students' perspectives. I therefore decided on CHAT, a socio-material-cultural-historical-activity theory perspective, as the way forward to provide an innovative and provocative perspective of PSPE.

In Chapter 3, I gave a detailed account of how I defined and employed CHAT concepts in my study of PSPE as a type of activity system. From a CHAT-oriented perspective, I have been enabled to see PSPE as a shared object of interacting activity systems and PSPE as an activity system itself; activity systems with rules, norms, divisions of labour and mediating tools/artefacts available for study.

In Chapter 4, I introduced my 14 physiotherapy student research participants and explained and justified my chosen methodology. As previously indicated, my learning journey has been challenging and my methodology and findings, which I explain in detail in Chapters 4 and 6, respectively, have recognised limitations. However, I am satisfied that my study makes a worthwhile contribution to PSPE.

In Chapter 5, my CHAT-oriented analysis shines light on some important but normally implicit aspects of physiotherapy undergraduate/pre-registration education. In particular, the research has highlighted that student object motives could be skewed towards assessment and away from patient-centred care. PEs were positioned as key players and powerful gatekeeper gift-holders. Furthermore, that physiotherapy students responded to PSPE conditions by enacting 'learning practice' norms and adopting the position of PE-pleaser. As a result, students sometimes refrained from speaking up when they wanted to speak and were reluctant to show themselves as learners rather than knowledgeable, able practitioners. Other key findings include that students did not easily recognise themselves as knowledgeable and as contributors to practice unless this was confirmed by others and that they narrowly perceived knowledge for practice. However, I have been enabled, not just to study and expose these dimensions of PSPE, but also to illuminate emerging intra- and inter-systemic object contradictions in PSPE for further attention. These contradictions, which draw on important aspects of physiotherapy student learning (such as self-determined learning and its relationship with student practice assessment) and patient care (such as spending time with patients and patient-centred care), are worthy of further close attention in the physiotherapy profession and across professional education more widely.

In Chapter 6, I presented implications of my findings for the PSPE object (what is being worked on) and therefore as well for PSPE and learning, student assessment and for healthcare workplace learning. Not least, a CHAT perspective has allowed the risks associated with 'undesirable' expansive interactive activity system learning to be flagged up for attention; for example, the risks to student learning and, ultimately, patient care and expansive learning

to uncritically accommodate healthcare objects such as rapid patient throughput. In Chapter 6, I also make recommendations for PSPE practice, such as a review of the positioning of PEs and students and the role of student assessment. I also recommend further PSPE research to hear more from students and to give a voice to other key players such as PEs. DWR (outlined in Section 6.4.6), is proposed as a way forward for incorporating multiple dimensions in future PSPE research.

This work has therefore given me personally what I desired: the opportunity to look at PSPE in a new way, from students' perspectives; a key tenet of my study. I have also aggravated my own sense of what counts as PSPE; another career-long ambition. I have learned much from this experience but some of this learning only happened when I was carrying out analysis once data collection had ended. Going through the process has helped me to understand the pros and challenges of adopting a qualitative research approach and also to contextualise the meanings of warnings in related texts; for example, about conscientious note-keeping of research actions, organisation of data, and the long timescales required for analysis. Similarly to Erica, one of my study participants, this process, with all its errors and bumps on the roads, has helped me to learn more than I could "*ever* learn from a book". Furthermore, it has served to whet my appetite for further study of practice education/learning.

However, taking a CHAT view has not only helped me to study PSPE in a new way and learn about qualitative research. This paradigmatic view has also helped me to interpret other activity systems I find myself part of in life, such as workplaces and other organisations. Although I am only at the beginning of my CHAT journey, I feel equipped and ready for this voyage to continue.

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Appendices

Appendix 1: Participant Information Sheet

Research Study

Physiotherapy Student Clinical Education – a practice-based inquiry into students' knowledge strategies

Information Sheet

Researcher's name: Jennifer Duthie (doctoral student (EdD) at University of Stirling)

I would like to invite you to take part in a research study. Before you decide whether or not to participate, you need to understand why the research is being done and what it would involve for you.

Please contact me and ask if there is anything that is not clear or if you would like more information. My contact details are on the bottom of this information sheet.

Please read this information sheet carefully before you decide if you would like to participate in the study. Please note that even if you do consent to take part, you are free to withdraw from the study at any time, without giving a reason.

What is the purpose of the study?

This study is being carried out to explore and understand physiotherapy students' learning in practice, in particular the knowledge resources they use and the knowledge strategies they develop, during placements. This will inform the practice of clinical education with a view to improving student learning experiences.

Why have I been invited?

You are invited to participate as a physiotherapy student with experience of clinical education or who will have experience by the time interviews are being conducted.

At least 10 participants are being sought, 15 at most.

If more than 15 students volunteer to take part in the study, 15 students with a range of different characteristics will be purposively selected to participate. Characteristics used to direct purposive sampling will include gender, course, stage of course, placement locality, nature of placement.

Do I have to take part?

No. Taking part in the research is entirely voluntary.

What will happen to me if I take part?

During the first week of one of your clinical placements, I will email you some questions. If you have access to your email and have time to respond, you may email me back with some responses. This will take no longer than 15 minutes of your time. A second email may be sent to you for clarification/ follow up purposes only. If you do not have time or do not have the IT access to respond to any of these emails, you can still be interviewed.

Also during your placement, you will be invited to participate in a one-to-one, face-face interview which will last no longer than 90 minutes. If you want to, you may bring something along to the interview which you feel symbolises learning on clinical placement. Feel free to bring anything you like or not to bring anything along.

The researcher will conduct all of the interviews. Interviews will take place at a time to suit you at a neutral site, i.e. not at the placement site and not in the same building that you attend university classes. For example, a neutral venue would be a room with the University Students' Union.

With your consent, interviews will be audio-recorded. You will not be identified within any recorded or written data.
You may request access to the transcript of your interview to check for accuracy. When the research report has been completed, you will be provided with a copy of publications arising from this research.

What are the possible disadvantages and risks of taking part?

There are no obvious disadvantages or risks of taking part. If you are uncomfortable at any time about the research process, you may discuss this with the researcher or withdraw from the study.

What are the possible benefits of taking part?

I cannot promise the study will help you but the information from this study will help inform clinical education experiences for students in the future. However, taking part in the study will give you the opportunity to explore your own experiences with a listener which you might find useful.

Will my taking part in the study be kept confidential?

Yes. Ethical and legal practice will be followed and all information about you will be handled in confidence. Organisations, places, people and events will be anonymised in the study report and subsequent publications. Data from the study will be stored securely. Only the researcher and research supervisor will have access to raw data.

Complaints

If you have a concern about any aspect of this study, you should ask to speak to the researcher who will do their best to answer your questions (01467 632922). If you remain unhappy and wish to complain formally, you can do this through your course leader at your university or through the Research Supervisor (see contact details below) or the Head of the Institute of Education, University of Stirling (see contact details below).

What will happen to the results of the research study?

The findings from the study will be published in a research report and also disseminated in peer reviewed journals. Publications will be made available to participants. Data may be retained for use in further studies with a similar focus. Data will be retained for 5 years and then disposed of securely.

What now?

If you do wish to volunteer, please contact me, the researcher (see contact details below). I will then ask you to sign a consent form to show you have agreed to take part. I will also ask you when you are going to be on placement and when it would be suitable for you to be interviewed. If you do not wish to volunteer then please disregard the information above.

Thanks for your time and consideration

Jennifer Duthie

Researcher	**Research Supervisor**
Jennifer Duthie Tel. 01467 632922 Email jennifer.duthie@stir.ac.uk	Professor Tara Fenwick Tel. 01786 467611 Email tara.fenwick@stir.ac.uk
Head of Institute of Education, University of Stirling Professor Richard Edwards Tel. 01786 466140 Email r.g.edwards@stir.ac.uk	

Appendix 2: Email Questions and Interview Schedules

When	How	Outline Questions
Within first week of placement	Online (email) Max of 2 emails from researcher this week. Second email for follow up/clarification.	How are you settling in to your placement? What sort of things are you finding out about at this stage in the placement? Where are you getting the information you need? Can you tell me about anything you have been surprised about on placement so far? What are the main challenges you are encountering at this stage? How are you addressing these challenges? What are you enjoying about the placement? Please add anything else you would like to tell me about what you are learning about at this stage in your placement. Can we arrange a date and time for our face/ face interview? If you like, please bring an item to the interview which you feel symbolises learning on clinical placement. You can be as imaginative as you like! Bring anything you want to. At bottom of email: Please remember that it is your right to withdraw from this study at any time with no reason required.

Jennifer Duthie
Research Student
University of Stirling

Email/Interview Plan

At a convenient time for student, after the first week, whilst the student is still on placement.	Face/face 1:1 interview	Have you read study information? Can you confirm consent? Reassurance re anonymity Tell me about the item you have brought to the interview which you feel symbolises learning on practice placement? *From Feb 2012*: How does your typical day on placement go? (after 7th interview. To glean more information about work routines/rules) Can you tell me about any problems/challenges you have encountered/are encountering on this placement? How did you go/ are you going about solving/addressing these? Can you tell me about anything you have realised that you hadn't realised before the beginning of the placement? *From June 2011*: What do you feel you need to know about in order to practice successfully on placement? (after first interview to glean more information about students' perceptions of physiotherapy knowledge) Can you tell me about something that you can do now that you couldn't do before the placement started? How have you managed that? Is there anything you feel you aren't learning about that you should be? Why? What has been the most important part of this placement for you? Why? Who or what has helped you in your path to becoming a physiotherapist the most during this placement? How?

Jennifer Duthie
Research Student
University of Stirling

		How would you describe your position in the team during this placement? Relationship with others? Tell me about a time on this placement when you have felt that you have learned something really useful on your journey to becoming a physiotherapist? (what, how, where, when, who with?) Why did it feel good? Can you describe being a student/learner on this placement? *From June 2011*: What do you want to achieve from this placement? (after first interview to pick up more about students' PSPE objectives) Please feel free to add anything you would like to say about clinical education as part of your course when you are learning to become a physiotherapist. *Please remember that you may request a copy of the transcript of this interview to check for accuracy*
From June 2011		Check that have data on goal orientations
From June 2011		What did you bring to the placement? Do you feel that the placement or the people involved learned anything from you? Added to gauge level of student agency and contribution to practice-placement work areas/learning.
		Remind can obtain a copy of the transcript on request
		Offer travelling expenses

Appendix 3: The Development of Interview Questions

The interview questions were developed based on the model illustrated below:

Eight-step model for translating activity systems (Mwanza 2002)

Step 1 – Activity: What sort of activity am I interested in?

Step 2 – Objective: Why is this activity taking place?

Step 3 – Subjects: Who is involved in carrying out this activity?

Step 4 – Tools – By what means are the subjects carrying out this activity?

Step 5 – Rules and regulations: Are there any cultural norms, rules and regulations governing the performance of this activity?

Step 6 – Division of labour: Who is responsible for what when carrying out this activity and how are the roles organised?

Step 7 – Community: What is the environment in which the activity is carried out?

Step 8 – Outcome: What is the desired outcome from this activity?

Appendix 4: Examples of beginning stages of data analysis (extracts only)

Section 1: Example of identifying main topics raised by students (extracts only)

This table, as part of a wider set of tasks (including transcript notations, mapping diagrams and listings), checks the commonality of PSPE topics raised by physiotherapy students across different types of practice placements. Although I did not set out to compare the perceptions of students on different placements, I felt this was a necessary stage of my preliminary analysis.

Topics raised	**Placement types*** Adds to 15 participants because one student responded to email questions on one placement but interview had to be delayed until they were on a subsequent placement.						
	Elderly rehabilitation (2 students)	Neurology Rehabilitation (2 students)	Learning disabilities (1 student)	Cardiac rehabilitation (1 student - email response only)	Cardiorespiratory (2 students)	Musculoskeletal outpatients (4 students. Email response only from 1 student)	Orthopaedics (3 students. Email response only from 1 student)
Learning							
What they were learning about	√	√	√	√	√	√	√
Learning sources	√	√	√	√	√	√	√
Learning practices	√	√	√	√	√	√	√
Placement(s) How they were arranged, what they offered, previous placements	√	√	√	√	√	√	√
The work Routines, ways of working, working with others.	√	√	√	√	√	√	√
Time	√	√	√	√	√	√	√
Practice educator Descriptions, behaviours, expectations	√	√	√	√	√	√	√
Student (self) Descriptions, behaviours, needs, responses, contributions	√	√	√	√	√	√	√

Section 2: Example of early detailed analyses of a main topic raised (Practice Educator) (Extracts only).

The table below is drawn from my analysis records of what students said about practice educators (identified as key PSPE players). Synthesising and arranging data in this way, as part of my preliminary analysis, prepared my data for my CHAT-oriented analysis. For example in looking for PSPE rules, norms and divisions of labour (in response to Research Question 1.)

Practice Educator (PE)		
Gives/provides or doesn't give to students	***Expects of students***	***Descriptions by students***
Tutorials	Time management	Stressed
Focus	To demonstrate knowledge	Expert
Tasks	Reading	Brilliant
Time during the day to read	Writing	Successful
Time to talk over patients	To work at Band 5 level	Trainer
Opportunities to meet objectives	Not to do anything silly	Fantastic teacher
Free reign/ go ahead	To use their treatment approach	Doesn't know everything
Feedback		Informative
Grade	***Actions/ roles***	Powerful
Opportunities to ask questions	Assesses	Horrible
Learning style questionnaire	Organises	Judgemental
Help, support	Listens	Open for critique
Induction	Motivates	Terrifying
Patients	Questions	Sensitive
Own body for practice	Selects	Patient
Approval of actions	Watches	Intimidating
Correction	Affirms	Busy
Reassurance	Knows	Approachable
Trust	Advises	Unapproachable
Prompts	Tells student off	On top of their game
Tells students	**Allows/ doesn't allow students to:**	***Doesn't***
What they like to do	Ask questions	Direct student enough
Not to ask questions in front of patients	Take bits of classes	Like student
Not to speak to OTs	Join others if they have a time gap	Get criticised enough
Not to speak to nurses	Go and practise with a patient	Agree with student's approach
What they need to know	Treat patients on their own	Give assessment forms
What they will be doing next week	Get on with it	Point out ward routine
When objectives are met	Figure it out	Look at learning agreement
What to read	Help	Clarify expectations
If going to pass or fail	Observe surgery	Let student shadow
To be more forthcoming with their knowledge	Sit with staff for lunch	Introduce student to MDT

Section 3: Examples of checking level of agreement of emerging findings across individual student data (extracts only).
This table provides examples of checking numbers of individual physiotherapy students' responses against salient/common topics/issues raised by study participants. Numbers of student responses relating to particular issues are presented in Chapter 5 (Findings) to indicate the level of student agreement on particular topics and to strengthen the findings.

Topics raised	**Individual students**													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Student interactions in placements with non-PE others (community)														
Patients	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Patients' family and friends		√					√							
Other MDT members	√	√	√		√			√	√	√				√
Peers	√	√	√						√	√	√	√	√	√
Department cleaner										√				
Valued the support of Band 5 PTs	√		√			√		√					√	
Students practising skills (learning practice)														
On normal bodies (peers, family, friends, PEs)	√	√			√		√		√		√	√	√	√
On patients						√			√	√		√	√	
Identified limitations of working with healthy bodies	√				√	√			√					
Students reading to learn for practice (learning practice)	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Expressed limitations of reading to prepare for practice	√	√			√			√		√				√
Reading directed by PEs	√	√		√	√	√	√	√		√				
Had to please PEs (Rules)	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Seeking PE approval		√					√	√	√	√			√	√
Wary of pushing a point								√		√				
Avoid conflict with PE			√		√	√		√		√			√	√
Becoming moulded			√							√				
Success relies on senior	√			√					√		√	√	√	

Appendix 5: Policy Examples

The following is a list of examples of professional and regulatory body and HEI policies, standards, values and expectations for healthcare students and staff.

Chartered Society of Physiotherapy (2012) Quality Assurance Standards for Physiotherapy Service Delivery. London: Chartered Society of Physiotherapy. Available: http://www.csp.org.uk/publications/quality-assurance-standards [Accessed 8 Jan 2017].

Department of Health (2012) NHS Constitution for England. (Department of Health 2011) Available: https://www.gov.uk/government/publications/the-nhs-constitution-for-england [Accessed 8 Jan 2017].

Health and Care Professions Council (2016) Guidance on conduct and ethics for students. London: Health & Care Professions Council. Available: http://www.hpc-uk.org/assets/documents/10002C16Guidanceonconductandethicsforstudents.pdf [Accessed 8 Jan 2017].

NHS Education for Scotland (2015) Allied Health Professions Education Strategy 2015–2020: The 2nd Edition of The Next Chapter. Edinburgh: NHS Education for Scotland. Available: http://www.nes.scot.nhs.uk/media/3155433/nesd0346_ahp_strategy_2014_6.pdf [Accessed 8 Jan 2017].

NHS England (2014) NHS England's business plan 2014/15 – 2016/17: Putting patients first. Available: https://www.england.nhs.uk/wp-content/uploads/2013/04/ppf-1314-1516.pdf [Accessed 8 Jan 2017].

Scottish Government (2013) Everyone Matters: 2020 Workforce Vision. Edinburgh: NHS Scotland. Available: http://www.gov.scot/resource/0042/00424225.pdf [Accessed 8 Jan 2017].

Scottish Government for Allied Health Professions Scotland (2013) Allied Health Professions Scotland Consensus Statement on Quality Service Values. Edinburgh: The Scottish Government. Available: http://www.gov.scot/resource/0043/00438291.pdf [Accessed 8 Jan 2017].

University of Nottingham, School of Health Sciences (2015) Raising and escalating concerns within practice learning environments. Nottingham: The University of Nottingham, School of Health Sciences. Available: https://nottingham.ac.uk/healthsciences/documents/safeguarding-escalation-policy.pdf [Accessed 8 Jan 2017].

Appendix 6: Three samples of raw data

Three samples of raw data are provided below. These are:

- Sample 1: Complete email exchange with a female study participant (February 2012);
- Sample 2: Extract of transcript of interview with a female study participant (January 2012);
- Sample 3: Extract of transcript of interview with a female study participant (February 2012).

Sample 1: (copy of an email exchange)

How are you settling in to your placement? (email question)
After 3 weeks on placement, I feel I am settling into the team well. I am getting along well with my clinical educator and the other physiotherapists in the department. I have been welcomed in and feel more comfortable now than during week one. The outpatients setting is very different to the environment I worked in for my two previous placements, so it has taken me a while to get used to the structure of each day and the time constraints associated with that. I am finding this placement a lot harder work, which means it is difficult to fully enjoy it all the time.

(Student response)

What sort of things are you finding out about at this stage in the placement? (email question)

At this stage, I am beginning to develop a good knowledge base about common conditions or problems that are seen in the outpatients department. Consequently, I am beginning to learn a great variety treatments and therapy options and how to implement them. I am also learning a lot about the admin and housekeeping duties that are part of the physio job. Things such as discharges, onwards referrals (eg to podiatry, orthopaedics etc) making appointments, and online diaries! I have also found out that my anatomy knowledge is not as good as it needs to be, so have been revising a lot of anatomy and physiology. I have been having regular tutorials with my clinical educator focussing on major joints and have covered all the peripheral joints so far and am now moving onto the spine and spinal conditions.

(Student response)

Where are you getting the information you need? (email question)

1. The department I am working in has an extensive library with textbooks, journals, guidelines, information packs and other resources that I use regularly.
2. University notes and resources gathered up until now
3. My clinical educator and the other physios are great sources of information. If there is something I am not sure of or would like guidance with I can easily approach them for assistance.
4. My clinical educator has a lot of personal resources gathered from years of CPD and courses she has attended so her own notes are very helpful
5. The internet has a wealth of information that can be very useful if taken with a pinch of salt!

(Student response)

Can you tell me about anything you have been surprised about on placement so far? (email question)

1. Patients don't seem to have a problem with me assessing and treating them. They are aware I am a student and am still learning but are happy to let me have a go. I thought that many people would refuse to consent to me treating them and would prefer a qualified physio but I have only come across 1 patient who said no so far.
2. I am surprised at how much more confidence I have in my own ability, particularly with building rapport with patients and taking a subjective examination
3. I have been surprised about the amount of tutorials I have been given and in service training sessions.
4. The department I work in promotes self management of conditions strongly, therefore we hardly ever treat people manually (eg ultrasound, massage, electrotherapy, mobilisations etc) A lot of the treatment I deliver is advice and education and exercises rather than passive treatments.

(Student response)

What are the main challenges you are encountering at this stage? (email question)

1. The amount of knowledge I need – There is so much anatomy and tests and things I need to know to aid clinical reasoning, and I am finding it difficult to remember everything I need to.
2. Objective examinations and interpreting what the findings mean to aid diagnosis and selection of treatments is difficult
3. Time management – seeing a patient and treating them and writing the notes in 45 mins is very tight.
4. I have to travel about an hour to placement and start at 8am every day so I am finding the early mornings difficult – I have to go to bed early which means

less time in the evening to revise and prepare the things I need to in order to get through the next day with minimal stress.
5. The fact I find diagnosing patients and selection of treatments hard frustrates me – I am finding it difficult to accept that I am struggling as I am a bit of a perfectionist.

(Student response)

How are you addressing these challenges? (email question)

1. revision to increase knowledge base and try to improve my clinical reasoning.
2. Practice makes perfect so the more I do it the better I will get (hopefully)
3. Problem solving sessions where my clinical educator will lead an assessment and I will work through a work sheet writing down the findings and my hypothesis based on the findings – this helps me as I can focus on figuring out what the problem is without having to worry about doing the examination myself
4. Having a fob watch on me in assessments as I can make sure that I am keeping to time – eg no longer than 15 mins for a subjective assessment
5. Trying to write my notes as I go through the assessment so Im not trying to remember everything I did once the patient has left – helps with time management
6. Asking for support and guidance when I feel I need it instead of panicking that I don't know whats wrong or what to do about it.
7. Every day I have time scheduled in with my CE to talk over the patients I have seen that day and what I did – we talk over the plan for when I next see them. Helps me work through in my head what I did right and wrong and where I need to improve. Also helps me focus on what needs to be done at the next session.

(Student response)

What are you enjoying about the placement? (email question)

1. I am enjoying the variety in conditions that I see. My previous placement was quite specialised so it nice to see lots of different things rather than the same thing every day.
2. I am enjoying the routine and the organisation of each day i.e. I know what patients im seeing and when rather than waiting around for whenever the patient is free which happens on wards.
3. I am enjoying treating real people – two years at uni learning about treating people can get boring. Its been great to get out and do it for real.
4. I am enjoying the responsibility – by placement 3 we have had some experience of treating patients so it is nice to be trusted to go and treat a patient independently.
5. The team where I am on placement are all lovely so im enjoying working with them all.

(Student response)

Sample 2: (extract from an interview)

Is there anything you are not learning about that you should be? (interviewer)

That's a good question, ehm … yeah well, I think, are we now talking specific about this placement or the degree in general? (student)

How about placement first then degree? (interviewer)

On this placement I kinda think that sometimes they are just too confined to being a physio

I kinda think it would be helpful if they understood the MDT view better than they do

Yeah, there are meetings every day but today I was talking to an OT. She was just totally surprised that a physio would come and talk her. And I just thought this is what you would expect really

Cos in order to treat a patient as holistically as possible, I need to know about what they are doing in other treatments.

I think this is like the main thing that I kinda feel is a bit limiting in this placement

Yeah, just, I was told off for talking to a nurse because we don't do that

I was like why?

It just didn't make sense to me

They are keeping themselves to themselves a wee bit too much for my taste.

I kinda think this is the sort of thing I would like to learn about - What do other disciplines do in this placement

And yeah, I don't really get much chance. Obviously they are just next door and so if I really wanted to I could just go round if I want.

But I think it should be more of a vital part of a placement getting to see other people's work as well. (student)

Were you given a reason for not talking with nurses? (interviewer)

Well they just said that basically nurses don't like physios and that's why we don't talk to them.

I just thought that was a very ridiculous reason. (student)

They don't like physios? (interviewer)

Apparently not, no, because physios don't do the washing and cleaning up and stuff

And just come in and take the patient once it's ready.

Disappear with a patient then appear half an hour later.

I kinda think that is a bit unfair, I kinda think there is a whole problem with communication with them.

I do feel like the nurses don't like me but I do also think they don't know what I am doing

And yeah, I probably don't know what I am doing either

So I think it would be good for everyone to get see the others perspective a bit better

Like talking to the OT today opened up so many ideas, ways of thinking, just cos, the way I was treating the patient, yeah I got results but I got stuck at a certain point.

And she was like oh, I got stuck at that point as well and this is what I did. I was oh yeah…This is the reason I think we should communicate

They've got different ideas and just taking as many ideas as possible, getting them together is going to get the best results"

[…] section removed to preserve anonymity of student and placement site

You just kinda realise how limited you are if you are not working together.

As I said, I was talking to the OT this afternoon, I went into my next treatment session, and yeah, it did work much better

The small things that makes things so much easier and I think for the patient it makes more sense if you have the same approach. They don't have to adjust to each therapist. (student)

Have you challenged that with your PE? (interviewer)

Well I was saying to her I think it would be good. And she was just saying, Yes, she agrees but with the timetable…

It's hard to find the time you can actually exchange ideas. The team meeting the have every day basically is a list of patients you are going through, just telling each other how they are doing. They don't share a particular treatment plan

So yeah, they know about what the other one is doing but not how they do it and how they are getting them to do whatever it is

I don't think it is….They are open to change, it's not like they don't want to, it's just the way they have got used to the way they are doing

They just haven't had the urge of looking at other professional areas." (student)

Sample 3: (extract from an interview)

Whatever you say is right, there are no right or wrong answers (interviewer)

OK. That's good because I have been getting tested all day – Why? Why? Why? I like it, it is an area I like so … (student)

Did you bring anything with you today? Because I did suggest you could have brought something. (interviewer)

You did and I thought about it yesterday and I didn't bring it but what I was going to bring was, basically I call it my folder of knowledge, basically everything that I've accumulated, notes that I've written, printouts I've got at work, I carry it in to work every day, carry it home and that's, you know, I've been ridiculed a bit with it (laughs) but it gets bigger and bigger as the weeks go on but that's, you know, I just feel that's how much I'm learning. I'm the type of person that just likes, I like things filed and documented, and I would say that's the things that kinda maybe symbolises how I've been learning and gathering information. (student)

Is that pile of stuff gathered just for this placement? (interviewer)

It's, yes, it's all out-patients, but it's, ehm, from university notes, it's stuff I've found online, notes I've written up after speaking with my seniors and just handouts I've got from work and it's all split down kinda by area of the body. (student)

And when you take it back and fore, why do you feel you need it with you every day? (interviewer)

It's a wee bit of security I suppose, I just have it in the wee office so if I need to look up something quickly, you know, cos I've filed it I know where everything is ehm...and I've always been like that throughout uni, I've always liked to type my notes up. My background's IT, I used to worked in IT so I think it's just...you know … rolled over from that. (student)

And what sort of things have you looked up so far, you know, just for an example, what sort of thing have you thought right I need to go and check that out in my notes? (interviewer)

Ehm, probably lumbar spine assessment and possible kind of how to question people on lumber spine problems..ehm about red flags and um and the other things has been drugs.

I've had to look up a lot of medication that people are on as well. Ehm...and just generally anything I've not heard of before. Something came up yesterday.. ehm neuralgia paraesthetica or something, my senior was talking about it so I went and looked that up and got a note on it, so, just anything that I don't know or need reminded of. (student)

So have you got a resource like that … what placement is this for you? (interviewer)

Placement 5. (student)

This is 5? (interviewer)

Ah ha. (student)

And have you got a resource like that from every placement? (interviewer)

Yeah. So some of the stuff from this folder has carried over from...this is my second out-patients so some of it's carried over from there so this is a kinda combined folder. (student)

And is the content similar for each placement you go to or different? (interviewer)

Ehm, different, I mean my last, my elective was amputee rehab ehm...so a lot of that was about the pathology of why people lose legs and then it was about the different types of prostheses.

It was very much lower limbed focused and it was about gate analysis and rehab, eh, they're laid out a wee bit differently but I still gather in the same way stuff I don't know, rehab, protocols I need to learn ... ehm ...

and then I had a respiratory one and a lot of that again was pathology, working, you know, understanding the lungs. A lot of it's just my notes from university plus adding in what I get in the placement." (student)