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Abstract

Background

Despite a large body of literature on teaching in general practice, the majority of this focuses on a single learner level. The Australian literature frequently refers to the concept of Vertical Integration (Dick et al., 2007), while UK policy refers to "a continuum approach", yet no formal definition of the latter exists.

Purpose

This is an exploratory study of the reality of the continuum of medical education as it occurs in the context of general practice (family medicine) in the West of Scotland. Through a better understanding of the reality, this study aimed to contextualise the rhetoric through the following research questions:

1. How does Activity Theory enable us to understand the activity of teaching in GP practices with multilevel learners?

2. What are the tensions experienced by GPs in multilevel learner practices in relation to their teaching?

3. How have these tensions shaped the activity of teaching in multilevel learner GP practices?

4. How does Activity Theory enable understanding of continuum of medical education in GP practices with multilevel learners?

Methodology

A collective case study approach was used to address the research questions and this comprised of two phases: an online questionnaire of 180 GP teachers (response rate 60%) and 17 semi-structured interviews. A combination of Activity Systems Analysis (ASA) and Thematic Analysis was used for interview analysis.

Results

Five themes were identified in the interviews:

1. <u>General practice in 2017</u> – The current context of workload pressures and recruitment problems in general practice impacted teaching at every level of the continuum of medical education. Recruitment to general practice was shown to be a bidirectional continuum problem.

2. <u>External relationships</u> - Working with at least two external organisations presented challenges for GPs. Different expectations, processes and communication channels all added to the complexity and volume of work for GP teachers in multilevel learner practices.

3. <u>The joint teaching practice</u> – Common facilitating factors for teaching across the continuum were a practice teaching culture and good organisation of teaching. The impact on GPs and their practices of the tension between teaching and service delivery was described and strategies to minimise this identified.

4. <u>GP as a Teacher</u> – The teaching, organisational and assessment tools which support teaching delivery in multilevel learner practices were highlighted. The motivators for teaching across the continuum were identified while the stress of multilevel teaching was demonstrated.

5. <u>Near peer teaching (NPT)</u> - In contrast to some areas, NPT in the practices in this study was relatively underdeveloped. The uncertainty related to this is described and the local and external barriers to further development of NPT presented.

Discussion

The use of a sociocultural approach to study the continuum of medical education enabled the importance of the current context of general practice to be appreciated and facilitated identification of key teaching-related tensions and the learning possible from these.

Through the use of ASA, this study conceptualised the current GP recruitment crisis as a bidirectional challenge spanning across the continuum of medical education. Identifying relevant tensions within the systems (e.g. the expanding practice team as both a teaching opportunity and a threat) enables innovative practice and learning to be identified.

While a structural continuum existed, the practices in this study did not fit with the Australian definition of Vertical Integration. This study suggested that this lack of a continuum approach originates in the separate organisational structures for postgraduate and undergraduate education. For meaningful widespread adoption of a continuum approach, these organisational tensions would need to be addressed.

Conclusions

This study demonstrated a gap between the rhetoric of "a continuum approach" and the reality of "a continuum", provided evidence why that might be and presents suggestions as to how that might start to be addressed more widely.

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Acknowledgement

This thesis is dedicated to Harrison and Jackson.

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Most importantly, thank you Richard.

Author's Declaration

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where states otherwise by reference or acknowledgment, the work presented is entirely my own.

Abbreviations and Terminology

ARCP – Annual review of competency progression

ASA – Activity Systems Analysis

AT – Activity Theory

CoP – Community of Practice

COPMED – Conference of Postgraduate Medical Deans

COT – Consultation Observation Tool

CSA – Clinical Skills Assessment

ES – Educational Supervisor, Tutor, Trainer

FY – Foundation Year (Doctor)

GDA – Goal Directed Action

GP – General Practitioner/General Practice

GPST – General Practice Specialty Trainee, GP Trainee, GP Registrar

GMC – General Medical Council

ILOs – Intended Learning Outcomes

Mini-CEX – Mini Clinical Evaluation Exercise

MLL – Multilevel learners, multilevel learning

MRCGP – Member of the Royal College of General Practitioners

MSF – Multisource Feedback

NHS – National Health Service

NES – NHS Education for Scotland

NICE – National Institute of Clinical Excellence

NPT – Near Peer Teaching

OOA – Object Oriented Activity

OSCE – Objective Structured Clinical Examination

QA – Quality assurance

QOF – Quality and Outcomes Framework

RCGP – Royal College of General Practitioners

SEA – Significant Event Analysis

SLL – Single-level learner

SPESC – Scottish Prospective Educational Supervisors Course

ST – Specialty Trainee (any specialty)

TA – Thematic Analysis

TPD – Training Programme Director

VI – Vertical Integration, Vertically Integrated

VLE – Virtual Learning Environment

WPBA – Work Place Based Assessment

1 Introduction and Rationale

1.1 Introduction

This is a study of the continuum of medical education in the context of general practice (family medicine) in the West of Scotland. Despite a large body of literature on teaching in general practice, the majority of this focuses on a single level within the continuum. Furthermore, the literature that does consider the continuum is predominantly from Australia and focuses mainly on shared learning or near peer teaching.

This study used the analytical lens of Activity Theory to understand the tensions related to teaching multilevel learners in a UK general practice setting. This aimed to identify where resultant learning has occurred and where opportunities for learning still exist.

In this introductory chapter, I will explain how my interest in this topic arose, outline the rationale for my approach and describe the context of this study.

1.2 Background

My interest in this subject originated from my experience working as a GP in medical education. As well as being a postgraduate trainer and an undergraduate tutor for the University of Glasgow, I have also been employed by the university to oversee medical student community placements and by NHS Education for Scotland (NES) as a coordinator of GP training. In these roles, I was surprised how separately the undergraduate and postgraduate systems appeared to function, especially given the frequent co-location of medical students and trainees on placements. This was on a background of increasing reference to the continuum of medical education in regulator documentation (GMC, 2013, 2015).

In order to explore this apparent contradiction, I conceptualised GP practices that teach medical students and train postgraduate learners as a case study of the continuum of medical education.

1.3 The Continuum of Medical Education

1.3.1 Defining the continuum of medical education

There are four stages in the path from medical student to qualified GP and Petersdorf (1994) suggested these stages resemble children's building blocks. In this representation, he argues that from a distance they may appear to be a unified tower but on closer inspection they are actually individual and fragmented components. This description aligned with my experience of the continuum of medical education, both as a learner and as an educator.

There is no formal definition of a continuum approach to medical education in the literature, rather an appreciation of the principle. Opinion pieces and editorials in medical education journals have described and promoted a more integrated and coordinated strategy for teaching and learning throughout a GP's educational life and this starts to give a picture of what a continuum approach may look like (Hannay, 1994; Hays, 2008, 2016; Jones & Oswald, 2001; Petersdorf, 1994).

Reviewing the literature, it became apparent that the Australian concept of Vertical Integration (VI) was helpful for starting to articulate what a continuum approach needs to consider. VI is defined as:

> The coordinated, purposeful, planned system of linkages and activities in the delivery of education and training throughout the continuum of the learners' stages of medical education (Glasgow & Trumble, 2003, p. 8).

In 2003, there had been a structural shift to regionalised provision of training in Australia and this report was intended to provide a framework to support delivery of this. In their definition, the continuum is understood to start from the first day of medical school, continuing through postgraduate training until the day a doctor retires. This understanding is reflected in the collective literature and current documentation (GPET, 2003; Hays, 2008; Petersdorf, 1994) (Figure 1-1).
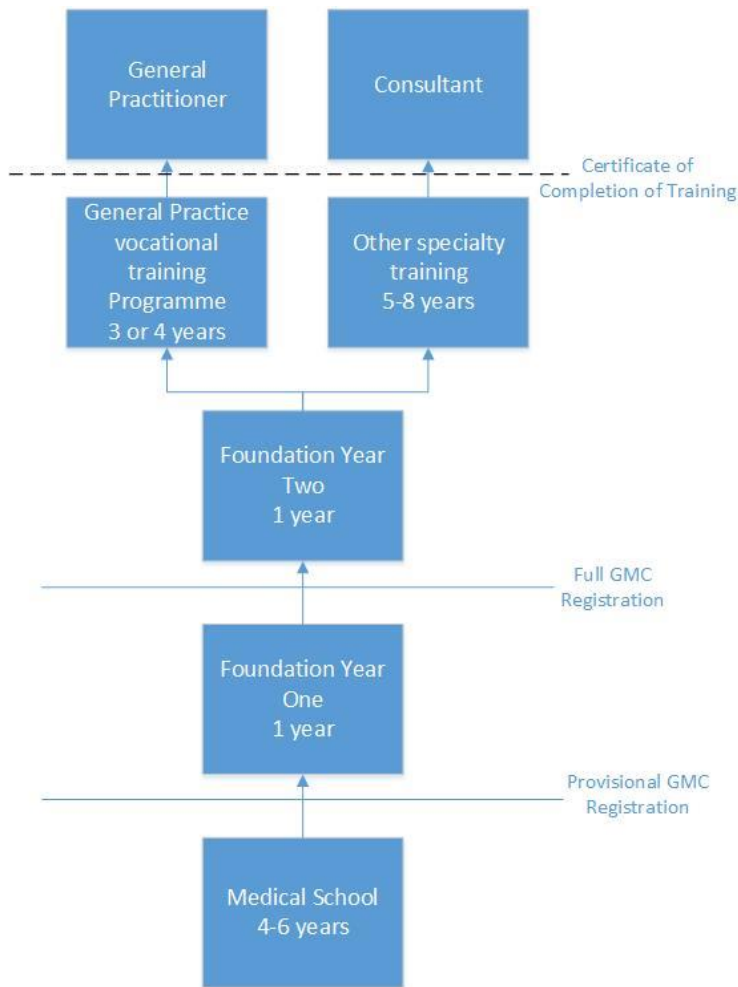
Figure 1-1 Typical stages in UK medical training (MSC, 2017)

Perhaps, the continuum should also include the admissions process as through selection, attributes of medical students are shaped. Subsequently, this might influence how prospective students and schools construct their learning. Taking this broader view into account, this thesis will consider the duration of the continuum as it arises in the data.

Glasgow and Trumble (2003) describe linkages within the structures and components of education and training. This includes, but is not restricted to, connections between curricula, teachers, training posts, training programs, funding and other resources. They propose that the learner should be at the heart of a VI system with that system responding to their needs, rather than those related to delivery. However, this is a principle of educational best practice so would not be unique to this approach (Spencer & Jordan, 1999).

Given the lack of a definition for a continuum approach and the clarity of the definition for VI, for the purpose of this thesis, the terms "continuum approach" and "vertical integration" will be used to refer to the same broad concept and each will be used as relevant to the context. As this thesis includes frequent reference to Australian literature, Table 1-1 clarifies which terms represent equivalent stages of training between the UK and Australia. Furthermore, in 2007 in the UK, the term GP Registrar was replaced by GP Specialty Trainee (GPST) so this term applies to literature pre-2007 and was used by some GPs. Throughout this thesis, the term applicable to a particular study's time and location will be used. When I am referring to the context of this doctorate, current UK terminology will apply.

Table 1-1 Training terminology - UK and Australia

UK Terminology	Australian Terminology
Medical student	Medical student
Foundation Doctor Year 1 or 2 (e.g. FY2)	Prevocational General Practice Placement Programme Trainees (PGPPP)
General Practice Specialty Trainee Year 1-4 (e.g. GPST3 or ST3) Pre 2007 - GP Registrar	GP Registrar
Continuing Professional Development (CPD)	Continuing Professional Development (CPD)
Undergraduate GP Teacher - Educational Supervisor, Tutor Postgraduate GP Teacher - Educational Supervisor, Trainer	General practitioner supervisors

1.3.2 Drivers for a continuum approach

Earlier literature referring to a continuum approach promoted adoption of a more cohesive strategy as educational best practice (Hannay, 1994; Jones & Oswald, 2001; Petersdorf, 1994). More recently, additional discourses have emerged relating to the benefits of this and a VI approach.

In Australia, the origin of VI has been reported to be the need to try and address the dual challenge of improving medical education and healthcare delivery in areas of traditionally poorly-met medical need (Rosenthal, Worley, Mugford, & Stagg, 2004). On a background of increasing numbers of medical students and postgraduates being taught in practice, it has also been promoted as a means of optimising teaching capacity within practices (Dick et al., 2007; Kleinitz,

Campbell, & Walters, 2014; Rosenthal et al., 2004). Most recently, a further narrative relating to potential benefits for recruitment has emerged and this will be discussed within the current context (0).

A further important suggestion is that VI, in particular near peer teaching, may ease the transition between levels for learners as barriers between phases are decreased (Ten Cate & Durning, 2007b). With transition points in medical careers identified as times of high stress and increased risk (Fenwick, 2013; Kilminster, Zukas, Quinton, & Roberts, 2011; Lockyer et al., 2011), this is an important claim.

1.4 Learning as Participation and Acquisition

Two metaphors for learning dominate current discourses: learning as acquisition and learning as participation and Sfard (1998) cautions against choosing one of these. Therefore, while my choice of a sociocultural learning theory as an analytical lens suggests that the metaphor of participation aligns most with this study, I also appreciate the cognitive learning that must be "acquired" by learners in this context and will reflect this dual stance throughout this thesis.

1.5 Analytical Framework

Bordage (2009) emphasises that the choice of analytical framework will inevitably clarify the nature of the problem being studied and shape study question and design. My choice of Activity Systems Analysis (Yamagata-Lynch, 2010) in conjunction with Thematic Analysis (Braun & Clarke, 2006) recognises my belief that an individual is inseparable from their social context and enables me to focus on the tensions experienced by GPs in their daily work. In understanding these tensions and their responses to these, it is hoped this study will inform future developments across the continuum of medical education in UK general practice.

1.6 Research Questions

Reflecting on existing literature and my personal experience, it became clear that there was a need for a better understanding of how GPs in multilevel learner (MLL) practices negotiate the activity of teaching. This is particularly

timely given the current drive to increase teaching and training in general practice. As a result, I present four research questions:

5. How does Activity Theory enable us to understand the activity of teaching in GP practices with multilevel learners?

6. What are the tensions experienced by GPs in multilevel learner practices in relation to their teaching?

7. How have these tensions shaped the activity of teaching in multilevel learner GP practices?

8. How does Activity Theory enable understanding of continuum of medical education in GP practices with multilevel learners?

1.7 Summary

This chapter presented my interest in practices that teach MLL before considering what is understood by both the continuum of medical education and a continuum approach. I discussed my definition of learning before presenting my choice of Activity Theory as an analytical framework for this thesis. Finally, I posed the four research questions this thesis intends to address.

1.8 Structure of this Thesis

This chapter has outlined the background and the rationale from which the research questions have arisen and clarified key terminology which will apply throughout this thesis. Chapter 2 describes the context of teaching in general practice - both historical and current. Chapter 3 reviews relevant literature on the continuum of medical education in general practice, particularly that related to the concept of Vertical Integration. Chapter 4 explores Activity Theory as the conceptual and analytical framework for this study, specifically describing Activity Systems Analysis and its key concepts. Chapter 5 situates this work in an interpretivist paradigm, before outlining the use of a collective case study to answer the research questions posed. A detailed description of the analytical process is provided and the influence of my insider status considered. Chapter 6 describes relevant characteristics of the interview and overall study

populations. Chapter 7 presents the findings from the interview analysis, using the combination of Thematic Analysis and Activity Systems Analysis to provide a rich description of the complexity of teaching in MLL practices. Chapter 8 discusses the findings from this study, demonstrating how they answer the research questions posed and considers the implications of these findings for policy and practice.

2 Context of Teaching in General Practice

Introduction

Activity Theory appreciates how historical and current context shape the enactment of activities (see Chapter 4). Therefore, this chapter explores the historical context of teaching and training in UK general practice, before discussing the context of general practice in Scotland in 2017. Finally, the structure and organisation of teaching and training across the different learner levels is presented.

2.1   Historical context

It is important to reflect on the historical influences which have shaped organisational structures and contributed to the apparent fragmentation of undergraduate teaching and postgraduate training that exists today. Hannay (1994) suggested the current split between many undergraduate university departments and postgraduate GP training organisations has its foundations in the original funding mechanisms and legislation. Vocational training for GP trainees was set up under the health budget in the 1950s and 60s and in 1981, formal vocational training became a requirement for any doctor seeking to become a principal in general practice (RCGP, 2017a). Independent of this, small local university departments were set up, with less consistent funding mechanisms, separate processes and often additional responsibility for clinical care.

In the 1980s, in response to updated regulator recommendations, there was an increased recognition of the important contribution from general practice to medical school curricula (Association of University Teachers of General Practice, 1984; Fraser, 1991). While in 1983, under the Medical Act, postgraduate GP trainers were formally required to be recognised by the professional regulator in the form of the GMC (GMC, 2017a).

By the 1990s, teaching medical students within general practice was embedded in UK medical schools. One third of all UK practices were involved in teaching medical students, with an average of 9% of the undergraduate medical

curriculum being delivered by GPs (N. Mathers, Carter, & Marshall, 2003; Society of Academic Primary Care, 200AD). This coincided with the publication of the first version of Tomorrow's Doctors in 1993 by the General Medical Council (GMC) which aimed to define and standardise the requirements of a graduating doctor (Lewington, 2012).

From a postgraduate point of view, in a desire to enhance accreditation processes, Summative Assessment was introduced to postgraduate GP training in 1996 (Carnall, 1996). At that time, GP trainees could also choose to sit the examination for membership of the RCGP but this was not compulsory.

The RCGP published its first curriculum for General Practice in 2006 which only applied to postgraduate trainees. Following publication of the new curriculum in 2006, the RCGP revised the MRCGP examination, introducing an electronic portfolio of learning as a key part of their assessment for the first time. At the same time, passing this exam became a necessary requirement for successful completion of training. There is still no nationally agreed undergraduate curriculum for General Practice.

From a regulatory point of view, several significant changes have occurred. Firstly, in 2010, the GMC assumed statutory responsibility of all stages of training, previously only being responsible for undergraduate training. This aimed to foster a more integrated approach, while enabling appropriate focus on the differences between stages. To support this, in 2014, the GMC began conducting joint undergraduate and postgraduate quality assurance (QA) visits. This has been mirrored in changes to local hospital QA visit processes, overseen by NHS Education for Scotland (NES), but is not the case for GP placements. Most recently, unified standards for teaching and training were produced (GMC, 2015). This coincided with the introduction in 2016 of their new '*Recognition of Trainers'* process for both postgraduate and undergraduate teachers, reflecting the increased professionalisation of medical education (Morris, 2011).

2.2 Current context of general practice

In the context of Scottish general practice in 2017, current issues of workload pressures and recruitment difficulties are important, as well as the desire to expand teaching in GP.

2.2.1 GP Workload

In their 2016 report, The Kings Fund acknowledged that the volume of work being undertaken by GPs has increased, alongside an increase in the complexity and intensity of that work. Amongst a range of factors, an ageing population, with more complex health needs (NICE, 2017), has led to *'a feeling of crisis'* (Baird, Charles, Honeyman, Maguire, & Das, 2016, p. 8). Although it is difficult to quantify the exact impact this has had on practice workload, it is estimated that there has been at least a 10% increase in activity over the past ten years. The current workload was felt to be unsustainable by over half of GPs in one recent survey (BMA, 2014).

2.2.2 GP Workforce

Simultaneously, the GP workforce in Scotland is declining, having decreased by 2% from 2013 to 2015 (ISD, 2016). In 2015, 22% of practices reported a vacancy compared with 9% just two years earlier. Practices are struggling to fill vacancies, with 13% of those practices reporting their vacancy had existed for over six months. Alongside this, there are increased difficulties recruiting locums to cover short or long-term gaps. In 2015, only 26% of practices could get full locum cover required for planned events (e.g. annual leave) while only 8% could manage to find cover for unplanned events (ISD, 2016).

Rurality is identified as being a particular challenge to recruitment and the general situation is exacerbated by workforce trends at both ends of a GP's career. Whilst there are significant numbers of training posts left unfilled in Scotland, with only 78% of posts filled after two rounds of recruitment in 2016 (Millett, 2016), there is also an increasing number of GPs retiring early (CFWI & CWI, 2014).

The move to more GPs working part-time is important, with a recent report suggesting only 10% of GP trainees intended to work full-time once qualified (Baird et al., 2016). Recent Scottish figures showed 58% of GPs working part-time (ISD, 2016). Previous work has attributed the increase in part-time working to the increased feminisation of the GP workforce (McKinstry, Colthart, Elliott, & Hunter, 2006). However, more recently, generational differences and time required for other practice activities (e.g. commissioning in England) are also suggested to contribute (Gulland, 2017).

2.2.3 A will to increase teaching and training in General Practice

In a drive to ensure an adequate medical and GP workforce for the future, a number of recent changes could influence the already strained capacity in general practice.

In 2016 in England, the government announced plans to expand medical school intake by 1500 students per year from 2019 (Department of Health, 2017; Rimmer, 2017) . While in Scotland, a new graduate entry medical school will be established in 2018 with an intake of 50 students per year and there will be an additional 100 new medical school places Scotland-wide from 2019. From a postgraduate point of view, Scotland increased its number of GP training places by 100 in 2016 but nearly a third of overall posts went unfilled (Millett, 2016).

There has been a recent push for an increase in the percentage of the medical school curriculum devoted to GP placements as a means to promote recruitment (Harding, Rosenthal, Al-Seaidy, Gray, & McKinley, 2015; MSC & HEE, 2012; Nicholson, Hastings, & McKinley, 2016). Nicholson et al (2016) suggest authentic placements should include students observing GPs consulting as well as having opportunities to consult with patients themselves under appropriate supervision. In the most recent estimation, general practice now delivers an average of 13% of clinical teaching. Although an improvement on 9% in the 90s, this figure has remained static, if not declined, in recent years (Harding et al., 2015).

2.2.4 The Changing Practice Team

A significant change in recent years has been the continued expansion of the practice team. Development of new roles and expansion of existing ones are seen as key to the sustainability of the health service (RCGP Scotland, 2015). Formal training for these extended roles requires support from local clinical mentors and GPs are often mentors for their practice-based staff undertaking this (GCU, 2016; NHS Scotland, 2012; University of Glasgow, 2017). The time required to support staff in their development for these role potentially takes away time available for medical teaching. Furthermore, an expanding practice team can put accommodation in practices under pressure, which can inhibit expansion of teaching capacity.

2.3 The organisation and structure of teaching and training

2.3.1 GP Specialty Training

GP trainees in Scotland undertake three to four years of specialty training on successful completion of foundation training. GP training comprises a combination of approved GP and hospital placements, which vary based on the training programme. At least 18 months is spent in GP, usually 6 months in the first year and all of the last year of training, with trainees retaining the same Educational Supervisor (ES) and practice throughout. GP trainees on their first placement are referred to as GPST1 and those in their final year as GPST3.

In the UK, the GMC sets the standards and requirements for postgraduate training. In Scotland, NHS Education for Scotland (NES) is a special health board which, among other responsibilities, manages education and training of doctors (COPMED, 2016). A single Scotland-wide deanery oversees quality assurance and management of all GP training within Scotland through regional offices who oversee local delivery of teaching.

Trainers belong to a local trainers group with each group having an appointed Training Programme Director (TPD). The TPD manages their particular programme and is a direct link between the trainers, their practices and the

deanery. This ensures trainers are kept up-to-date with requirements and any trainee issues are identified, and hopefully addressed, at an early stage. In addition to this, the deanery regularly e mails trainers and organises a compulsory annual trainer update meeting.

Quality assurance (QA) of GPs and their training practices has evolved over recent years (NES, 2017). In Scotland, all approved trainers are required to complete the educational supervisors' course (SPESC). This 4-day course requires candidates to complete tasks such as online learning modules and peer review activities. The course encourages candidates to reflect on and develop their own teaching skills in preparedness for their role as a GP trainer. Successful candidates are added to the GMC list of approved GP trainers.

Training practices complete a formal application and undergo an accreditation visit for approval. Successful practices are granted approval for up to 3 years at a time. Depending on supporting evidence, they may be "virtually approved" after 3 years or they may receive a re-accreditation visit. This newer risk-based visiting strategy for reapproval aligns with the GMC Quality Assurance Framework (GMC, 2017b) and the GMC who ensure that the deaneries are meeting the required QA standards.

As trainees progress through training, their performance is formally reviewed at least once a year at Annual Review of Competence Progression (ARCP) panels. This process does not preclude addressing issues out with these meetings but is the formal review process for the majority of GPSTs. To successfully complete training, and receive a Certificate of Completion of Training (CCT), trainees need to meet the requirements of the RCGP curriculum. This assessment comprises a tripos: the Applied Knowledge Test (AKT), the Clinical Skills Assessment (CSA) and Work Place Based Assessment (WPBA). An electronic portfolio (e portfolio) is used to collect key evidence of a trainee's satisfactory completion of all requirements by the completion of training and the RCGP have described it as *'the glue which holds the curriculum, learning and assessment together'* (RCGP, 2017c).

2.3.2 Foundation training

A similar structure exists for foundation training to that for GP Trainees. Therefore, foundation training will be considered as part of the postgraduate continuum in this thesis. NES manages and quality assures foundation training and this is done via a Scotland-wide foundation school. The majority of foundation practices and supervisors train GP trainees. Foundation doctors placed in practices will typically be FY2 level (Foundation Year 2) and the aim is generic professional training to bridge the gap between medical school and the start of further training. The standards for foundation training are covered under the unified GMC document *'Promoting Excellence'* while the foundation programme has its own curriculum (UKFPO, Academy of Medical Royal Colleges Foundation Programme Committee, & UKFPO, 2016).

2.3.3 Undergraduates

Within Scotland, there are currently five medical schools placing medical students on GP placements, each with its own processes for managing relationships with GPs and their practices. Due to their geographical location, some practices take students from more than one medical school and, as a result, work with each school's different systems.

Locally, there is an annual conference updating GP tutors on recent developments and providing workshops relevant to their self-identified learning needs. Those unable to attend can access recordings and briefing notes from relevant sessions via a Virtual Learning Environment (VLE). Communication between GPs and the department is via telephone or email. If a concern arises during a placement, either about the student, or the placement, the relevant GP teaching lead will address this. If their concern is about the student, if required, the teaching lead then discusses the student with the relevant Year Director or student welfare as indicated by the nature of the concern.

In contrast to the postgraduate system for QA, the undergraduate system is relatively "light touch". Locally, potential educational supervisors complete an application process and undergo a telephone interview. This enables the potential supervisor and the department to gauge their suitability to undertake a

teaching role and to discuss the requirements of the GPs and their practices. Following this, successful applicants attend new tutor training, including generic and year-specific training. Once students are attending their practice, they complete feedback on their educational supervisor and their practice at the end of each placement. Students can also raise any concerns during their placement as they arise. If this happens, then the year lead would address these concerns with the supervisor directly, either by phone or in writing. If indicated, a practice visit would take place. There is not a routine process of practice visiting or re-accreditation. Only those who are lead coordinators at the medical school are require to undergo the GMC Recognition and Approval of Trainers processes e.g. GP year teaching leads.

2.3.4 Overlap

Nationally, it is estimated that 15% of GP practices teach both undergraduates and postgraduates (Rees, Gay, & McKinley, 2016). In 2011, an informal mapping exercise conducted in Glasgow revealed that 25% of practices that train postgraduates also teach undergraduates. This exercise did not consider if these practices also train foundation trainees or any other learners. As part of this thesis, this data has been updated.

2.4 Summary

This chapter began by presenting the historical context of teaching and training in UK general practice. This highlighted the foundations of the separation seen today in the organisation of teaching for undergraduates and postgraduates. The context of general practice in Scotland in 2017 was discussed, specifically in relation to workload pressures and changes to the workforce which can impact on teaching. The current drive to increase teaching in general practice was noted before the structure and organisation of teaching and training across the different learner levels was described.

3 Literature review

3.1 Introduction

This chapter presents the relevant literature on the continuum of medical education in general practice. To begin, I will foreground this literature by describing several general limitations of the continuum literature. Following this, the concept of the continuum in medical education will be considered at each hierarchical level i.e. educational organisation, practice and individual teacher level. Finally, the particular tools of near peer teaching and shared learning are discussed. Throughout I will present gaps in the current literature as they arise, before finally proposing where my study is located in addressing these.

3.2 Search strategy

Literature was consulted at the outset and during iterative data analysis. The initial search suggested the concept of "vertical integration" was a useful starting point to define a continuum approach (1.3.1). Details of the preliminary search related to a continuum approach are outlined in Table 3-1. The output from this search can be seen in APPENDIX I.

Table 3-1 Search strategy for initial literature review

Search Strategy		
Databases		Ovid
		ERIC
		Medline
Search Terms		general practice', 'primary care' or 'family medicine'
		AND
		teaching' or ''medical education'
		AND
		continuum' or 'vertical integration'
Inclusion criteria		English language
		peer reviewed
		1993 onwards (post Tomorrow's Doctors publication date)
		full text available
		original search

3.2.1 The literature on Vertical Integration (VI)

One of the challenges of researching VI is that this term is used to describe a range of teaching tools and aspects of education management, tailored to an individual practice context (GPET, 2011) (see 1.3.1). While this makes researching this approach more challenging, and the generalisability of findings uncertain, Regehr (2010) argues that medical education should be prioritising *'generation of rich understandings of complex environments' (p31)* over a desire for generalisable simplicity. Perhaps as a result of this challenge, a significant proportion of the literature on VI is either purely descriptive or based at a local level. Although this in itself does not diminish its value, it needs to be acknowledged when taken in the context of the rhetoric promoting the national adoption of a continuum approach and the limitations of its broader application must be appreciated. As illustrated (APPENDIX I), there is a relative paucity of literature on VI, which has limited synthesis of what has been found. Furthermore, the majority of the literature is from Australia and while there is much in common between their system and the UK's, there are significant differences e.g. remuneration in general practice. Where these differences affect the potential applicability of the literature, this will be highlighted.

The majority of the literature found on teaching in general practice related to a single stage within the medical education continuum. For example, many papers emphasising the importance of a vertically-integrated spiral curriculum representing the spiral being complete on graduation rather than continuing into postgraduate training and clinical practice (Brynhildsen, Dahle, Fallsberg, Rundquist, & Hammar, 2002; Gordon et al., 2000). While this study is focusing on the continuum, it may be unwise to dismiss this body of literature entirely. Therefore, where appropriate, unilevel literature will be included but the potential relevance to the continuum will be discussed. This compartmentalisation into levels may be for pragmatic reasons but is just one example of where the organisational structure, rather than the learners' needs, may shape the activity of teaching.

3.3 Conceptual and theoretical perspectives

Acknowledging the complexity of multilevel teaching in general practice is crucial to starting to understand a continuum approach (Glasgow & Trumble, 2003). Lingard et al (2012) emphasised the need for research to reflect the complexity of activities in order to be impactful and relevant. In this study, complexity occurs as learners from different backgrounds, with different learning needs, enter and leave the educational and clinical systems at different points. For example, an International Medical Graduate starting GP training in August could be experiencing UK general practice for the first time. In contrast, a UK graduate foundation trainee will have completed undergraduate placements in general practice so will likely have differing educational needs.

As a result of this complexity, Glasgow and Trumble (2003) highlight the need for flexibility and learner-centredness within a vertically-integrated system. While it has been acknowledged that an increase in the numbers of trainees at the same level can require flexibility (Buchanan & Lane, 2008), this need is compounded by the added complexity of learners at different levels. (Morrison, Brown, Bryant, & Nestel, 2014; O'Regan, Culhane, Dunne, Griffin, McGrath, et al., 2013; Thomson, Anderson, Haesler, Barnard, & Glasgow, 2014).

Whilst the VI literature contains several studies presenting perceptions of barriers and facilitators to VI, what it lacks is evidence-based conceptual frameworks to facilitate deeper understanding of the concept of VI and to inform innovation and development of this approach. Dick et al (2007) developed a conceptual model based on the principle of symbiosis (Bligh, Prideaux, & Parsell, 2001; Prideaux, Worley, & Bligh, 2007). In this model, the aim is to represent the bidirectional nature of learning and the linkages present in a vertically-integrated system, as well as highlighting the potential to alleviate pressures on the teaching workforce.

Width of arrows reflects the teaching load between individuals
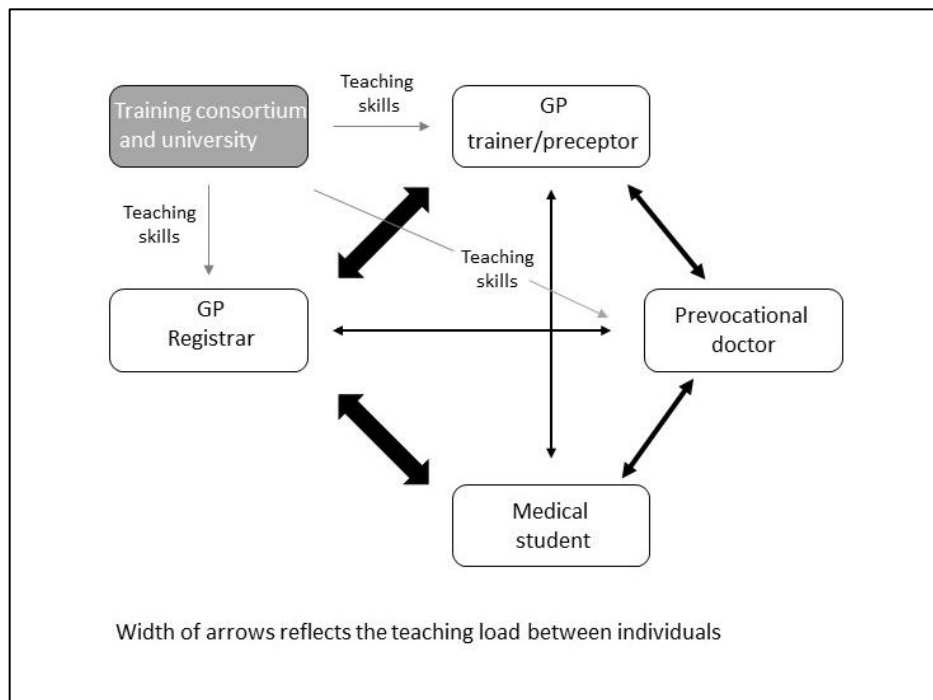
Figure 3-1 The VITAL (Vertical Integration in Teaching and Learning) model (Dick et al., 2007)

However, the VITAL model (Dick et al., 2007) is a relatively simplistic representation, which does not include other members of the practice team and fails to provide a deeper understanding of the complexity involved (see Figure 3-1). The authors acknowledge that integration means much more than simply the co-location of different levels of learners and this diagram does appreciate that but it would not provide educators with a meaningful way to approach the challenge of vertical integration.

3.4 External Relationships

A key relationship for practices is that with their host institutions or training bodies. For practices dealing with more than one external agency, a number of interface issues have been identified. Quality assurance, curriculum and management of placements are areas where a more integrated approach on the part of the external organisations could decrease teaching burden.

3.4.1 Organisation and Communication across the organisational interface

The level of organisation at the different institutions that practices engage with can impact significantly on the latter. Adequate notice of placements facilitates

coordinating learners of different levels (Cotton et al., 2009) and more inter-agency collaboration is acknowledged as potentially helping to promote expansion of teaching and training (Cotton et al., 2009; Harding, Leeder, Eynon, & Karen, 2011; O'Regan, Culhane, Dunne, Griffin, McGrath, et al., 2013; Thomson et al., 2014).

3.4.2 Quality Assurance of Teaching

As discussed in 2.1, the historical divide of the postgraduate and undergraduate organisations had resulted in different Quality Assurance (QA) processes with the resultant burden of different paperwork being seen as a challenge for practices (Cotton et al., 2009).

Cotton et al (2009) conducted an exercise to generate a nationally-agreed set of quality indicators which could be adapted for placements at all levels in general practice. This arose from a recognition of the impact of duplication between systems and a desire for a more co-ordinated approach to QA across the organisational boundaries. Following a conference workshop, initial criteria were reviewed via a two-round online Delphi questionnaire. Before finalising the list of criteria, stakeholder feedback on this was sought through the use of focus groups and interviews with patients, GP tutors, undergraduate teaching administrators and medical students. This thorough and collaborative process aimed to generate the criteria and also to facilitate links between the external organisations and the practices themselves. The list generated is comprehensive and the authors reported a concern that its complexity may actually serve as a barrier to teaching. Potentially, both this factor and the continued organisational separation have led to the current non-adoption of these criteria by the relevant teaching organisations.

Harding et al (2011) reflected on a pilot attempting to create a more coordinated QA process. They describe lessons from three pilot joint undergraduate and postgraduate visits in the South West of England and their reflections were informed by feedback from practices, reflective diaries and audio recordings of meetings. Previously, practices underwent separate accreditation processes for each level of learner and the main driver for this work was to make more efficient use of practice resources. It was hoped this

would support practices to remain actively involved in teaching, as evidence suggested that as teaching load increases, there is a risk that motivation to teach may fall, if there is not the resource to back up the increased demands (Harding, 2006).

Positive and negative aspects of the joint visit process were identified. Practices felt this was a more efficient process and the GPs appreciated the time and opportunity to reflect on their teaching with their colleagues teaching learners at other stages in the continuum. The possibility of the resultant development of new initiatives was recognised. However, postgraduate trainers felt they had insufficient time to discuss their particular issues and the logistics of arranging the visits were more challenging. Possibly, postgraduate trainers' concerns result from a comparison with their experience of the previous separate processes and that this may become less of an issue as change beds in.

Harding et al (2011) described a small pilot of joint visits in one region of England and, at the time, it was one of the first descriptions of joint visits. Since then, both the GMC and the Scotland Deanery have adopted joint visit processes, though there is no published research on these to include in this review (GMC, 2017d; Scotland Deanery, 2016).

3.4.3 Curricular issues in UG and PG GP

Multiple conceptualisations and theories of curriculum have been described and it is important to consider how these might apply in the context of this study. The dominant discourse in UK medical curricula is one of curriculum as a statement of product (M. K. Smith, 1996) and this reflects a belief that the curriculum should be directed towards a purpose with measurable outcomes. In contrast, a "curriculum as process" perspective suggests:

> The curriculum is the 'interaction of teachers, students and knowledge…[It] is what actually happens in the classroom and what people do to prepare and evaluate. (M. K. Smith, 1996)

This viewpoint emphasises the importance of a learner-centred approach (Bordage & Harris, 2011) and is likely to align more with the position of educators in practice.

Currently, there is not a vertically-integrated undergraduate and postgraduate curriculum for GP. A key reason for this is that the intended learning outcomes are different. Medical students and foundation trainees in practice receive generic training to enable them to develop as competent doctors suitable for any specialty, whereas GP trainees are specifically training to be GPs. The specialty training curriculum is published by the Royal College of General Practitioners (RCGP, 2012) and a separate generic foundation curriculum is produced by the Academy of Medical Royal Colleges (UKFPO et al., 2016). Currently, there is no national undergraduate GP curriculum. Glasgow and Trumble (2003) suggest that educators should identify curriculum overlap between levels of learners. However, this could duplicate effort on the trainers' behalf and, in the UK, curriculum content is provided at an institutional level so this may be better considered nationally.

Nevertheless, it has been suggested that there are more similarities than differences between postgraduate and undergraduate curricula, in terms of context, content and delivery (Jones & Oswald, 2001). The authors highlight the common skills to be acquired, such as communication skills, problem solving skills and the ability to retrieve the required information to manage patients. Furthermore, they suggest that general practice is also often best placed to teach learners about key principles such as generalism, managing uncertainty and patient-centred care. While this paper does identify some important common ground, the work of general practice has changed significantly since its publication (e.g. changing roles in the practice team). If joint curriculum content was to be considered it would be need to reflect recent updates to postgraduate curricula, changing clinical practice and the different level of competence required at each level.

Calls for a national undergraduate GP curriculum continue and although there is broad agreement on the principles general practice teaching should promote, there is variation between individual medical schools' curricula in how this should be achieved. As a result, there is not currently a consensus on whether there should be a unified curriculum at all, never mind what the content of one should look like (personal communication, UK GP Heads of Teaching Group). For

tutors in MLL practices, these curriculum issues could provide opportunity for curricular freedom but could also create confusion and uncertainty for teachers.

3.4.4 Recruitment to GP

The main driver for the most recent call for an undergraduate GP curriculum is as a means to help address the lack of recruitment to General Practice (2.2.3) (D. P. Gray, 2017). In the joint 2016 MSC and HEE report '*By choice, not chance*', the influence of the formal, informal and hidden curricula were all considered key to addressing the current GP recruitment crisis (MSC & HEE, 2012).

Gray (2017) has proposed content for a GP undergraduate curriculum which, while recognising some of the key values of general practice, fails to appreciate some of the key features of general practice in 2017. The changing role of the GP, the expanding practice team and changing attitudes to the partnership model are a few of the key areas which have developed in recent years. Recent publications suggest that further development in these areas will be critical to the survival of general practice going forward but these seem to have been inadequately addressed in the recently proposed undergraduate curriculum (Baird et al., 2016; NHS England, 2016; RCGP Scotland, 2015).

Curriculum content and proportion of the curriculum dedicated to general practice are different. Three recent papers have considered these separate components of the curriculum. Nicholson et al (2016) conducted focus groups with medical students to explore their experiences of their undergraduate curriculum and how these might influence their subsequent career choices. Students reported that positive and authentic GP placement experiences (e.g. conducting student led surgeries) could attract students to general practice in a way that less authentic experiences (e.g. communication skills teaching by a GP in the medical school) are unlikely to do. A limitation of this study was that it only gauged the opinion of fifty-eight self-selecting medical students, albeit across five medical schools. Perhaps surprisingly, although there is significant variation between these medical schools on the number of students entering general practice, a difference in responses between schools' participants was not apparent. This could suggest that their sample was not sufficiently

representative of the wider population or it could be a result of the complexity of career decision-making within medicine.

Alberti et al (2017) quantified the amount of authentic GP experience in each UK medical school curriculum and compared that figure with the percentage of FY2s choosing to enter GP training. While an association between the quantity of clinical teaching in general practice and the choice of a career in general practice was demonstrated, causation cannot be assumed. It may be that students with an early interest in a career in GP are attracted to particular medical schools because of features of their curriculum. However, at a time when recruitment to general practice is critical, reviewing the proportion of the medical school curriculum in GP may be a starting point to address the recruitment problem.

In November 2017, the report '*Destination GP*' (RCGP & MSC, 2017) considered a range of factors influencing student perceptions of GP. Four fifths of students reported that GPs on placements were the group most likely to influence their perceptions. The authors recognise that GPs and other learners are potential role models on placements. While GP supervisors, responsible for delivery of the formal curriculum, can also influence both the informal and hidden curricula experienced by students. Therefore, it is important for GPs in practice to appreciate their potential influence on recruitment to the GP continuum.

The final aspect of curriculum to consider relates to the learner-teacher in the form of near peer teaching (NPT). NPT is defined as '*teaching of junior students by students one or more years senior*' (Ten Cate & Durning, 2007a, p. 592) and is a clearly stated curriculum requirement for both GPSTs and FYs (RCGP 2015; UKFPO et al. 2016). Although it is not specified who they should be teaching, practices with MLL are at an advantage when it comes to addressing this curriculum need as they have ready-made learners who are usually enthusiastic to learn from their near peer role models (Thomson et al., 2014). NPT will be further explored in 3.7.

3.5 The Practice and Multilevel Learners

Teaching and training can impact on practices in a number of ways. Integration of learners' activities and resources may facilitate economies of scale as well as enhancing the educational experience (Dick et al., 2007). The impact on the practice of MLL will be considered, as well as the importance of practice culture, the practice team and the organisation of teaching at a practice level.

3.5.1 Teaching v Service – practice level

Teaching and training has been suggested to have a positive impact on the quality of clinical care provided by practices. Several studies have considered a range of indicators as proxies for quality of care and compared those for teaching and/or training practices with those for non-teaching and/or training practices (Ashworth, Schofield, Durbaba, & Ahluwalia, 2014; R. W. Gray, Carter, Hull, Sheldon, & Ball, 2001; Rees et al., 2016). Gray et al (2001) examined smear uptake, immunisation and prescribing rates. Ashworth et al (2014) reviewed patient satisfaction scores and Rees et al (2016) compared scores for the Quality and Outcomes Framework (QOF). The challenge with measuring quality of care is that researchers are limited to indicators that can be measured and in these large-scale studies they were limited to routinely-collected data. Another limitation is that these studies neither prove cause and effect nor seek to understand why these two respective factors appear to be associated.

This positive correlation between teaching and quality of care appears in the literature on vertical integration (Ahern, van de Mortel, Silberberg, Barling, & Pit, 2013; Morrison et al., 2014; O'Regan, Culhane, Dunne, Griffin, McGrath, et al., 2013; Silberberg, Ahern, & van de Mortel, 2013). What is not clear is what VI adds to the assumed benefit already gained from being a teaching practice for a single level of learner. Possibly, being a MLL practice promotes a greater level of organisation than being a single level one and there may be the benefit from having a range of learner perspectives and experience. However, there is no evidence on whether there is a different impact on patient care or practice organisation compared with teaching one level of learner.

There is some debate about the impact of vertical integration on capacity within the practice. While some papers reports that VI models can increase capacity (Morrison et al., 2014; O'Regan, Culhane, Dunne, Griffin, McGrath, et al., 2013), Ahern et al (2013) contradict this. These conflicting views may reflect a couple of key issues. Firstly, although teaching may provide extra capacity in the form of trainee appointments, these may not necessarily fully replace those lost by the GP Supervisor to tutorials, assessment and supervision. This potential deficit was reflected in Ashworth at al's (2014) paper comparing performance on patient satisfaction questionnaires between training and non-training practices. While being a training practice was a positive indicator for patient satisfaction and all aspects of the doctor's care, access to appointments was the only area in which being a training practice was a negative indicator. Secondly, different practices will structure their teaching in different ways, with potentially different resultant impacts on capacity. This doctoral study will examine the different ways local GP educational supervisors and their practices manage the activity of teaching and how they balance this with delivery of clinical service.

3.5.2 Financial perspective

There is financial reimbursement to practices to enable them to potentially backfill the loss of clinical service. The rates for this vary nationally and are currently under negotiation. One of the reported drivers for VI can be financial efficiency through more effective use of teaching resource within the practice (Ahern et al., 2013; Dick et al., 2007; Laurence, Black, Cheah, & Karnon, 2011; van de Mortel, Silberberg, Ahern, & Pit, 2014) and Laurence et al (2011) costed four different models identified by Australian supervisors who were experienced in VI.

1. <u>Concurrent teaching of learners at the same level</u> For example, having two registrars rather than two learners at different levels. A proportion of their learning would be joint sessions which would bring economies of scale. Although not a VI model, this option was included as an opportunity for practices looking to expand their teaching commitment.

2. <u>Vertical integration with a registrar and a student where the registrar is actively involved in the teaching of the student.</u> This model releases the

supervisor from some of their teaching responsibility but ultimately they maintain oversight of the registrar's teaching and may decide to debrief the learner-teacher on their teaching.

3. <u>Vertical integration across three levels</u> – As this paper is Australian, they describe teaching a registrar, an intern and a medical student. The UK equivalent would be teaching a ST, a FY2 and a student.

4. <u>'GP teacher' model where one GP takes responsibility for all teaching and supervision, with a reduced clinical load to facilitate that</u>. Laurence et al (2011) propose that this role may appeal to two main groups – either an experienced GP who wishes to cut back their clinical commitment or a more newly-qualified GP who is looking for a portfolio educational career.

Different models of VI will appeal to different practices with a range of factors influencing the best choice for them. For example, in a further Australian study, the comparative costs of teaching in urban and rural settings were calculated and it was suggested that teaching rurally was less lucrative for GPs (Laurence, Coombs, Bell, & Black, 2014). Therefore, the most financially beneficial option may be the most attractive in this context. Of course, quantity does not necessarily equate to quality and, as Laurence et al (2011) have pointed out, this type of modelling does not factor in the possible different educational outcomes of these models or the broader impact on the practice and its team of the different models.

These financial modelling exercises were based on Australian payment structures so the results are not directly translatable to a UK context. An equivalent UK financial modelling exercise could be useful for practices looking to expand their teaching to multilevel learners. Currently, national costing exercises are underway to inform the development of a new tariff for GP teaching. The outcome of this is important as, given the current pressures on GPs' time, finances may be a factor in deciding priorities for individuals and their practices.

3.5.3 The practice team

There is a small body of evidence considering the impact of teaching on the wider practice team. Quince et al (2007) conducted focus groups and interviews with members of five practice teams in England, speaking with non-teaching GPs, practice managers, administrative staff and Allied Health Professionals (AHPs). Whilst they were generally supportive of teaching, a couple of important issues were flagged. Administrative staff reported that their jobs had become more stressful and complex as a result of teaching. For example, reception staff may be left dealing with teaching related issues such as having to explain a relative lack of appointments with a teaching GP. Administrative staff also reported they were usually informed about, rather than consulted on, changes to practice activities, despite these affecting them.

Although the study by Quince et al (2007) was small, it aligns with findings in a later VI study (Morrison et al., 2014) which reported concerns that with increased numbers of learners there will be an increased administrative workload and with a high learner turnover there can potentially be a negative impact on staff morale. The fact that learners tend to rotate asynchronously adds to the complexity in VI practices as this can generate further additional workload e.g. each learner may require separate induction activities tailored to their individual level.

Complementing this work, Smith et al (2009), conducted a focus group study focusing on the role of the practice nurse in teaching in Scotland. They explored educational supervisors', practice nurses' and medical students' perceptions of the role of the practice nurse in medical student teaching. The authors found that nurse teaching was often ad hoc, unplanned and without provision of protected time for teaching. Further to this, some nurses reported being unclear what level to expect of students. Their study highlighted that a more formalised approach to practice nurse contribution to teaching may optimise the experience for students. When considered in the content of VI, this may be even more important, if there are a variety of learners at different stages in the practice each attending the nurse for occasional teaching sessions.

These small exploratory studies suggest that further consideration needs to be given to the contribution from all practice staff to teaching. This thesis endeavours to offer a richer understanding of the contribution to teaching of all practice members through the use of Activity Theory, allowing the community, the division of labour and the tools of teaching to be considered.

3.5.4 Organisation

An organised practice is recognised as key in facilitating effective VI. More learners requires more coordination and various methods for actively integrating their learning will be described under The Tools of Teaching (3.6.3).

Preparation and planning of formal learning is one facilitator consistently identified in the collective VI literature. For example, it is reported to be preferable for both the trainee and the learner to actively plan NPT activities (Dick et al., 2007; Silberberg et al., 2013). With more learners, the importance of preparation and planning by both learners and teachers for all formal shared teaching sessions has also been highlighted – aiming to address the challenge of meeting different learners' needs in the same teaching session (van de Mortel, Silberberg, & Ahern, 2013). To facilitate the planning of teaching, some practices have a dedicated teaching coordinator to take some of the administrative pressure off the GP (Thomson et al., 2014).

Glasgow and Trumble (2003) refer to the physical perspective of VI, which refers to physical resources and location. This could involve sharing of a patient or member of staff's time or the sharing of accommodation or IT equipment (Cotton et al., 2009; Laurence et al., 2011; Pearson & Lucas, 2011; Thomson et al., 2014). While availability of adequate physical resources is highlighted recurrently as a key to a successful VI model, a lack of space can inhibit desired expansion of VI teaching (Dodd, Vickery, van Osch, & Emery, 2009; Kleinitz et al., 2014; Morrison et al., 2014; van de Mortel et al., 2013). In the UK, the issue of practice accommodation is becoming increasingly problematic as new services and team members compete with teaching for available space.

In the context of this thesis, physical location could encompass the location of a single practice (e.g. deprived urban or rural location) or the distributed nature

of a practice (e.g. branch surgeries). GPs from a range of locations have been studied and practice demographics are outlined in Chapter 6.

3.5.5 Practice culture

For successful engagement in VI, Glasgow and Trumble (2003) highlighted the need for practices to have a collective enthusiasm and openness to VI, located within in an organised system. Although the GP is the lead for teaching and training, VI is a whole practice commitment. Consequently, cultural and organisational themes emerge consistently in the Australian and UK literature, in studies with both learner and teacher participants (Ahern et al., 2013; Cotton et al., 2009; Dick et al., 2007; Kirby, Rushforth, Nagel, & Pearson, 2014; Laurence et al., 2011; Morrison et al., 2014; O'Regan, Culhane, Dunne, Griffin, Meagher, et al., 2013; Thomson et al., 2014; van de Mortel et al., 2013).

Being a training practice impacts on and needs input from the whole practice team (Cotton et al., 2009; Pearson & Lucas, 2011; Thomson et al., 2014) and has been suggested to reflect a broader commitment by those practices to general practice and the medical profession as a whole (Glasgow & Trumble, 2003). Trainees and students value the welcoming environment and recognise a culture of learning within practices (Ahern et al., 2013; Morrison et al., 2014; Pearson & Lucas, 2011; Thomson et al., 2014) . They value a sense of community where teaching involves the whole clinical team (Ahern et al., 2013; Harding et al., 2011; Morrison et al., 2014; Silberberg et al., 2013). A culture of learning is also felt to facilitate a positive learning environment (Cotton et al., 2009; Harding et al., 2011; Pearson & Lucas, 2011; Thomson et al., 2014).

3.5.6 Motivators for Vertical Integration of Teaching

Much of the literature reporting motivators to expand VI teaching overlaps with that describing motivators for GPs to teach in general (Ahern et al., 2013; Morrison et al., 2014; Park et al., 2015; Silberberg et al., 2013). The additional reported motivators include increased clinical capacity within the practice, as well as the additional financial benefit (Ahern et al., 2013; Morrison et al., 2014). Furthermore, learners and practice staff in one study appreciated the sense of community that arose from having multilevel learners in the practice

(Morrison et al., 2014). This is balanced against the potential increase in stress and workload which is also reported (Ahern et al., 2013; Morrison et al., 2014).

3.6 Educational Supervisor – Teacher perspective

3.6.1 Division of Labour

The Australian literature appears to suggest that the best model is one where one teacher operates across all the different levels of learner (Laurence et al., 2011). In the UK, this same arrangement can exist but it is also common for different GPs in the practice to lead on different parts of the collective teaching program. This model can help share the teaching workload but might also contribute to the fragmentation within our system. To explore this, practices where one GP leads on all teaching, as well as practices where teaching is distributed between GPs within the team were represented in this thesis (see 5.4). Regardless of the model employed, there is a lack of evidence on the impact of integrated teaching roles on both the quality and quantity of education delivered.

3.6.2 Leadership of Teaching and Additional Skills Required

Effective leadership from the GP is key to providing high quality teaching, and management of VI teaching requires further skills than those required for teaching SLL (Thomson et al., 2014). GPs will have different requirements and expectations for each of their supervisory roles, both from external institutions but also from the learners themselves (Cotton et al., 2009; Harding et al., 2011). A greater level of organisation is then required to negotiate these different learning needs across a range of teaching activities (Ahern et al., 2013; O'Regan, Culhane, Dunne, Griffin, Meagher, et al., 2013).

Van de Mortel et al (2013) reports that GPs need to have oversight of all teaching activities in the practice. Although they may delegate a teaching task, they retain responsibility for the coordination of teaching. The use of shared learning activities, such as small group teaching, requires GPs to possess group facilitation skills and may require them to manage group dynamics and hierarchies within that setting (Ahern et al., 2013). Furthermore, arranging

multilevel teaching sessions to avoid timetable clashes, and hence exclusion of individuals, can be challenging. Shared learning will be further discussed in 3.8.

In the only published study giving the views of the educational bodies, this need for additional skills is recognised. In 2011, Stocks et al (2011) interviewed all seventeen Australian Regional Training Providers (RTPs) regarding VI in their programmes. At that time, just under a third of areas had actively developed VI, while another third were in the early stages of promoting this. Only three of the RTPs had actively collaborated with their local university to coordinate activities across the continuum. An important finding was their recognition of the need to develop a formalised programme to support GPs and practices to manage VI. This aligns with learners' and supervisors' perceptions that additional skills and organisation are required. Given that this study was published six years ago, it would be helpful to know to know how VI had progressed since then and if it had not, why this has not happened.

3.6.3 The Tools of Teaching

A number of different teaching methods are utilised by GPs teaching in practice (see Table 3-2). With the choice of Activity Theory as a conceptual framework for this thesis, these will be referred to as tools which can be used to enable the activity of teaching (see 4.3). In this section, these tools are described, as well as the possible implications of utilising these in a VI teaching context. With the exception of shared learning and near peer teaching, a limitation of the majority of the research on these teaching methods is that it is mainly descriptive rather than analytical which therefore limits assessment of its educational value (Bordage & Harris, 2011).

Table 3-2 Teaching methods described in VI literature

Teaching methods described in literature on vertical integration
Shared learning (see 3.8)
Teaching on the run
GP Grand Rounds
Remote supervision
Wave teaching
Parallel consulting
Online training
Sitting in'
Near peer teaching (see 3.7)

3.6.3.1 Teaching on the Run

Teaching on the run describes the weaving of teaching through and between clinical encounters (Catchpole, Albert, Lake, & Brown, 2005). Multi-tasking in this way would be more complex and potentially more stressful when more than one learner is involved. A challenge would be maintaining high quality clinical care while addressing learners' educational needs.

3.6.3.2 GP Grand Rounds

GP grand rounds, based on a hospital model, are promoted as a way to take teaching one step back from direct clinical care through presentation of clinical cases (Anderson & Thomson, 2009). An initiative in Australia where a teaching practice hosts monthly meetings for local teaching practices in partnership with a GP academic is described but not evaluated. Given recent debates on the educational value of grand rounds (Sandal, Iannuzzi, & Knohl, 2013), it would be prudent to evaluate this further before widespread adoption is encouraged

3.6.3.3 Remote supervision

Remote supervision is used in Australia to provide distance education to GP registrars providing care to remote and rural communities in Australia (RVTS, 2016). These trainees choose to work in a remote and rural context and possibly are different to standard GP trainees. Therefore, they may be more suitable for remote supervision (Wearne, 2005). In the UK, as GPSTs progress through training, their level of supervision is tailored to their level of competence and they may work without onsite supervision. However, they would be expected to have access to immediate advice and a supervisor would be expected to be able to attend if required. Given the geographical differences between the UK and Australia, trainees in Australia may not have access to the same face-to-face support that would be expected in the UK. Therefore, Australian trainers could support multiple disparate learners simultaneously.

3.6.3.4 Wave and Parallel Consulting

Wave or parallel consulting methods involve structuring learners' and their supervisors' consulting to facilitate learning and feedback. The terms wave

consulting, parallel consulting and preceptor consulting are used interchangeably in the literature (Lake & Vickery, 2006; Tran et al., 2012; Walters, Worley, Prideaux, & Lange, 2008). These all refer to techniques which are different to traditional "sitting in" or "co-consulting" and for the purpose of this thesis these will all be referred to as parallel consulting.

In parallel consulting, the GP and the learner are booked to consult individually but would meet at planned regular intervals so that the learner could present each new patient to their supervisor (Lake & Vickery, 2006). More experienced learners will usually only seek advice when needed and will convene with their supervisor at the end of a surgery for a debrief. Several Australian studies have looked at the impact of parallel consulting on the consultation and they have shown it does not negatively affect patients' perceptions of the quality of the consultation or consultation length (Tran et al., 2012; Walters, Prideaux, Worley, Greenhill, & Rolfe, 2009; Walters et al., 2008). Walters et al (2009) found parallel consulting altered the relative time supervisors allocate to each of the tasks of the consultation. When parallel consulting, GPs spent more time on history taking and verifying the learner's diagnostic process, and less time on examination, management and consultation administration. The above studies were conducted with supervisors supervising a single learner so similar work could be undertaken for GPs supervising multiple learners consulting simultaneously.

3.6.3.5 'Sitting in'

In "sitting in", where the learner is present in the consulting room at all times, a learner's role may vary from being an observer to a more active participant in the consultation e.g. undertaking history taking or examination under direct supervision or responding to questions on likely diagnoses and suitable management plans (Price, Spencer, & Walker, 2008). There are no descriptions in the literature of MLL "sitting in" concomitantly and it is unlikely that this would be recommended because of practical and patient considerations.

3.6.3.6 Online training

Increasingly, online training is promoted to help increase teaching capacity. While it is often seen as a quick fix for capacity issues, it has also been demonstrated to be a useful adjunct to enhance the learning gained from placements (Grace & O 'Neil 2014). Tools such as podcasting, e-portfolios, e-assessment, blogs, wikis and online case scenarios are becoming more common in health professions education and can be used to engage with multiple learners, both co-located and more dispersed. The challenge is ensuring that online learning complements, rather than replaces, experiential learning and, as new tools are designed, they must be evaluated for educational impact (Zehry, Halder, & Theodosiou, 2011).

3.7 Near peer teaching (NPT) in General Practice

NPT is an educational arrangement where a learner teaches another learner at least one year junior to them in the same curriculum (Ten Cate & Durning, 2007a). In a VI model, this can occur across many levels, though the majority of the VI literature is focused on the GP registrar as the teacher.

3.7.1 Benefits of NPT

NPT is thought to enhance the learning experience for all learners in a practice in a number of ways (Ten Cate & Durning, 2007b). There is evidence that learning outcomes from peer teaching can be equivalent to those obtained through traditional teaching, though this was recognised to be in selected contexts, rather than generally (Yu, Singh, Lemanu, Hawken, & Hill, 2011). Furthermore, the importance of role modelling cannot be underestimated (O'Regan, Culhane, Dunne, Griffin, Meagher, et al., 2013; Passi & Johnson, 2016). Studies suggest that those who learn from positive role models and a wider range of teachers are better prepared for postgraduate training (Ahern et al., 2013; Silberberg et al., 2013). Wearne (2003) also proposes that observing role models can help develop critical thinking skills while Ahern et al (2013) suggests that learners can receive helpful advice from those upstream in the learning process. These postulated benefits link with a Communities of Practice model where learners develop their own identities as future doctors and GPs through interacting with role models who help them develop the appropriate

behaviours and attitudes for their future professional role (Lave & Wenger, 1991). Additionally, these benefits align with Dornan et al's (2007) work suggesting that the learning process can be enhanced by being part of a learning community as opposed to simply receiving instruction from a teacher.

Ten Cate and Durning (2007a) suggest NPT can improve learning through increased social and cognitive congruence between the learner and the learner-teacher. Likewise, in one Australian study, registrars reported feeling more "in tune" with what the medical students needed to know and the medical students reported feeling more comfortable asking questions from a near peer (Silberberg et al., 2013). Furthermore, the authors suggest that NPT brings a different, and sometimes more current, perspective to learning.

The benefits from NPT have been described to also exist for the learner-teachers. They review and develop their knowledge of subjects in preparation for teaching to enable explanation of key concepts to others (Morrison et al., 2014; Silberberg et al., 2013). Additionally, Kirby et al (2014) reported teaching gives trainees opportunities to develop transferable skills in social interactions and team working, as well as organisational and leadership skills. Supervisors in another Australian study felt trainees involved in teaching may become more aware of both the satisfaction and the challenges of teaching and suggest this may broaden their learning experience while improving their learning plans and building their self-esteem (Silberberg et al., 2013).

3.7.2 GP Registrar/ST as Teacher

The next section will explore both the practical as well as the attitudinal issues related to GP Registrar teaching.

3.7.2.1 Prevalence of GPST teaching

As medical student and FY2 GP placements have increased in recent years, more consideration has been given to the role of GPSTs as teachers. There is no national data on the involvement of UK GPSTs in teaching. However, two regional surveys have been conducted.

A survey in one English deanery found that 62% of trainees were involved in teaching (Halestrap & Leeder, 2011). This was usually teaching medical students and 87% reported this accounting for 1-5 hours per month. Unfortunately, the response rate was low at 32% (78/241) so the authors have concluded that, even if only those actually teaching responded, this would equate to roughly one in five trainees being involved in teaching. This figure is similar to the national figure for overlap between undergraduate and postgraduate practices (Rees et al., 2016) so it would be helpful to know if that is also the local figure for overlap between the two. Of those who had been involved with teaching, 80% reported that they organised teaching themselves rather than being formally organised by the practice (Halestrap & Leeder, 2011). This would suggest less of a continuum approach to education in those practices and rather that this teaching is a fortunate by-product of co-location and GPST initiative. If this were the case, it contrasts with Thomson et al's (2014) Australian study which suggested that it was the practice that influenced the registrar's involvement in teaching or not and further work highlighting attitudes to teaching may reflect why this apparent variation exists.

Building on this picture from a UK perspective, a survey conducted in Yorkshire and Humber considered the contrasting views of GP trainees and trainers to the involvement of GP trainees in teaching and had better response rates (66% overall) (Kirby et al., 2014). Although 55% of trainees thought that they were involved in practice-based teaching, only 33% of trainers said that their trainees were involved. The authors had wondered if this might be due to different understanding of the term 'teaching' but it could also reflect that informal teaching organised by the trainee themselves is more frequent than trainers appreciate. Regardless of the figure used, available studies suggest that rates of teaching by GPSTs in general practice is far lower than typical levels reported in hospital settings (Bindal, Wall, & Goodyear, 2009; Hill, Yu, Barrow, & Hattie, 2009; Rushforth et al., 2010). Teaching appears ubiquitous in hospital and, in contrast to hospitals, where teaching seems to decrease with seniority, the opposite seems to happen in a GP context.

3.7.2.2 Acceptability of GPST teaching – trainers' perspectives

Several studies have looked at the acceptability of teaching by GP trainees from the range of perspectives across the continuum (Halestrap & Leeder, 2011; Kirby et al., 2014; Silberberg et al., 2013; Stocks et al., 2011). GP trainees are at least as comfortable, and often more comfortable, with all aspects of their potential role as educators than their supervisors. Both groups are more comfortable with them supervising medical students as opposed to FY2s (Kirby et al., 2014).

Across the studies, a number of concerns and barriers were noted by trainers, some specific, others more generalised. Some trainers felt that not all trainees were willing or able to teach (Dick et al., 2007; Dodd et al., 2009; Kirby et al., 2014). The particular issue of competence was highlighted as a potential barrier by 78% of trainers in Kirby et al's (2014) UK study which recorded the views of over two hundred trainers from one deanery (RR 74%). Similarly, an Australian study found that 62% of GP trainers surveyed thought that GP Registrars could not teach (Dodd et al., 2009). Some trainers worry about the risk associated with GP trainees teaching and highlight the importance of assessing the capabilities of individual trainees prior to allocating them to teaching roles (Silberberg et al., 2013).

The perceived risk from teaching applies to the learners and the patients they are seeing and a variety of strategies are described to attempt to minimise this risk. For example, some trainers limit registrar involvement to didactic teaching sessions and facilitation roles, trying to eliminate the potential impact on patient safety and to protect the learners themselves. Possibly, this tactic was reflected in Kirby et al's (2014) study where trainees describe the medical students being '*locked away'(p99)* from them, depriving them of the opportunity to explore teaching. In this same study, trainers felt trainees might struggle giving negative feedback. They worried this could result in psychological distress to the trainee and a failure to meet ILOs for a teaching session. Therefore, they felt trainees could not undertake components of Work Place Based Assessment (WPBA).

Alternatively, some trainers felt that teaching skills can only be acquired and improved through experience. This aligns with the concept of an apprenticeship

model which has long been seen as a hallmark of GP training (RCGP, 2006) and is reflected in the current RCGP curriculum statement which recognises that GP trainees '*may have particular insights that are not shared by other groups when teaching, mentoring and supervising more junior colleagues*' (RCGP, 2015).

3.7.2.3 Acceptability of GPST teaching – perspectives of trainees and medical students

While nearly two thirds of trainers in one UK study had concerns with GPSTs teaching, only a third of trainees felt that personal capability could be a potential barrier (n=129/233, RR = 55%) (Kirby et al., 2014). Additionally, a willingness and confidence to teach is recognised as important (Laurence et al., 2011; Silberberg et al., 2013). One Australian study reports that interns (FY2 equivalent) can feel more anxious when a medical student is observing them (Morrison et al., 2014) but there is no work exploring this reluctance. In the same study, trainees report their own learning benefiting from having a junior observing their consulting as it challenges their practice and motivates them to reflect on their own practice.

One exploratory Australian study interviewed nine medical students and found that students were in favour of registrar teaching, recognising it as different, but equally valued (Thomson et al., 2014). They thought it met their needs in terms of content and level of complexity and that the registrars had a more methodical teaching style than their supervisors. This difference may reflect an actual or perceived need by the learner-teacher to "stick to the script" due to their relative lack of teaching experience or possibly, they have better teaching skills. However, students commented that the trainees were not as good as their trainers at targeting their teaching to their specific learning needs and that there was less flexibility and variety within their teaching. In addition to more teaching experience, Glasgow and Trumble (2003) comment that supervisors will have greater clinical experience to shape their teaching.

In comparison to the studies of GP and trainees opinions on acceptability of GP registrar teaching, there are no equivalent studies exploring the acceptability to students of GP trainees or foundation doctors teaching, but only an appreciation of the concept as highlighted above.

3.7.2.4 Training GP Trainees for Teaching Roles

Trainees need to develop an awareness of their strengths and weaknesses to develop as effective teachers and they need feedback from their supervisors to shape that development (Rushforth et al., 2010). With the high level of informal and self–organised teaching reported, trainees might be missing opportunities to get feedback and support for some of their teaching activities. Trainers describe a range of strategies to help develop a trainee's confidence and competence in teaching.

In one regional study, trainers reported finding it beneficial to highlight to trainees the similarities between the roles of a doctor and a teacher and the benefits to their clinical practice of developing their teaching skills (Silberberg et al., 2013). In this study, trainees and trainers describe a more teacher-centred approach, starting with short but regular opportunities to teach and allowing learner-teachers to teach about their own areas of interest, experience or need. Likewise, Dodd et al (2009) described presentations on particular topics or of clinical case studies as "lower threat" whereas other areas such as teaching of consultation skills and clinical procedures may be more contentious. In their small study they found just over half of GP trainers felt that trainees could teach consultation skills whereas 81% of trainees felt this would be a suitable area for them to teach. Similarly, just under half of GPs felt trainees should teach practical procedures while 71.4% of trainees felt this was acceptable. The authors did not report which practical procedures this referred to.

As well as mentoring in the practice, it has been widely recommended that formal teacher training for trainees is available (Dodd et al., 2009; Halestrap & Leeder, 2011; Silberberg et al., 2013; Stocks et al., 2011). The possibility of a formal teaching accreditation for trainees has also been mooted (Laurence et al., 2011; Silberberg et al., 2013). Although the authors in the Dodd et al (2009) paper recommend teacher training, only 39.9% of trainers in their study reported a lack of training as a barrier to GP Registrar teaching and possibly this is another example of the broad interpretation of the term "teaching". For example, they may not feel a trainee having the medical student "sitting in" for

one afternoon requires training but they might feel differently if trainees had a regular teaching slot.

There are no national studies reporting prevalence of teacher training for GPSTs. A study conducted in one English deanery found that although 62% of their trainees were involved in teaching at that time, 59% of them had not received any formal training for that role (Halestrap & Leeder, 2011). Of those who had received training, most had actually received that training at medical school rather than in their postgraduate training. There was no correlation between having had training or stage of training and involvement with teaching. 92% of respondents reported a desire for further training but there was a low response rate (32%). Potentially, there could be bias as those who responded might be more likely to be involved in or interested in teaching.

The authors also reported the areas in which trainees felt they needed further training (Table 3-3).

Table 3-3 Trainees self-identified areas for further training - adapted from Halestrap et al (2011)

Trainees' self-identified areas for training
Planning teaching sessions (75%)
One-to-one teaching skills (~65%)
Giving feedback (~45-50%)
Educational theory (~45%)
Presentation skills (~40%)

However, the categories were chosen by the researcher which limits response options and may lead respondents to report previously unknown learning needs. This identification of unknown learning needs can be represented by the unconscious incompetence component of the Johari window (Luft, 1969) so trainers may need to help trainees to identify their needs in this regard. For example, under half of the registrars in Halestrap et al's (2011) study felt educational theory was important while Kirby et al (2014) suggest that developing as a clinical teacher requires clinical competence, knowledge of educational theory and teaching experience. Building on models already suggested, Hays (2008) proposed taking this further and creating posts for dedicated GP registrar teaching fellows. Similar models already exist in hospital settings (Furmedge et al., 2013) and Hays suggests a model with 50% clinical load and 50% teaching.

3.7.3 Considerations for NPT in General Practice

A couple of broader considerations are relevant to NPT. Firstly, the potential impact of learner demographics and secondly, the impact on the trainee of balancing teaching with other commitments.

A gap in the literature is consideration of possible impact of relative age on the learners' interactions. With increasing numbers of medical students being graduate entry or "mature" students there could potentially impact on the power dynamic between the learner and learner-teacher. An Australian report suggested that although registrars and students are at different points on their learning continuum, they often view each other as learner peers but no evidence to justify this comment was provided (GPET, 2011).

Gender is also potentially relevant in the context of VI. It is known that there is a difference in the case mix seen by male and female trainers and trainees e.g. female GPs are more likely to see presentations of women's health cases (De Jong, Visser, Mohrs, & Wieringa-de Waard, 2011; De Jong, Visser, & Wieringa-de Waard, 2011). Silberberg (2013) suggests NPT may help address learner clinical experience gaps created by the gender of the supervisor or the learner.

This relationship between the learning of another and one's own is pivotal. The challenge is meeting the learning needs of the trainee while they try to facilitate learning in their juniors. GP specialty training is time bound and undertaking additional activities takes time away which could be spent on meeting their own requirements for completion of training (Kirby et al., 2014). Furthermore, all training posts have a constant tension between meeting the trainees' learning needs and the need to deliver high quality clinical care to patients. Trainees clearly feel this tension as it was highlighted as the most important barrier in the UK study by Kirby et al (2014) and is reflected in results from the National Trainee Survey conducted annually (GMC, 2017c). Trainers were less concerned about teaching taking away service and more concerned about trainees' capability to teach (Kirby et al., 2014).

A specific difference in Australia as opposed to the UK is the impact on income of trainee involvement in teaching (Dodd et al., 2009; Laurence et al., 2011;

Silberberg et al., 2013; Stocks et al., 2011). Different systems for payment for services and funding for teaching are a barrier to registrar teaching for 47.3% of trainers in Dodd et al's (2009) Australian study where there is a hybrid health service (The Commonwealth Fund, 2017). Therefore, if trainees are not seeing patients due to teaching or if their consultation rate slows because they are teaching then their personal income can be impacted (AMA, 2017; Dick et al., 2007; GPRA, 2017). In response to this, Dick et al (2007) proposed a system of payment for GP trainees to teach as the current system in Australia enables practices to benefit from the income earned from having students or junior doctors in practice but is not set up to pass that income onto trainees.

In contrast, in the UK, the NHS is free at the point of care and practice income does not directly correlate to the number of patient encounters. A further advantage of the UK system is that theoretically a practice could have their trainee teaching their medical student while being paid for teaching both. As one of the drivers of VI is financial benefit, if the NHS was to change this system, it could make VI teaching less attractive.

3.7.3.1 Near peer teaching to facilitate recruitment

Another claimed positive outcome from trainees teaching medical students is the meaningful promotion of GP as a career (Dick et al., 2007). More specifically, one study suggested NPT helps with succession planning at a practice level (Silberberg et al., 2013) and a further report of Australian case studies suggested that both formal and informal encounters between learners could be influential (Glasgow & Trumble, 2003). This potential for promoting GP as a career choice is timely as recruitment to GP is at an all-time low (UKFPO, 2016). Currently, GP is the first choice for 19% of foundation trainees, which falls far short of the government target of 50% (Department of Health, 2015; Lambert & Goldacre, 2011).

Potentially, involving trainees in teaching builds the GP teaching workforce of the future (Halestrap & Leeder, 2011; Silberberg et al., 2013). Introducing teaching during training gives trainees opportunities to explore teaching in a supported environment and in two UK studies 82% of trainees indicated an interest in teaching as part of their future career (Halestrap & Leeder, 2011;

Lloyd & Leese, 2006). An omission from the current literature is whether there is any correlation between teaching as a trainee and then becoming an educator in the future.

From a recent English study, we know that 46.5% of English practices report involvement in teaching activities at any level (Rees et al., 2016) with 15.4% teaching both undergraduates and postgraduates. This offers ready-made teaching opportunities for some trainees but not all. It is important to train the future GP workforce to teach, especially when a large percentage are interested in doing so, we need to consider models for teaching involvement extending beyond trainees' base practices.

3.8 Learner level - Shared learning

The concept of vertical integration is broader than NPT and a key aspect of this is the concept of shared learning. This recognises that bidirectional learning can occur with there being an expectation of equal partnership in learning with benefits expected across the continuum (Ahern et al., 2013; Morrison et al., 2014; Silberberg et al., 2013; Van De Mortel, Trigger, Ahern, & Bird, 2013).

3.8.1 Benefits of shared learning

Van de Mortel et al (2013) describe bidirectional benefits to shared learning. GPs and senior learners recognise having learnt from their juniors' knowledge and experiences, specifically helping them to keep current by bringing back new learning from their time in secondary care. Interns and registrars in another Australian study described medical students bringing a more theoretical type of knowledge to teaching sessions so, although medical students or junior doctors may not see themselves as teachers, those more senior to them may (Morrison et al., 2014).

In a further Australian study interviewing teachers and all levels of learners, group learning helped learners see problems from a different angle while potentially other learners' questions may help identify unknown learning gaps (Ahern et al., 2013). Building on this, the authors suggest being in a functional group creates a safe environment where questioning, discussion and debate can

challenge and build on understanding of a subject area, while hearing difficult topics explained to others may also facilitate learning. Group sessions may also take pressure off individual learners and allow benchmarking against peers and near peers, enabling learners to build self-confidence (Ahern et al., 2013). The opportunity to work with learners "upstream", seeing where you are aiming for with your own learning, was appreciated by learners in a further study (Thomson et al., 2014).

Shared learning can also facilitate the creation of a stimulating and supportive network for learners, giving them meaningful experiences of collegiality and team working in a clinical setting (O'Regan, Culhane, Dunne, Griffin, Meagher, et al., 2013; van de Mortel et al., 2014). In contrast to a hospital setting, where students and trainees are often placed in groups of their peers, in GP, learners are often the only learner at their level so shared learning can help build a supportive learning community for them to engage with. Creation of a learning community can promote informal learning outwith the formal teaching sessions and reduce feelings of isolation. These benefits align with both a Community of Practice (Lave & Wenger, 1991) and apprenticeship model as mentioned earlier (Thomson et al., 2014). Finally, the benefit of learners sharing their experiences with each other and their teachers has been highlighted, particularly the opportunity to debrief and share difficult situations (Ahern et al., 2013; Morrison et al., 2014). This can help deal with immediate issues but also builds self-confidence.

3.8.2 Challenges of Shared Learning

Shared learning is not without risk and challenges and a skilled supervisor can be key to helping manage group dynamics and issues. Van de Mortel et al (2013) emphasised the supervisor's role in establishing group etiquette. This helps to create trust within the group and can help manage different personalities and defuse power dynamics if required (Thomson et al., 2014). In their Australian study with both supervisors and learners, Ahern et al (2013) heard that if small group sessions are not well-managed, junior learners may feel they are imposing on their senior colleagues which may result in a negative learning experience.

The greatest challenge for a supervisor in a VI teaching session is likely meeting the varying learning needs of everyone in this less personalised teaching format (Morrison et al., 2014). Supervisors need to have oversight of the different curricula requirements while trying to factor in individuals' learning needs. A concern reported by learners is that in trying to address everyone's needs, a session ends up addressing no one's (Ahern et al., 2013).

Planning teaching sessions is key to the success of shared learning with preparatory tasks attempting to reduce knowledge gaps and possibly leading to better learning outcomes (van de Mortel et al., 2013). In this study, some supervisors and learners reported following up group sessions with one-on-one sessions to review learning needs not met at the group sessions. This was particularly useful for junior learners but obviously requires further educator time when one of the hopes for shared learning sessions is that they take some time pressure away from the supervisor.

There are situations where a group setting is not appropriate to address an individual's learning needs and this highlights the importance of a skilled supervisor to identify these situations (Ahern et al., 2013). An example would be when observation or remediation is required e.g. there is a specific deficit that needs addressed which will require personalised feedback or immediate attention.

3.9 Role of the patient

It is important to consider the role of the patient in a MLL environment. Patients are central to all clinical teaching and should know their contribution is valued. It is known from the general literature that, overall, patients feel they benefit from their involvement with teaching in a GP setting (J. Mathers, Parry, Lewis, & Greenfield, 2004). Evidence for the impact on measurable quality of patient care was presented in 3.5.1. GPs in one VI study reported concerns about potential teaching fatigue for patients but there is no literature directly exploring patients' perceptions of attending MLL practices.

3.10 Summary

Overall, there is an enthusiasm for a continuum approach to education in GP. The majority of the current evidence comes from Australia with a smaller number of studies from the UK. Although common barriers and facilitators are identified across the studies, there is a lack of evaluation of the effectiveness if VI models. It is difficult to know how transferable these findings may be due to the local nature of the majority of available studies.

Significantly, most studies conducted have not considered theoretical perspectives and what is often missing is a clear understanding of the practicalities of VI and its impact on learners, practices and patients. Using the framework of AT, this thesis aims to develop a richer understanding of the activity of teaching in MLL practices in the UK system to identify local and systemic facilitators and barriers to inform future developments.

4 Conceptual and Analytical Framework: Activity Theory and Activity Systems Analysis

Activity Theory (AT), as a conceptual framework for this study, provides a lens through which to study the continuum of medical education (Bordage, 2009). I will present my path to AT and position AT as a sociocultural and sociomaterial learning theory. I will then chronicle the history of AT and Activity Systems Analysis (ASA) and present key principles underpinning these, as they apply to this thesis. In this chapter, the analytical framework is discussed to show how it relates to the conceptual framework with further analytical method outlined in Chapter 5.

4.1 The path to Activity Theory

Prior to choosing AT, alternatives were explored. Initially, I was struck by the concept of Wicked Problems (WP). While enabling complexity to be appreciated, the ten properties described felt applicable to the context of this study (Rittel & Webber, 1973). However, recent interpretations of this theory appeared incompatible with the original conceptualisation leading to inconsistencies in usage across the literature. Furthermore, I felt the problematisation of teaching conflicted with my axiological position (see 5.2) and could potentially impact the acceptability of this work.

In an attempt to acknowledge the significance of context and social interactions in learning, the next theory considered was Situated Learning, in particular the use of the Communities of Practice (CoP) framework (Lave & Wenger, 1991). Through its focus on the social interactive element of situated learning, meaning is proposed to be made via participation. However, reflecting on the key characteristics of a CoP led me to question its applicability in this context. A CoP is conceptualised as having sustained mutual relationships with members bound together by a sense of joint enterprise (Wenger, 1998) and although Wenger acknowledged that a CoP is not a static or stable entity, this framework felt inadequate to capture the complexity of negotiating clinical and educational work simultaneously.

Following discussion with fellow academics and review of the literature, I felt the choice of AT enabled me to understand the complexity of the multilevel teaching in general practice while allowing me to appreciate both personal and organisational historical influences on that activity (Barab, Barnett, Yamagata-Lynch, Squire, & Keating, 2002; Barab, Hay, Barnett, & Squire, 2001; Yamagata-Lynch, 2003). Furthermore, its ability to identify and represent tensions within a learning environment and to identify where learning had occurred as a result of these was recognised. For example, an anticipated tension in this study was that between delivering teaching while ensuring good quality patient care and I noted that AT had previously been used effectively to explore this in different clinical settings (de Feijter, de Grave, Dornan, Koopmans, & Scherpbier, 2011; O'Keefe, Wade, McAllister, Stupans, & Burgess, 2016; Reid, Ledger, Kilminster, & Fuller, 2015).

4.2 Sociocultural and sociomaterial learning theories

Sociocultural learning theories reflect the belief that knowledge is a co-construction by an individual and their social world (Vygotsky, 1978). Several contemporary sociocultural theories (e.g. sociocultural theory of mediated action (Wertsch, Río, & Alvarez, 1995) and situated learning (Lave & Wenger, 1991)) are seen to have originated in the work of Vygotsky in the 1920s and share a number of common beliefs. Firstly, context is inseparable from the individual and integral to analysis of human activities. Secondly, activities are mediated by language and other symbolic systems and thirdly, activities should be understood in their historical context (Engeström, Miettinen, & Punamäki-Gitai, 1999).

Yamagata-Lynch (2010) proposed that the differences between the sociocultural theories are as important as the commonalities and hypothesised the differences to be multi-factorial in origin. One reason is the reported variability in translation of Vygotsky's work from Russian. The suppression of his work for over 20 years until the late 1950s has seen a range of interpretations and re-interpretations of his principles which could have been influenced by both time and context differences. Therefore, Yamagata-Lynch (2010) suggests each school of thought needs to demonstrate how it reflects the original principles set forth by Vygotsky and how and why thinking has evolved to its current point.

Sociomaterial approaches to teaching and research have emerged as a useful way to help make visible some of the more complex dynamics in real life learning situations and are based on a belief that learning and practice is influenced by more than just human actions (Fenwick & Nimmo, 2015). The concept of materiality appreciates that humans interact with their settings, objects, technologies and substances and all of these can shape how humans think and act e.g. the influence of end of life documentation on junior doctors' behaviour in a recent UK study (Zukas & Kilminster, 2014).

Sociomaterial approaches focus on collective, rather than individual, activity and acknowledge the importance of the materials we encounter and utilise in our daily activities. It is proposed that only through this appreciation of all relevant actors (both human and non-human) that the complexity of real life learning environments can be truly understood (Bleakley, 2006; J. Cleland, Walker, Gale, & Nicol, 2016; Lingard et al., 2012). While Bleakley (2012) suggests that solely focusing on human agents can put patient safety at risk in a clinical context, it could be argued that a similarly limited focus could lead to a restrictively narrow understanding of teaching activities.

There are four main approaches commonly referred to under the umbrella of sociomaterial perspectives: ANT (Actor Network Theory), CHAT (Cultural Historical Activity Theory) or AT (Activity Theory), Complexity Theory and Spatiality Studies. Fenwick et al (2011) describe each of these sociomaterial approaches as having individual distinct features while sharing the following elements:

1. A conscious focus on materials, acknowledging how materials can influence human activity e.g. the role of the computer in the GP consultation.

2. A collective approach encompassing both human and non-human actors e.g. considers how both the doctor and the sphygmomanometer shape taking a patient's blood pressure.

3. The interactions between objects in the system define the role of that object and as such, the object is not a static thing e.g. clinical priorities

in a practice may change over time due to changing contractual requirements but the overarching clinical priority (outcome) will always be good patient care.

4. Chance can always influence events within the system and can result in opportunity e.g. by chance a practice may acquire a team member with a new skill which may enable them to offer a new service to patients.

4.3 The terminology of Activity Theory

The terms Cultural Historical Activity Theory (CHAT), Activity Systems Analysis (ASA) and Activity Theory (AT), and are all used in this thesis and it is important to clarify the difference between these.

CHAT is a theoretical framework aimed at understanding the relationship between the mind and the body and reflecting how both historical influences and context shape learning. ASA emerged from CHAT and is a method of analysis intended to enhance understanding of a particular activity in a collective context (Engeström, 1987). The activity system and its constituent parts are commonly represented by a series of triangle diagrams and will be explained in 4.4 and 4.6.1.

Meanwhile, the term AT does not represent one single unifying theory but an umbrella term for a range of theories which share common origins and principles (Kaptelinin, 2005). Through exploration of these below, I will demonstrate the values and beliefs that underpin this thesis.

4.4 The origins of Activity Theory in CHAT and the work of Vygotsky

AT originated in 1920s with Lev Vygotsky's work and has evolved through several generations of thinking (Yamagata-Lynch, 2010). It is fundamental to understanding CHAT to acknowledge its cultural origins in 1920s Russia. As a Russian Jewish scholar, Vygotsky lived through the Russian Revolution of 1917 and worked in a context where your studies could be censored by the state and possibly even place your life at risk (Kozulin, 1999).

In post-revolution Stalinist Russia, it is reported that Vygotsky was asked by the government to use Marxist principles to redefine psychology (Wertsch, 1985). Using Marxian theory he aimed to reconceptualise the relationship between the individual and their environment – moving from seeing them as two disembodied entities to viewing them as parts of a complex bidirectional system, with each shaping the other, and with human activity as the focus (Leont'ev, 1974).

Key to understanding Vygotsky's work is an appreciation of his concept of mediation (Vygotsky, 1978). Mediation moves from a simple direct representation of stimulus and response as demonstrated in Pavlov's model of conditioning (Pavlov & Anrep, 2003) towards a more complex understanding where an individual's actions need to be considered in context. This concept of mediation is commonly represented as a triadic model comprising the subject, the object and the mediating artefact Figure 4-1 (Cole & Engeström, 1993).
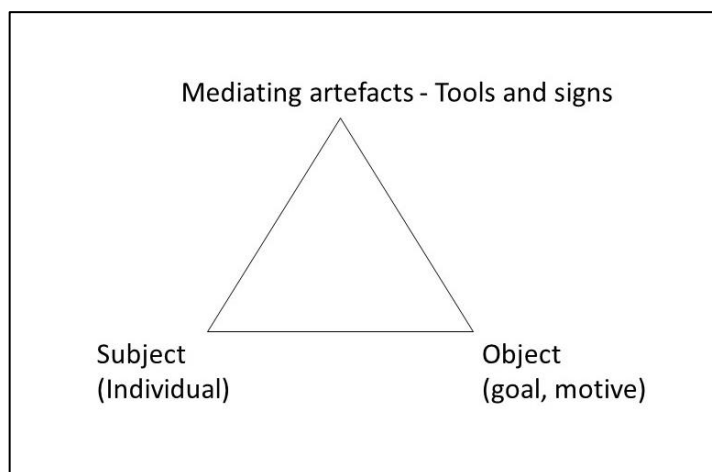
Figure 4-1 Mediation

In Vygotsky's mediated action model, the subject is the individual or group of individuals that are engaged in the activity being studied and the object is the goal of that activity (Cole & Engeström, 1993). A clinical example would be the care a doctor provides to patients – the subject being the practitioner, the activity being the GP consultation and the object or motive being patient care.

Mediating artefacts help enact or influence the activity and are commonly classified as tools or signs. Tools can be physical artefacts such as a technical tool (e.g. stethoscope) or a psychological tool (e.g. communication skills) but could also be social others (e.g. district nurse) or prior knowledge that can

contribute to a subject's experiences within the activity being studied. In this example, it could be pre-existing knowledge of an individual patient or the condition for which they attend. The role of a tool is to influence the physical and social reality and hence they are externally orientated.

In contrast, a <u>sign</u> is internally orientated, influencing self-regulation of the activity itself. This process, referred to as <u>semiotic mediation </u>(Vygotsky, 1978), facilitates individuals meaning-making through their interactions with others, artefacts, tools and their environment. An example of this would be a clinical sign evident in a patient which then suggests a particular diagnosis to a clinician e.g. Koplik's spots in measles. Although psychological tools and signs may not have a physical existence, they can trigger transformation just as much as their physical counterparts. Vygotsky hypothesised that these interactions have the potential to transform not only the individual but also others and their environment (Leont'ev, 1974; Scribner & Tobach, 1997; Vygotsky, 1978).

Vygotsky's representation of activity was considered revolutionary as it recognised that an individual could not be understood without appreciating their societal context. Similarly, society could not be understood separate to the activity of the individuals who used and produced the artefacts. It is important to realise that mediated action merely provides a framework for analysis of goal mediated activity and that the structure does not guarantee the object of the activity will be achieved

4.5 Post Vygotskyian CHAT

In the late 1920s, it was reportedly increasingly difficult for Vygotsky and his colleagues to continue to study human consciousness and after his premature death in 1934 (aged 37) pursuing his area of work was banned for twenty years (Yamagata-Lynch, 2010). Prior to his death, due to this governmental censorship, his colleagues Luria and Leont'ev moved to the Ukraine and in conjunction with Galperin and Zinchenko became known as the Kharkovites (Kozulin, 1999).

Building on Vygotsky's initial work, the Kharkovites broadened the concept of mediated activity beyond an individual's actions to one of collective activity. By

moving their focus from mental activity to human activity, they endeavoured to make their work more palatable to the post revolution establishment.

Leont'ev (1974) described 2nd Generation Activity Theory, making a distinction between goal-directed actions (GDA) which may be temporary steps in a process and object-oriented activity (OOA) which is the ultimate purpose of the collective activity e.g. GDA would be taking a patient's blood pressure while the OOA would be providing care to a practice's hypertensive patients.

A critique of Vygotsky's work relates to his description of internalisation. He proposed that an individual's consciousness is shaped through social interactions e.g. when a junior doctor adopts social norms through taking part in a ward round. In his famous description of child development, he argued that:

> Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals.(Vygotsky, 1978, p. 57)

However, it is suggested that this oversimplifies mediated action by representing it as an input and output process (Yamagata-Lynch, 2010). Furthermore, it is proposed that internalisation as described overemphasises the transformations that individuals experience while underplaying the influence they may have on their social context (Matusov & Hayes, 2000).

To address the perceived weaknesses of the internalisation concept, Galperin introduced the idea of "orienting activity" (Stetsenko & Arievitch, 1997). He described the mental activity prior to initiating a physical action as orienting the subject to the external physical activity in which they are about to engage and as such, inseparable from it. Therefore, no distinction was made between the importance of the mental and physical components of an activity when making meaning. Building on Vygotsky's initial model, Galperin included both the mental and physical components of an action or activity but did not change its triadic representation. In this way, human behaviour is appreciated to be a purposeful conscious action.

4.6 Engestrom's CHAT and Activity System Analysis

4.6.1 Engestrom's Second Generation Activity Theory

While Leont'ev is acknowledged as developing Vygotsky's thinking in 2nd generation Activity Theory, it is Engestrom who provided an operational representation of 2nd Generation Activity Theory (Figure 4-2) (Engeström, 2015).
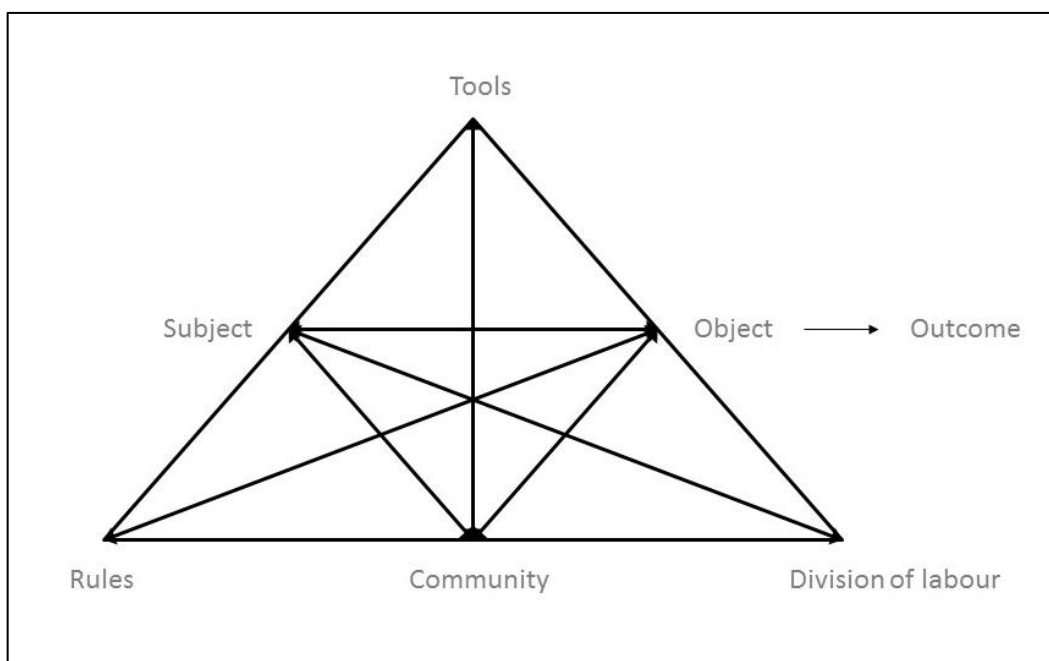
Figure 4-2 2nd Generation Activity Theory

Maintaining OOA as the unit of analysis, interactions between individuals, their community and the environment in which the studied activity takes place can be mapped and better understood. In this model, sociohistorical aspects are acknowledged in the form of rules, community and division of labour. These were not incorporated in Vygotsky's more simple model.

Rules can be both formal and informal and can either constrain or promote activity e.g. GP appointment duration is ten minutes. They may provide guidance on the required or accepted interactions within a setting. The community is the social group with whom the subject identifies while undertaking the studied activity (e.g. practice team) and the division of labour refers to how that activity is divided amongst that community (e.g. practice nurses rather than doctors do routine smears). Each of these components are

able to mediate change which can influence not only the desired outcome of the activity but other components within the system itself.

The terms object and outcome can be interpreted in slightly different ways, depending on the version of activity theory employed. This is thought to have originated in the challenge of translating the word object from Russian to English combined with subtle differences between versions of activity theory (Kaptelinin, 2005). For the purpose of this thesis, object will be understood to be 'production' (Engeström, 1987) where <u>object</u> refers to what the activity is producing in order to achieve the <u>outcome</u> e.g. managing hypertension to prevent heart disease. Despite these variations in nomenclature, a key common principle and a strength of AT is the need to understand the motivators for an activity as well as the nature of that activity (Nardi, 2005).

4.6.2 Third Generation Activity Theory

In his 3rd Generation Activity Theory, Engestrom (2001) recognised that two or more activity systems can interact and outlined five key features:

1. <u>The system, rather than the individual, is the unit of analysis</u> e.g. considering care provided by a practice rather than the management of an individual patient

2. <u>The system is multi-voiced</u> – different participants will have different roles and may have different objects of their actions e.g. different members of the practice team will be responsible for different components of the work of the practice, which could range from a doctor providing clinical care to a practice manager dealing with human resources issues

3. <u>Multiple interacting systems multiplies the voices</u> e.g. one system could be focused on the activity of providing clinical care while another is focused on providing education in a clinical setting and each of these could involve a number of subjects enacting those activities

4. <u>History matters</u> – both the individuals and the system carry a history which will shape activity going forward e.g. previous partnership disagreements related to workload (division of labour) may influence why work is distributed as it is now

5. <u>Contradictions or tensions within or between systems have the potential to facilitate transformation</u> e.g. tensions may exist between meeting the demands of providing patient care while also meeting learners' needs and requirements

With this new multisystem model, new concepts were described – boundary crossing, knotworking, expansive learning and contradictions. An example of the AT concept of two separate bounded systems would be the separate hospital and community based teams for a patient's care. Understanding individual activity systems as bounded enables identification of <u>boundary crossing</u> which can be undertaken by people or by tools (boundary objects) (Kerosuo & Engeström, 2003) e.g. a patient held maternity record carried by the patient to facilitate transfer of clinical information across the boundary.

<u>Knotworking</u> also relates to the challenge of boundaries as it describes the '*tying, untying and retying of separate threads of activity*' (Engeström, Engeström, & Vahaaho, 1999). This can reflect the constant changing nature required of some activities e.g. the care of a patient with multimorbidity where health priorities and team involvement can vary over time.

The concept of <u>expansive learning</u> refers to a particular interventionist framework resulting in the reimagining of the activity based on the contradictions that exist within a system as a driver for that change (Figure 4-3) (Engestrom, 2001).
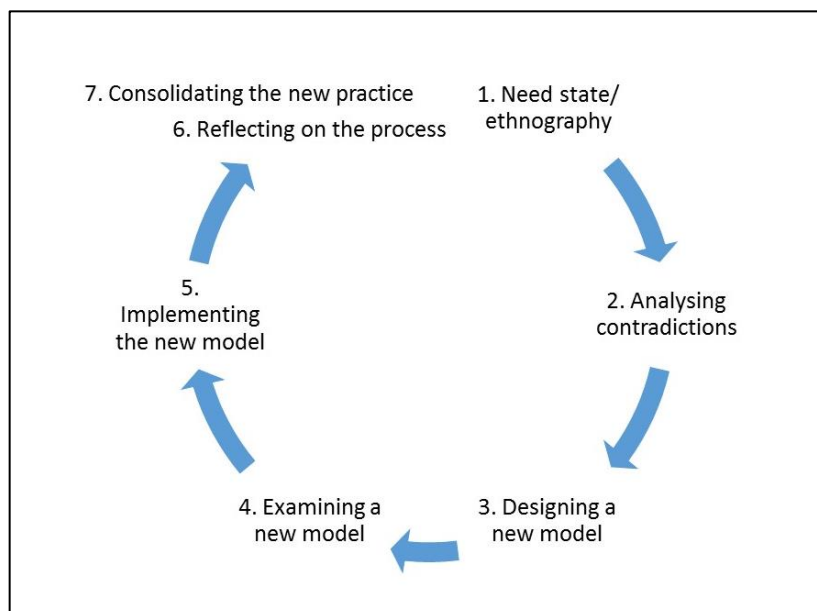
Figure 4-3 Expansive learning cycle

Although this thesis is not utilising ASA in an interventionist capacity, Engestrom's understanding of contradictions (see 4.6.3) as described within the expansive learning cycle, has informed analysis of my data.

4.6.3 Contradictions

A key strength of ASA is as a tool to identify systemic contradictions and also to help find solutions to identified tensions within and between systems (Marken, 2006).

> Activity theory uses the term contradiction to indicate a misfit within elements [of an activity system], between them, between different activities, or between different developmental phases of a single activity. (Kuutti, 1995)

Engestrom described four levels of contradictions, each occurring at different layers but interrelated (Engeström, 1987). He argues that contradictions are inherent in all activity systems and through identification of these historically accumulating structural tensions within and between activity systems, the current enactment of activity can be better understood (Engestrom, 2001).This understanding can then provide the opportunity for learning.

Primary contradictions reflect the tension between the use value and exchange value of everyone and everything in a system e.g. a GP providing care to

patients aims to heal them (use value) while at the same time derives an income from that role (exchange value).

Secondary contradictions occur when two components of the same activity system are in tension with each other e.g. that a GP appointment is ten minutes (rule) may be in conflict with the object of healing if the majority of patients have complex health needs, which take longer than ten minutes to address. Secondary contradictions are often the precipitant of subjects' reflections on their current practices to try to resolve those tensions (Groleau, Demers, Lalancette, & Barros, 2012) and are often the manifestation of the underlying primary contradictions. Therefore, the primary contradiction will likely remain once the current secondary contradiction is resolved (Bonneau, 2013) e.g. the underlying tension between patient care and income generation in a practice would remain even if funding was secured to increase appointment time for complex patients to twenty minutes.

Tertiary contradictions arise as new elements, typically aimed at finding relief from one or more secondary contradictions, are introduced into the activity system. The contradiction emerges if the differences between the old and new way of doing create conflict and may reflect power relations. From a clinical perspective, the constant restructuring of healthcare is useful to illustrate this as patients and staff need to learn to navigate their way around ever-changing systems e.g. despite the introduction of a local optician scheme to enable direct access to expert eye advice and to ease GP workload, patients often still attend their GP first with eye conditions.

Quaternary contradictions emerge between central activity and neighbouring activities e.g. there may be a difference between what a GP believes constitutes best care for their individual diabetic patient and what the health board (which contracts services) considers to be best care for the diabetic population as a whole.

4.7 Application of Activity System Analysis (ASA)

ASA aims to demonstrate the multi-mediational processes in human activity and, using illustrative non-clinical case studies, Yamagata-Lynch (Yamagata-Lynch, 2010) describes four main uses for this approach:

1. understanding developmental work research (DWR)

2. describing real-world learning situations

3. designing human computer interaction systems

4. planning solutions to complicated work-based problems

At the outset of this doctoral study, little was known about the continuum of medical education in general practice, therefore ASA was used in a descriptive capacity rather than an interventionist one.

Yamagata-Lynch recommends conducting a combination of either thematic or discourse analysis alongside ASA, enabling the richness afforded by thematic or discourse analysis to be complemented by the structure provided by the analytical tool of ASA (Yamagata-Lynch, 2010). Through this study of the behaviour of individuals, researchers can begin to understand the world their participants inhabit and can start to inform the processes underpinning collective meaning making. Therefore, in this thesis, I have combined thematic analysis with ASA (see 5.5.1)

Beginning with thematic analysis, Yamagata Lynch (2010) suggests utilising Mwanza's (2002) Activity-Oriented Design Model, derived from CHAT, to start to translate data into the various components in the model (Table 4-1).

Table 4-1 AODM's Eight-Step-Model (Mwanza, 2002)

The Eight-Step-Model		
Identify the:-		Question to ask
Step 1	Activity of interest	What sort of activity am I interested in?
Step 2	Object-ive	Why is the activity taking place?
Step 3	Subjects	Who is involved in carrying out this activity?
Step 4	Tools	By what means are the subjects performing this activity?
Step 5	Rules and Regulations	Are there any cultural norms, rules or 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 activity is carried out?
Step 8	Outcome	What is the desired Outcome from carrying out this activity?

One option is to use this as a prompt for identifying themes. Alternatively, themes can be identified independently through thematic analysis using a constant comparative approach as described by Strauss and Corbin (1998) and then mapped using the AODM prompts and this is the technique I employed.

4.8 Critiques of Activity System Analysis

Critiques of AT and its use in ASA relate to three main issues. Firstly, its comprehensiveness as a framework. Secondly, the complexities of understanding and undertaking ASA. Finally, the use of human activity as the unit of analysis.

It has been suggested that ASA is inadequate for examining human psychology and culture as, although activity may appear the same externally, there may be differences in underlying cognitive processes between subjects (Toomela, 2000). In response to this criticism, Yamagata-Lynch (2010) recommends that practitioners confirm their position that Object Oriented Activity (OOA) is the unit of analysis which appreciates both the mental and observable components of activity as described by Galperin in his concept of 'orientating activity' (Stetsenko & Arievitch, 1997).

Billett (2009) highlights the significance of an individual's socio-personal legacy in shaping their learning and argues that ASA, with its focus on collective activity, does not sufficiently recognise the role of the individual in their cognitive processes and interactions with their social world. To negate this concern, Rogoff's (1995) three planes of sociocultural analysis (personal, interpersonal and institutional/community) provide a useful perspective,

allowing consideration of individual, practice-based and external influences on participants' activities. This approach emphasises the importance of keeping the other two planes in the background while focusing on one plane in the foreground (Ajjawi & Bearman, 2012). Continually moving between the planes helps the researcher to reflect the richness of the data while ensuring that participants' experiences are represented in a trustworthy manner.

It has been suggested that ASA is too difficult to learn (Nardi, 1996). However, Nardi(1996) then suggests that this avoidance of oversimplification is actually a strength as it can avoid isolating data from its real world context when applied appropriately. To counter this criticism, I have demonstrated my knowledge of the terminology as applied to a clinical example (see preceding sections) and will endeavour to demonstrate quality and rigour in my work (see 5.6).

A further criticism has been that ASA does not describe a single unifying theory (Roschelle, 2009). In the current day, ASA is utilised in two main ways - Engestrom's school focuses on developing it for use in changing practice (Engeström & Sannino, 2010), while North American scholars focus more on its uses as a descriptive tool (Yamagata-Lynch, 2010). This evolution of a range of approaches to a theory is not exclusive to activity theory e.g. grounded theory has developed significantly since its original descriptions by Glaser and Strauss (Morse et al., 2009).

The North America approach to ASA was developed in the 1990s and uses ASA to supplement analysis in qualitative research by providing deeper insight into the complexities of real-world human interactions. In contrast to seeing this as a strength, Bakhurst (2009) has suggested that this inability to stand alone may reflect 'an emptiness' of the approach.

It is also worth reflecting on Bakhurst's proposition that activity theory works well in some settings and not others. He suggests it works better for settings where there is '*a well-defined object, a pretty good sense of desirable outcomes, a self-identifying set of subjects, a good sense of what might count as an instrument or a tool, etc*' (Bakhurst, 2009, p. 206). He includes both healthcare, work and educational context as areas of study that meet these criteria and as this thesis focuses on studying education in a healthcare setting,

it was reasonable to expect ASA would facilitate understanding of complex human interactions in this setting.

The final critique to present is the lack of generalisability of findings from ASA and therefore its ability to inform practice. As case study is the choice of methodology, the issue of generalisability is discussed in 5.3.3.

4.9 Summary

This chapter has presented AT as my conceptual framework, ASA as my choice of analytical lens, outlined the fundamental principles that underpin AT and considered critiques of this approach.

5 Methodology

5.1 Introduction

This chapter presents my philosophical position in an interpretivist paradigm and demonstrates how this has influenced my methodological approach. I will outline my study method and analytical process before discussing how I have demonstrated rigour.

5.2 Ontology, Epistemology and Axiology

The overall position of this thesis is a constructionist one, broadly described as an interpretivist research paradigm. Weaver and Olson (2006) define research paradigms as '*sets of beliefs and practices, shared by communities and researchers, which regulate inquiry into disciplines'(p459)*. Positioning my work in an interpretivist paradigm defined the ontological and epistemological assumptions that I make and shaped the methodological approach that I employed (Bunniss & Kelly, 2010) .

Ontology is concerned with the nature of reality (Blaikie, 2011) and a researcher's ontological position informs both research design and interpretation. My ontological position is that of social constructivism, reflecting my belief that no one ultimate truth exists to be found and that social phenomena and their meanings are continually changing and being redefined through social interaction (Bryman, 2008). Therefore, the data examined in this thesis reflects the reality as experienced by the GPs at a fixed time in the summer of 2017 in the context of their individual practices.

As a researcher, I must also reflect on my epistemological position, the assumptions I make about the nature of knowledge. In an interpretivist paradigm, knowledge is culturally derived and historically situated (Scotland, 2012), acknowledging that there are multiple ways of knowing (McMillan, 2015). My belief is that the GPs in this study individually construct their knowledge through convention, experience and social interaction.

Given my chosen position, I recognise that I am inseparable from my data while looking for the different meanings that participants place on the activity of teaching and through our interactions we co-construct meaning in their natural setting. I will explore my position as an insider in 5.7.

The final aspect to consider is axiology, which requires the researcher to reflect on the values that influence their research. My philosophical stance reflects my belief in the subjective nature of my work with my research being bound to my values. Therefore, I must reflect on the values that I hold, particularly as a GP and an educator. The tension between the values of patient-centredness and learner-centredness is relevant to this thesis. Whilst these are fundamental principles of my two chosen professions, the literature and my personal experience suggests that the tension between these would be expected to emerge in this study. My own position, and that of my professional regulator, would be that the care of the patient should always be put first. The choice of activity systems analysis (ASA) enabled me to explore this tension and my personal experience as a GP educator afforded me an appreciation of the difficulties that this tension can bring.

When considering the challenge of recruitment to general practice, certain values underpin this work. My belief is that we have a responsibility to train the doctors and the GPs of the future and that the medical workforce should be sustained in the best interests of patients. Another relevant and more controversial value is that of work-life balance. Personally, I am aware that I sit in between the generational extremes on this issue and I need to reflect how that influences my interpretation of workload and other relevant work issues (Parry & Tyson, 2011).

5.3 Methodological Approach – Case Study

When starting my doctorate, I was keen to study GP practices, like my own, that taught undergraduates and trained postgraduates. Reading further, I felt that a case study methodological approach was the most appropriate choice.

5.3.1 Choice of case study

Simons defined a case study as:

> An in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular…system in a 'real life' context (Simons, 2009, p. 21)

The choice of a case study recognises the importance of the uniqueness of the topic chosen and appreciates that this focus negates the generalisability of the findings (Cresswell, 1998; Thomas, 2011; Yin, 2003). Case studies are used when context is recognised to be integral to the phenomenon being studied and therefore the boundaries of each case must be clearly defined. In this study, each practice and its core team (clinical and administrative) were identified as a case. Additionally, a case study approach appreciates the importance of relationships and processes which I believe to be key to understanding the reality of the continuum of medical education in this context. For these reasons a case study approach fits well with the chosen analytical framework of activity theory.

A consideration for my study was what these practices represented – they needed to be a case of something (Punch, 2006). Case studies need both a subject and an analytical frame (Wieviorka, 1992). Reflection on this led me to conceptualise these practices collectively as a case study of the continuum of medical education and started to shape my research questions.

While the choice of case study affords the researcher great freedom in choice of methods, an important challenge is to ensure that the case is examined in detail while retaining an emphasis on what it represents (Thomas, 2011). Therefore, it is crucial when designing a case study project to consider both the purpose and type of case(s) to be studied.

5.3.2 Purpose and classification

Yin (2003) proposes that case studies can have three main purposes – to be exploratory, descriptive or explanatory. I would argue that this study aimed to address all three of these. Firstly, I wanted to explore the continuum of medical education as it occurs in the chosen practices. Secondly, I intended to describe

how GPs manage the activity of teaching and the tensions related to this. Finally, I endeavoured to explain how activity theory can lead to a better understanding of the continuum of medical education.

Various authors have described a range of classifications for case studies (Bassey, 1999; Merriam, 2009; Robert Stake, 1995; Yin, 2003). In classifying my study, I found Stake's classification of a collective case study most applicable.

> When there is even less interest in one particular case, a number of cases may be studies jointly in order to investigate a phenomenon, a population, or general condition. I call this multiple case study or collective case study. (R Stake, 2005, p. 445)

Applying this classification enables the individual GPs and their practices to be viewed collectively as a case study of the continuum of medical education.

5.3.3 Generalisability and Case Study

The commonest criticism of case study is the inability to generalise from it. However, Yin (2003) suggests that the goal of case study research should be to expand and generalise theories, which he refers to as analytic generalisation. This is as opposed to a more positivist aim of statistical generalisability. Bassey's (2001) concept of fuzzy generalisations is useful when considering this critique. With this concept he suggests that case study findings can be a useful indicator of what further studies may find while recognising that they may or may not be applicable in another setting.

5.3.4 The Interpretivist Paradigm and Case Study

I found Goffman's use of the metaphor of dramaturgy to represent social interactions helpful In interpreting my data (Goffman, 1956). He proposes that in social interactions individuals are managing their performance as would an actor performing on a stage. This served as a helpful reminder that participants both construct their reality and attempt to manage my perception of that reality through their presentation at interview.

In positioning my study in an interpretivist paradigm, the methodological approach of case study aligns with the analytical framework of activity theory.

Through their common belief the subject is inseparable from their social context I was able to gain a deeper understanding of the continuum of medical education in the context of MLL GP practices.

5.4 Study method

This study involved two phases – an online questionnaire and interviews. Following ethical approval, an invitation to complete an electronic questionnaire was sent to educational supervisors. Subsequently, interviews were conducted with eighteen GPs teaching in multilevel teaching practices.

5.4.1 Identification of study population

A list of our GP teachers for year 3 or year 4/5 were identified from our tutor database. This generated a list of one hundred and ninety-nine names. However, as some of our tutors teach for both year 3 and year 4/5, duplicates were removed. This resulted in a study population of one hundred and eighty GPs.

5.4.2 Questionnaire purpose and design

An online questionnaire was designed (SurveyMonkey, 2017) and the content refined based on feedback (Appendix II). The questionnaire aimed to serve two purposes:

1. To collect data on relevant characteristics of our tutors and their practice populations (age, gender, full or part time working, practice list size, remote or rural practice, level of practice and individual teaching involvement).

2. To identify tutors who would be willing to be interviewed for the second part of the project.

5.4.3 Questionnaire participant recruitment and response rate

An email was sent via Survey Monkey to the list of supervisors, inviting them to participate in an online questionnaire about the teaching they do in practice (Appendix III). A challenge with web and email surveys is achieving an adequate

response rate (Scott et al., 2011). Although postal surveys may be more effective in achieving a good response rate from GPs (Pit, Vo, & Pyakurel, 2014), an electronic questionnaire was chosen over a paper-based option for a number of reasons. Firstly, our study population would all be familiar with electronic communication and internet use as part of their daily work. Secondly, I was confident that we had accurate contact details for all of the study population as our mode of regular communication with our supervisors is via email. Thirdly, use of Survey Monkey would enable me to easily view and interpret the data. Finally, there was no financial cost to use Survey Monkey.

With the response rate in mind, I adopted a few of the strategies outlined by McPeake et al (2013) to try and maximise response rate.

1. I kept the survey as brief as possible, only collecting data that I felt contributed to understanding of the study population.

2. In both the email subject line and the body of the email, I emphasised that the questionnaire should take less than five minutes to complete.

3. I embedded the first question of the survey in the invitation email.

As there is evidence that reminders increase response rate (Sahlqvist et al., 2011), I decided to send one reminder message. McPeake et al (2013) suggest sending two reminders but I was mindful of the volume of emails a GP can receive in a working day so I felt one reminder was more appropriate. The original email invitation was sent out on February 9th 2017 and the reminder on February 23rd 2017. By February 23rd 2017, Survey Monkey identified that seventy-nine tutors had completed the questionnaire. Based on verbal feedback from a number of tutors who had completed the survey, I edited the reminder message to suggest that the survey typically only took two minutes to complete and not the five as originally suggested.

Reviewing final figures, all tutors who clicked through to the survey completed it. Just under a third of tutors did not open either of the emails and an overall response rate of 60% was achieved (n = 108/180). (see Table 5-1)

Table 5-1 Questionnaire response rate

Questionnaire response rate		
Email invitations sent	180	100.0%
Initial response rate (pre reminder)	79	43.9%
Email invitations opened (final)	124	68.9%
Clicked through rate (final)	108	60.0%
Questionnaires completed (final)	108	60.0%
Email invitations unopened (final)	56	31.1%

5.4.4 Interview schedule

An interview schedule based on ASA was designed. It contained nine overarching open questions and a set of follow up questions for each of these if required (Appendix IV)

5.4.5 Pilot interview

As one of the willing participants identified was a GP in my practice, it was proposed that his interview should be a pilot interview to test several aspects of the study:

1. Recording equipment

2. Interview schedule

3. ASA mapping of an interview

He was chosen as, although there are benefits to insider research, it was felt that I would be too close to this particular case. His data was not included in the formal analysis. As a result of the pilot, minor modifications were made to the interview schedule. This specifically related to the use of AT terminology within the interview questions. Although I was clear what was meant by terms such as tools and rules, this was less clear to someone not versed in AT. Therefore, the questions were reworded to include a brief description of the terminology.

5.4.6 Interview participant recruitment

A list of forty-two medical student supervisors working in postgraduate training practices was identified. Each individuals' responses were reviewed and this

generated a list of thirty-four supervisors willing to be contacted re interview. An invitation email was sent at the start of June which included a participant information leaflet (Appendix V). Interviews took place in June and July 2017. By the end of June 2017, seventeen tutors had responded agreeing to take part and interviews were scheduled. This included one tutor who contacted me directly to advise that he did not wish to complete a questionnaire but would be happy to be interviewed. His demographic data emerged during the interview so is represented in any interview participant figures reported.

Following the initial allocation of interview dates, five further tutors came forward expressing an interest. It was agreed to conduct the initial scheduled interviews and review the data before deciding if their participation would be appropriate.

5.4.7 Number of interviews

There are a range of opinions on how to decide if "enough" data has been collected and I found Bryman's thoughts on this particularly helpful (Baker & Edwards, 2012). He suggests five factors to be considered:

1. The issue of saturation

2. What are the minimum requirements?

3. The theoretical underpinnings of the study

4. The heterogeneity of the population

5. The breadth and scope of the research questions

The concept of saturation originated from grounded theory (Glaser & Strauss, 1967) and recommends that interviews should continue until no new insights are emerging. It is not possible to know at the outset when this point will be and it could be argued that you never truly know that you have reached it. However, for the purpose of this thesis, I began by reviewing the data as my interviews progressed. Transcribing, listening back to the interviews and familiarising

myself with them through drawing activity system maps for each interview (see 5.5) enabled me to reflect on data as it emerged.

There is not a fixed number of interviews required for my doctorate, rather an expectation to answer the questions posed. This study focuses on a narrow study population and although all participants were GP teachers, there was diversity amongst both the GPs and their practices. From a teaching perspective, I wanted representation from practices where one GP led on all teaching, as well as practices where different GPs led on different levels, as I was curious about how this influenced the activity of teaching in those practices. The characteristics of the interviewees are described in Chapter 6.

By positioning my study in an interpretivist paradigm, I reflect my belief that there is no one truth to be found and my choice of a collective case study approach aligns with that. While aiming to better understand the "reality" of the continuum of medical education in MLL GP practices, it was important that participants reflected the diversity of those GPs and practices. Therefore, through reflection on participant characteristics and data as it emerged, I felt comfortable that I had conducted "enough" interviews to address the questions posed.

5.4.8 Interview Process

Semi-structured interviews with my seventeen participants were audio recorded and transcribed. Fourteen interviews were conducted in person and three were conducted over the phone. Participants were given the choice of how and where their interview was conducted. Following each interview, I wrote contemporaneous notes reflecting on the interview and recording any emerging thoughts related to the project overall. In subsequent interpretation and analysis, these notes helped establish a context for each interview and shaped my evolving understanding of the data.

I transcribed the first five interviews myself. This facilitated further review of the suitability and usefulness of the interview schedule and identified the need to further refine some of the questions related to AT terminology. Further to this, transcribing my own early interviews enabled me to review and improve my

interview technique. While not a novice researcher, I believe my interview skills improved as the project progressed.

At a relatively early stage it became apparent that interviewees struggled with the concept of the continuum. As this was a fundamental part of the research question, it was decided not to modify this question. However, through their responses to other questions I was able to glean an understanding of how the continuum was represented in these practices (see 7.6.4).

5.5 Interview Analysis

5.5.1 Overview of Analytical Process

The overarching analytical process was Thematic Analysis (TA) (Braun & Clarke, 2006). The resultant themes and subthemes were mapped back on the framework of Activity Theory (AT) (Yamagata-Lynch, 2010). Table 5-2 outlines the steps followed.

Table 5-2 Stages of Thematic Analysis

Stages of Thematic Analysis
Step 1
Familiarisation with data - individual interview activity system mapping
Step 2
Generation initial codes - Nvivo
Step 3
"Search" for themes - Mindgenius (mindmapping software) used to help categorise the codes
Step 4
Review of themes - Summary document written for each of the initial themes
Step 5
Define and name themes - initial themes reviewed and collapsed into final themes
Step 6
Production of a report - Findings Chapter

5.5.2 Interview Analysis

Figure 5-1 details the process of interview analysis.

Initial Codes
n = 239

↓

Sorted Codes
n = 77

↓

Candidate themes
n = 8

↓

Refinement themes and subthemes
n = 6 and 22

↓

Final themes and subthemes
n = 5 and 19
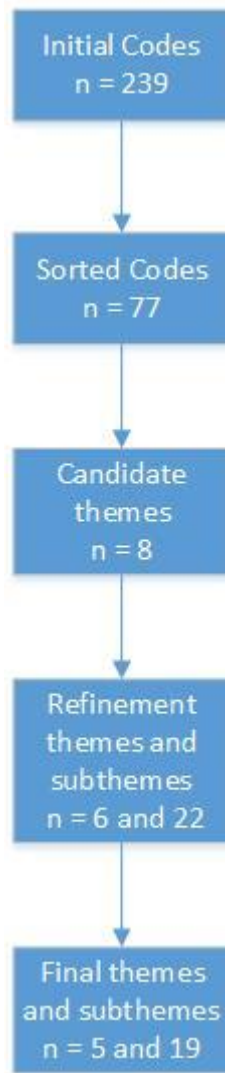
Figure 5-1 Interview Analysis Flowchart

Each interview was played back while reading its transcript to verify the content and to enable individual mapping (Appendix VI). Individual AS mapping enabled the applicability of the framework to represent my data to be reviewed and possible areas for coding to be identified. While mapping was useful for identifying components and tensions, there was not a clear place to record context, a cornerstone of sociocultural learning theories. Therefore, I recorded context in the top left hand corner of the page, starting with historical context.

The interview transcripts were then uploaded into Nvivo and coded. Boyatzis (1998) defined a code as '*the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon'(p63)* and although recognised components of activity systems were often identified, it was not a requirement that codes represent these. This stage

resulted in the creation of two hundred and thirty-nine data-driven codes. To facilitate identification of themes, each code was reviewed in turn and grouped with similar codes. This resulted in a reduction to seventy-seven codes.

Mindmapping software was used to generate an initial list of eight candidate themes, each with its own sub-themes (Appendix VII). The data for each of these was reviewed, keeping in mind Patton's (1990) criteria for judging categories. He emphasises the desire for internal homogeneity and external heterogeneity when deciding themes i.e. that data should only fit into one theme and not fall in between themes. This further review resulted in a revised list of twenty-two sub-themes (**Error! Reference source not found.**).

Table 5-3 Sub-themes

Sub-Themes					
Workload	Why teach				
Variation	Undergraduate and Postgraduate				
The patient	Teaching as practice team activity				
Resources	Recruitment and retention				
Organisation and Structure	Interface with other organisations				
Division of Labour	Development as a teacher				
Communication	Change and innovation				
Barriers	Tools				
What to teach	Rules				
Benefits of teaching or motivators	Other learners				
Continuum	How to teach				

Each sub-theme's relationship to the ASA framework was reviewed again as part of a final assessment of the suitability of this framework for my data set. It has been suggested that this combination of a inductive and a deductive approach can be "murky" (Jamieson, 2016). Rather, I would argue that it is a strength of this work as it allowed me to generate the themes that best reflected my data, using the best parts of both a data-driven and a theory-driven approach (Braun & Clarke, 2006).

The majority of sub-themes generated at this stage could be mapped onto an ASA map, either as a standalone component (e.g. tools) or as demonstrating a key concept of activity theory (e.g. interface with other organisations –

boundary crossing) or a contradiction either within or between systems (e.g. 'what to teach' – rules v tools). Two particular sub-themes that did not directly map using this approach were "Variation" and "Continuum". However, variation was represented across a number of components within the activity system framework e.g. variation in resources, variation in members of the community in each practice or variation in doctors' attitudes to teaching. Continuum represented the concept being explored by this study and this sub-theme enabled me to consider different GPs' conceptualisation of this.

To reflect on my findings in order to present them in the most representative way, I then produced a summary document for each of the twenty-two sub-themes. These summaries noted key points raised within each of the proposed sub-themes and also identified key quotations within it. In this way I was able to review them for external heterogeneity and internal homogeneity as described (Patton, 1990).

Following this, I reviewed the summary documents to confirm a final set of themes. These were amalgamated in a mindmap to ensure that all themes and sub-themes were covered and to review whether any changes should be made to better represent findings from the data. Throughout this constant comparison process ensured that the outcomes of my analysis reflected my data.

5.6 Rigour

Demonstrating rigour has been approached in a number of ways and was informed by Lincoln and Guba's(1986) concept of trustworthiness.

5.6.1 Rigour in study planning and design

An early consideration in any study is the suitability of the researcher to undertake the proposed study. In my case, I had experience of undertaking qualitative research, from completing my Masters dissertation as well as other published projects. However, a more important consideration for me was the inevitable impact of my insider status throughout this work and my ability to demonstrate reflexivity in this regard. This will be explored in 5.7.

To demonstrate rigour, I have justified the relevance of this work in my aim to understand the continuum of medical education in the context of multilevel learners in general practice (Mays & Pope, 2000). I display understanding and appreciation of key principles of qualitative research through clarity in my research questions and the resultant design and conduct of my study (Barbour, 2001).

Although generalisability is not an aim of case study (Yin, 2003), consideration must be given to the nature of the study population. Although I used a convenience sample, I reflected on the diversity within my sample population, particularly when deciding whether to interview the additional five offers of interview (Kuzel, 1992). It was decided not to divide my study population into two separate groups (single GP leading all teaching v different GPs leading different stages of teaching) as this would be based on an assumption of difference. On completion of my interviews, I reviewed my collective data to see if it suggested two distinct cohorts existed and it did appear to suggest this. Although my work is not intending to be generalisable, others may wish to consider the potential for transferability of my findings (Lincoln & Guba, 1986). To facilitate these judgements, I provide a comprehensive account of the context this study in Chapter 2, alongside details of participant characteristics in Chapter 6. As this was an exploratory case study, aiming to understand the continuum, a search for atypical cases was not appropriate.

5.6.2 Rigour in data collection and analysis

As rigour needs to be considered in relation to data collection and analysis (Mays & Pope, 2000), a systematic approach to these was adopted and a detailed account of this has been provided. Dependability (Lincoln & Guba, 1986) can be demonstrated through production of a clear electronic audit trail for data and its subsequent analysis. The use of Nvivo and Mindgenius software facilitated the production of mindmaps and the resultant production of themes.

Further to this, my research supervisors were able to review the coding process at all stages. Multiple coding is often suggested as a means of addressing the critique of subjectivity in qualitative data analysis. However, Barbour (2001)

suggests a more pragmatic systematic approach, such as the one this study adopted, is more meaningful than multiple coding of an entire dataset.

Although respondent validation may demonstrate rigour, Mays and Pope (2000) caution against this assumption. They suggest that a synthesised account produced for a wider audience will inevitably be different to that of an individual participant. An alternative is sending individual transcripts to interviewees as a means of error reduction (Birt, Scott, Cavers, Campbell, & Walter, 2016). However, it was decided against this as participants had already been generous with their time and any minor changes made would not materially change the output of this collective case study.

5.6.3 Rigour in presentation of findings

As my final piece of evidence of rigour, in the subsequent chapters I will present the key concepts developed and the subsequent conclusions drawn from these.

5.7 Insider Status

In order to demonstrate reflexivity, I need to consider the impact I have had on the research and vice versa. This section considers the concept of an insider, presents illustrative examples of how this shaped the data and discusses the strategies employed to negotiate the tensions related to this.

5.7.1 The concept of an insider

> Research conducted by insiders cannot truly capture the total experience of an entire community. But neither can research conducted by outsiders… No one commands the power to know all things. (Foster, 2010, p. 144)

Researchers must clarify their role and their own potential influences on their research when endeavouring to make their work credible. I undertake a number of relevant roles in relation to this work which afford me both insider and outsider status. As a GP teaching in my own practice I share insider experience and knowledge with my participants and can readily appreciate the complexity they face in their daily work. Meanwhile, in my role as a teaching organiser within the University, I can also be viewed as an outsider to participants.

5.7.2 My insider status

My insider status has influenced all stages of the research process starting from the inception of this study. The topic was an area of interest to me, rather than a pre-existing project that I became involved with. Throughout this study, with input from my supervisors, I have made all decisions relating to my work and I conducted all of the data collection. Therefore, my insider influence is inseparable from this project. Before presenting five brief examples to demonstrate my reflexivity in this regard, it is helpful to begin with a definition of an insider.

> Insiders are the members of specified groups and collectives, or occupants of specified social statuses. Outsiders are non-members.(Merton, 1972, p. 21)

Originating in ethnography, the concept of an "insider" may initially seem quite clear-cut. However, when considered further, it is more complex than I initially appreciated. The researcher needs to consider features that may be relevant, conceptualising their identity as a status set rather than as a single status (Merton, 1972).

Table 5-4 presents a list of features that I felt influenced my study and its findings, sometimes in only subtle ways, but still present. Whilst some of those features are innate e.g. age, others may change over time e.g. my educational roles. Furthermore, Hockey (1993) suggests that researchers need to consider their insider status as being on a continuum rather than being in a dichotomous position of being an insider or an outsider, meaning that with each participant I would likely have a differing degree of "insiderness". The concept of a partial insider complicates this further as not only does it reflect the varying degree between participants but it also suggests that this can vary within an interview dependent on the topic being discussed (Mullings, 1999).

Table 5-4 Relevant researcher features

Relevant Researcher Features		
General Practitioner features		
General Practitioner (GP)		
GP in West of Scotland		
GP in a deprived practice		
GP in a practice affected by recruitment difficulties		
Teaching roles within practice		
Undergraduate Tutor		
Foundation Supervisor		
Postgraduate Trainer		
Multilevel teacher		
External education roles		
Director of Community Based Medical Education		
Education Associate for GMC		
CSA Examiner for RCGP		
Personal features		
Female		
Age - "in my 40s"		
UK Graduate		
Dual citizenship - British and Australian		

Key:			
GMC - General Medical Council			
CSA - Clinical Skills Assessment			
RCGP - Royal College of General Practitioners			

5.7.3 Five examples from the interview data of my insider status

Through the presentation of five examples from my interview data, I aim to illustrate my insider status and reflect on how it shaped this study. I have labelled these as follows:

1. Rapport and the interviewer-interviewee relationship

2. Interviewee seeking something from me in my role

3. Navigating the system

4. Assumptions about me

5. Trust

5.7.3.1 Rapport and the interviewer-interviewee relationship

As a local GP and clinical teacher for the past 12 years, I knew my interviewees to varying degrees. While I would consider one of the participants a good friend, others I only knew of through their involvement with teaching at the University. As GPs, we are trained in how to establish rapport with patients, to ensure their trust. In the following example I try to establish rapport with an interviewee by sharing her joke while also reiterating my status as a fellow doctor.

> F13: Because they all say 'we'll just have water'. [They] are never going to survive another surgery of crying middle-aged women if [they] just have water. (laughter) Have a coffee!...That's a bit tongue in cheek, sorry.
>
> LP: I realise that... I do remember that realisation myself though as a doctor. (laughter)

Unlike an outsider researcher, when considering the relationship between us, I was also mindful of the likelihood of an ongoing relationship with my interviewees and the potential impact of their interview experience on that.

5.7.3.2 Interviewee seeking something from me

Researchers must consider the potential for power dynamics to influence the self that interviewees present. It would have been dishonest and unfair to interviewees not to be upfront regarding my role at the medical school. My impression was that the impact of this was negligible, given the openness with which the GPs appeared to speak. However, as a researcher you can never truly know if this is the case. In this example, prompted by my questioning, the interviewee seeks my guidance.

> Well I suppose from the angle of the questions do you think we should be more formalised in what we do, in [teaching both] postgraduate and undergraduate? (M8)

In a further example, one tutor, lamenting their difficulties in recruiting new GPs to the practice, offered me a job in the practice, When I declined, they tried to explore my reasons for not being interested in a job there – a discussion that would not have occurred had I been a non-GP interviewer.

5.7.3.3 Navigating the system

An advantage of being an insider was that it helped me negotiate the familiar territory of teaching in general practice. I speak the language of GP as well as the differing languages of postgraduate and undergraduate medical education. On arriving at unfamiliar practices, I was able to introduce myself as "Dr Pope from the medical school" and on the majority of occasions, this ensured I was promptly escorted into the clinical area. On meeting the GPs, I made a point of thanking them for time in their busy day, as I am very aware how precious time can be on a clinical day. On a few occasions, prior to the interview starting, this prompted discussion of various challenges they had faced that day. Sharing in these experiences helped me to appreciate the context for those individuals and also facilitated establishing rapport.

5.7.3.4 Assumptions about me

Interviewees made a range of assumptions about me, both personally and professionally. Some of these were correct and some were not. This matters as a researcher's actual identity can affect what they get told but also who participants think someone is can equally shape what is said (Richards & Emslie, 2000). Assumptions made about me ranged from assumptions about personal attributes (e.g. age) to assumed knowledge and roles. For example, the issue of age arose in several interviews as GPs described the age gap between themselves and their learners and the impact of that gap. Both younger GPs, as well as those nearing retirement, flagged this gap as important. As I am in my forties, I am "somewhere in the middle" and I think this helped me to appreciate the range of views.

As a perceived insider, interviewees regularly made assumptions about my understanding of particular issues and processes. While this was often as accurate assumption, I was mindful not to assume their understanding was the same as mine. A challenge with being an insider was to ensure I had the curiosity of an outsider when conducting my interviews (Mercer, 2007). Failure to do this can mean the researcher can fail to see the obvious or may take things for granted. At times this was challenging as I worked to balance my desire to explore their knowledge and experiences with my need to not appear ignorant.

In a couple of the interviews, I was assumed to be a representative of a postgraduate training organisation. In those interviews, the interviewees were reflecting difficulties they had experienced in that relationship so I felt the need to correct that assumption in case it was influencing what they were saying to me.

5.7.3.5 Trust

Trust is crucial in qualitative research as you are trying to understand the world through your participants' eyes. Trust arose in the interviews in a couple of key ways. Several interviewees disclosed to me that they have deviated from the recommended teaching plans issued by the University and did so by prefacing it with a "don't tell" type of statement. Meanwhile, another couple wanted to establish my motives before sharing specific information with me.

> I think with the postgraduate side it is a bit more structured…there is a bit more monitoring…because there's certain things [you] have to do within the practice and that's monitored…whereas with the students…there's more latitude…How do you monitor that? Is that what you're trying to do? (M3)

5.7.4 Negotiating my insider status

As demonstrated, there are advantages and disadvantages to being an insider researcher and several strategies to address disadvantages have already been highlighted. When addressing the issue of power, although unable to blind my interviewees to my University role, I chose to "pitch" myself at interview as an interested peer (Hockey, 1993). Allowing the interviewee to choose interview venue helped negate potential power dynamics, with the majority of interviews taking place in the GPs' consulting rooms. Although challenging at times, I consciously tried not to voice my opinion on issues raised. This was particularly difficult if interviewees were raising challenges that I had experienced myself, as a natural way to establish rapport is to find common ground.

All researchers need to consider how they demonstrate rigour in their study and this is particularly important for an insider. The use of an interview schedule based on an established analytical framework enabled a structured approach to my topic of study. The insiderness of my supervisors was also important, offering

both a clinical and a non-clinical perspective on my analysis and project overall. A strength of this study is the range of GPs contributing to my data, enabling me to triangulate the emerging picture of the continuum in a range of settings. Comparing my interviewees to the overall study population enabled me to consider their representativeness (see Chapter 6).

5.8   Ethical considerations

Even though formal ethical approval for this study was granted by the University Ethics Committee (Appendix VIII), this does not negate the need to demonstrate how the standards for ethical research were maintained (Scottish Educational Research Association, 2005; Tracy, 2010). A distinction is made between procedural ethics and "ethics in practice" (Guillemin & Gillam, 2004) and I will explore how each of these relates to this study.

Procedural ethics refers to the ethical approval processes that must be followed in order to obtain formal approval prior to commencing a study (Guillemin & Gillam, 2004). Whilst many of the criteria stipulated by the university do not apply to the context of this study, there are some which do apply. Given my role in the medical school, I needed to ensure that participants did not feel coerced to participate. Therefore, the invitation emails and the participant information leaflet (PIL) made clear that I was undertaking this work as part of my doctoral studies. For the questionnaire phase of the study, the covering message highlighted that completion of the survey was accepted as informed consent. For the interview phase of the study, a PIL was sent out with the invitation email and a further copy taken to the interview (Appendix V). At interview, participants were provided with a copy of the consent form (Appendix IX) and consent for conducting and recording of interviews was agreed. Participants were advised that their responses would not be personally attributable and that they could withdraw consent at any time during or after interview.

Data management is both an ethical and a legal requirement of researchers. All recordings and transcripts were securely stored and identifiers removed from the files to start to create a "clean" data set for analysis (Kaiser, 2009). Each GP was allocated an identifier based on gender (M for male or F for female) and a random number from 1-10 for the men and 1-7 for the women. The transcription

not undertaken by myself was done by university secretaries experienced in the management of research data. Any files transferred between ourselves were sent via the university's secure file transfer system and I was the only person with direct access to the Nvivo files.

Although the file names were anonymised, within the interviews, individuals and locations were mentioned which would compromise confidentiality if transcribed verbatim. Therefore, at the point of transcription these would be anonymised (e.g. Dr X became Senior Medical School Figure). During analysis if I felt with my local knowledge meant that any content could lead to an individual being identified then I modified or excluded that piece of data (Kaiser, 2009). This resulted in a handful of minor exclusions from the data. Each of these decisions was discussed with my supervisors and did not impact on overall findings.

The main challenge regarding confidentiality is my potential ongoing relationship with study participants. I am mindful that if presenting results locally, study participants could be present. This confers a pressure on me to "do the data justice" but also requires me to be conscious that it cannot be assumed that my findings would be welcomed. Furthermore, I need to avoid discussion of any personal insights gleaned solely from the interview if encountering any participants at local education events.

"Ethics in practice" refers to the application of ethical principles to address dilemmas which emerge in the daily process of research (Guillemin & Gillam, 2004). My discussion of my role as an insider has already provided some examples of this (see 5.7.3). On reflection, the biggest challenge for me was the conflict between my role as a researcher and my identity as a GP. Although I was visiting these GP practices with my researcher hat on, my underlying identity as a GP was inescapable. On more than one occasion, cases were discussed in my presence, as they would be in my own practice. The difference was that the setting was not my own practice and the patients discussed were not under my care. Although at times I felt slight discomfort about this, those participants did not and I am obviously bound by the same duty of confidentiality as I would be for my patients. This could be interpreted as a sign of the interviewees trust in me and although in one study the researcher did "blind" their participants by not telling them they were a GP (Hoddinott & Pill, 1997), I felt this would be

dishonest and unethical. This experience did lead me to reflect on the fact that as a clinician researcher you could find yourself in a difficult situation where you witness patient safety being compromised and have a professional duty to raise a concern which would be in conflict with your need to maintain confidentiality as a researcher.

5.9 Summary

This chapter has outlined the underpinning philosophical beliefs shaping this study as well as describing how these have influenced study design and application. To demonstrate rigour, I have reflected on my position as an insider and demonstrated transparency in my work.

6 Characteristics of Study Population

6.1 Introduction

Bryman (1988) poses the question '*How do we know…how representative case study findings are of all members of the population from which the case was selected?*'(p88). To address this question for this study, as well as presenting characteristics of the study population, a number of relevant comparisons will be made between groups.

6.2 Questionnaire Findings

6.2.1 Questionnaire participant characteristics

One hundred and eight tutors completed the online questionnaire, giving a response rate of 60% (108/180). Demographic details of participants and their practices are presented in Table 6-1.

Although no formal analysis of my tutor data was intended, several features of the study population and how these relate to available national data are highlighted.

1. Gender – The gender split in supervisors (male 48% v female 52%) was similar to the most recent national GP workforce data (male 44% v female 56%) (ISD, 2016).

2. Age – In this study, 56% of GP tutors were 46 and over. In a recent national survey, just over half of Scottish GPs were noted to be over 45 (ISD, 2016).

3. Practice commitment – In this survey, 57% of GPs classified themselves as working full time. This is higher than the national figure of 42% of GPs working eight sessions or more (ISD, 2016).

4. Practice location – 7% of GPs completing the questionnaire identified as being based in a rural setting.

5.   Practice Teaching Commitment – 39% of GPs completing this survey taught in practices that trained GPs as well as training undergraduates. A recent England wide survey suggested that 45% of their undergraduate teaching practices also trained GPs (Rees et al., 2016).

6.   Practice List Size – The average list size of practices in this study was 5960 patients. This is similar to the reported Scottish average of 5586 patients (Information Services Division, 2012).

7.   One fifth of practices in this study took at least three different levels of learners on placements.

Table 6-1 Participant characteristics

Total participants	n = 108	
Gender		
Male	52	48.1%
Female	56	51.9%
Age		
26-35	13	12.0%
36-45	35	32.4%
46-55	39	36.1%
56+	21	19.4%
Practice Commitment		
Full Time	62	57.4%
Part Time	46	42.6%
Practice Location		
Urban (defined as settlement of 3000 or more)	100	92.6%
Rural (defined as settlement of <3000)	8	7.4%
Practice Teaching Commitment		
UG and PG Teaching and Training Practice	42	38.9%
UG, FY2 and ST	22	20.4%
Individual Teaching Commitment		
Supervise ST and UG	12	11.1%
Supervise ST, FY2 and UG	6	5.6%
Actual Number of GPs in Practice (not FTE)		
1	5	4.6%
2	13	12.0%
3	21	19.4%
4	21	19.4%
5	18	16.7%
6	17	15.7%
7	4	3.7%
8	6	5.6%
9	3	2.8%
Practice List Size		
<1000	0	0.0%
1000-1999	6	5.6%
2000-2999	7	6.5%
3000-3999	12	11.1%
4000-4999	16	14.8%
5000-5999	13	12.0%
6000-6999	14	13.0%
7000-7999	15	13.9%
8000-8999	11	10.2%
9000-9999	4	3.7%
10000-10999	7	6.5%
11000+	3	2.8%

6.2.2 Practice involvement in other teaching

While this study focuses on core undergraduate placements and recognised postgraduate training posts, it was important to consider other teaching practices may be involved in. Table 6-2 illustrates this.

Table 6-2 Other teaching involvement

Other Teaching Involvement					
				n = 108	
Non-core undergraduate teaching e.g. SSCs, Electives				13	12.0%
Teaching for other medical schools				5	4.6%
Teaching other HCP students				3	2.8%
Retainers and returners				17	15.7%

6.2.3 Characteristics of GPs who lead on teaching and training

Results were compared for GPs who teach and train in comparison with those of respondents in general (see Table 6-3). Several differences were noted between the groups. Whilst tests of significance are not being suggested for these results, comparisons could be helpful when starting to consider potential teaching capacity going forward.

1. GPs who lead on both teaching undergraduates and training undergraduates are more likely to be male then general respondents.

2. GPs who lead on both teaching undergraduates and training undergraduates are more likely to work full time.

3. It is less likely for younger GPs to both teach and train. This may be because GPs are required to be three years post CCT before becoming a trainer. This gives a minimum age of thirty-three (assuming graduation at twenty-three).

4. The peak age for doing both undergraduate teaching and postgraduate training is 36-45. Whereas those teaching students in general were focused in a broader 36-55 age range.

Table 6-3 Characteristics of GPs who teach and train

Characteristics of GPs who Teach and Train						Overall respondents	
				n = 21		n = 108	
Gender							
Male				13	61.9%	52	48.1%
Female				8	38.1%	56	51.9%
Age							
26-35				1	4.8%	13	12.0%
36-45				10	47.6%	35	32.4%
46-55				5	23.8%	39	36.1%
56+				5	23.8%	21	19.4%
Practice commitment							
Full Time				15	71.4%	62	57.4%
Part Time				6	28.6%	46	42.6%

6.2.4 Interviewee characteristics

Twenty-three tutors volunteered for interview and a convenience sample of seventeen of those were interviewed for this study. Excluding the pilot, these were the first seventeen tutors to respond.

Table 6-4 outlines characteristics of the seventeen interviewees when compared to the overall cohort as well as the overall pool of potential interview participants.

Table 6-4 Characteristics of interviewees

Characteristics of Interviewees					Overall respondents	Based UG & PG practice	
		n = 17			n = 108	n = 42	
Gender							
Male		10	58.8%	52	48.1%	22	52.4%
Female		7	41.2%	56	51.9%	20	47.6%
Age							
26-35		3	17.6%	13	12.0%	8	19.0%
36-45		7	41.2%	35	32.4%	15	35.7%
46-55		3	17.6%	39	36.1%	11	26.2%
56+		4	23.5%	21	19.4%	8	19.0%
Practice commitment							
Full Time		10	58.8%	62	57.4%	25	59.5%
Part Time		7	41.2%	46	42.6%	17	40.5%
Teaching commitment							
Leads on UG, FY and ST	4	23.5%	6	5.6%	6	14.3%	
Leads on UG and PG	9	52.9%	21	19.4%	21	50.0%	
Leads on UG only	8	47.1%	87	80.6%	21	50.0%	
Practice location							
Urban		14	82.4%	100	92.6%	38	90.5%
Rural		3	17.6%	8	7.4%	4	9.5%

Reviewing the groups, the following patterns were noticed.

1. In keeping with the group of potential interviewees, those interviewed were more likely to be male.

2. There were interview participants from every stage of the teaching spectrum and the distribution was broadly similar to those in the potential interviewee group.

3. Interview participants likelihood of working full time appeared to correlate with both the overall group and the list of potential interviewees.

4. Roughly half of the interview participants led on both undergraduate and postgraduate teaching in their practices. This mirrored the number doing this in the overall number of multilevel learner practices.

5. Rural GPs were over-represented in the list of interviewees but as they were a small cohort to begin with, this could be a strength. Of note, four

practices reported having branch surgeries, of which only two of these were classified as rural practices. This enabled issues of cross-site working to be considered.

6. List size in interviewees ranged from 4000-9000 patients, giving a range of practice sizes.

7. Overall, six GPs were identified as leading on all three levels of learner and four of these were interviewed for this study. Eleven of the GPs interviewed were based in practices that had three levels of learners (UG, FY and GPSTs).

Overall, review of those not interviewed suggested they possessed similar individual or practice attributes to the overall group of forty-two GPs based in multilevel teaching practices. Therefore, reflecting on interview content on completion of the initial cohort of interviews, it was agreed that data saturation had been reached.

6.3 Summary

This chapter described relevant characteristics of the study populations. This enabled the representativeness of this collective case study to be considered and typical features of MLL teaching practices in this context to be presented.

7 **Findings**

7.1 Introduction

This chapter presents the findings from analysis using both Activity Systems Analysis (ASA) and Thematic Analysis (TA) as described in 5.5. Findings will be represented both as themes and activity systems or components of activity systems to help illustrate their relevance to the underlying research questions.

7.2 Presentation of findings

A combination of ASA and TA was undertaken for each interview (see 5.5.2), providing a clear framework for presenting data and adding depth to that representation. As it would be false to present the findings as two separate pieces of data, the themes identified from TA were used to integrate the data. Within each theme, where relevant, an activity system representation of the theme or subtheme being described will be presented. These will illustrate key components, contradictions and boundary crossing as they arise within the relevant system(s) (see Figure 7-1).
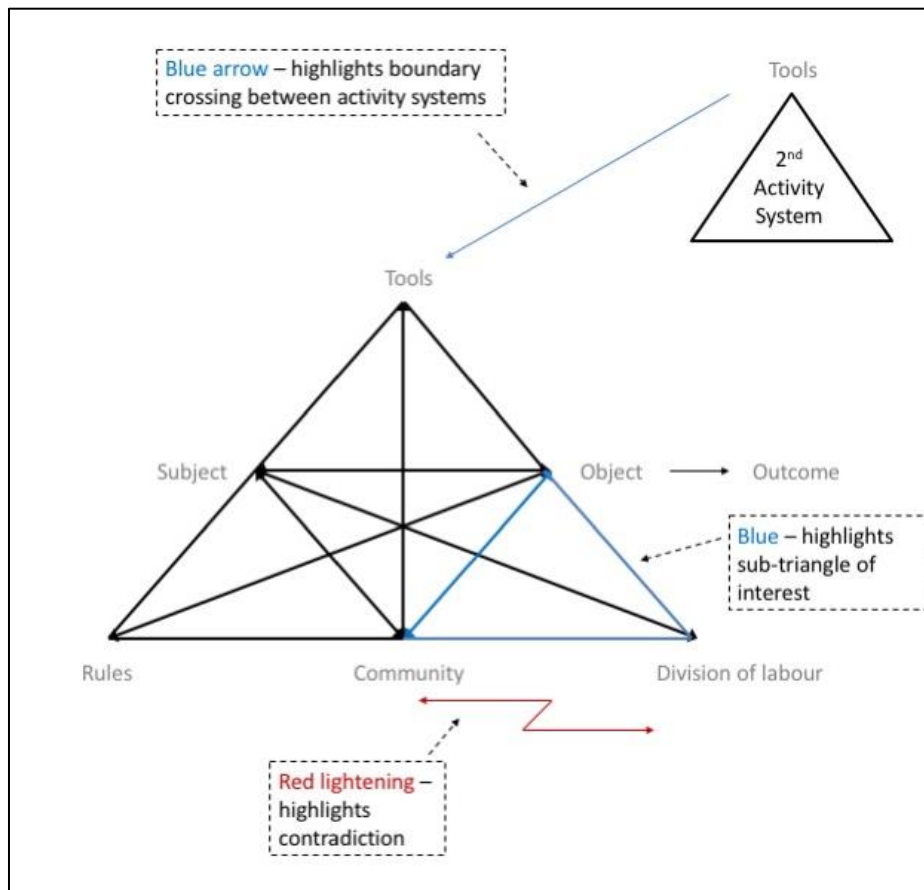
Figure 7-1 Activity System representation of findings

At times, a joint undergraduate and postgraduate representation of findings is appropriate and this will highlight where similarities, overlap and shared resources exist. Where differences exist, undergraduate and postgraduate data will be presented independently and this will serve to highlight the location of contradictions between activity systems (see 4.6.3). This flexible approach enables the concept of the continuum to be presented as it arises in the data.

The TA data is presented in a hierarchical level, starting with a broader representation of the theme highlighting the significance of the current context of GP in Scotland in 2017. Following this, consideration will be given to interface issues, predominantly with educational bodies in the form of the universities and the Deanery, but also with the health boards and how their decisions influence the delivery of teaching in GP practices. The next level is that of the individual practice and its practice team before finally, description of the activity at an individual level is addressed. This has resulted in five themes (see Table 7-1).

Table 7-1 Themes

Themes
1. General Practice in 2017
2. External Relationships
3. The Joint Teaching Practice
(including Management of Teaching and Practice Identity)
4. GP as Teacher
5. Near Peer Teaching in General Practice

The sub-theme of variation emerged at every level and reflects that a one-size-fits-all approach would not be suitable for describing the activity of teaching as it occurs in GP practices. Rather than making variation an individual theme, examples are given as they arise to illustrate how this applies.

7.3 Theme 1: General Practice in 2017

As described in Chapter 4, Activity Systems Analysis has its origins in Cultural Historical Activity Theory (CHAT). CHAT assumes the history of an activity to be relevant and therefore takes into account the historical context of that activity when reviewing it.

As described in Chapter 4, General Practice is under unprecedented pressure and this comes across in the interviews.

7.3.1 Recruitment and retention

The current recruitment crisis surfaced in the majority of interviews and affected teaching in a number of ways. Three of the seventeen interviewees had current GP vacancies in their practice directly impacting their teaching capacity. Although teaching is remunerated to help provide backfill for teaching time, the lack of availability of locums, particularly more peripherally, makes teaching more challenging than in the past.

> We are a half a partner down at the moment. We have got someone [starting] but they won't be [here until October]. It's impossible to get locums…at the moment, unbelievably difficult… so it's made us back off a bit [from teaching] but I hope that once we get our partnership up to full… (M9)

Even practices which had not been directly impacted were aware of the broader pressures on GP and recognised the importance of their contribution to teaching to help to address recruitment more generally:

> The interesting time will come in 3 years time…when I retire, NAME will retire a year before me and she's our senior trainer so what will happen then? Will we carry on? I suspect we will because I think …being able to recruit very talented doctors at a time when no one else [here] is recruiting anyone [is important]. I think my colleagues realise that that is a direct consequence of our long term commitment to teaching over the last 20 years.(M1)

> The main strength is that they…feel that we are actually interested in them because then they might think… 'these guys are ok' and most importantly they might think 'Actually, GP is quite good fun and we want to be a GP'. [This] is our main reason…We really need more people to do it. (M3)

One interviewee described that even though they have been able to fully recruit, the impact of other local practices having to close their lists due to recruitment difficulties has impacted on their workload. As described in 2.2.2, rural practices are disproportionately affected by recruitment issues and the impact of rurality will be further explored at practice level analysis in 7.5.3.4.

7.3.1.1 Activity Theory interpretation

Recruitment and retention is a desired outcome of both the activities of undergraduate and postgraduate teaching (Figure 7-2). Recruitment and retention difficulties decrease the community of people able to be involved in the object of teaching within an individual practice but recruitment issues in activity systems externally can also impact on teaching (e.g. local practices). This is represented by contradictions between these separate activity systems at the location of community.
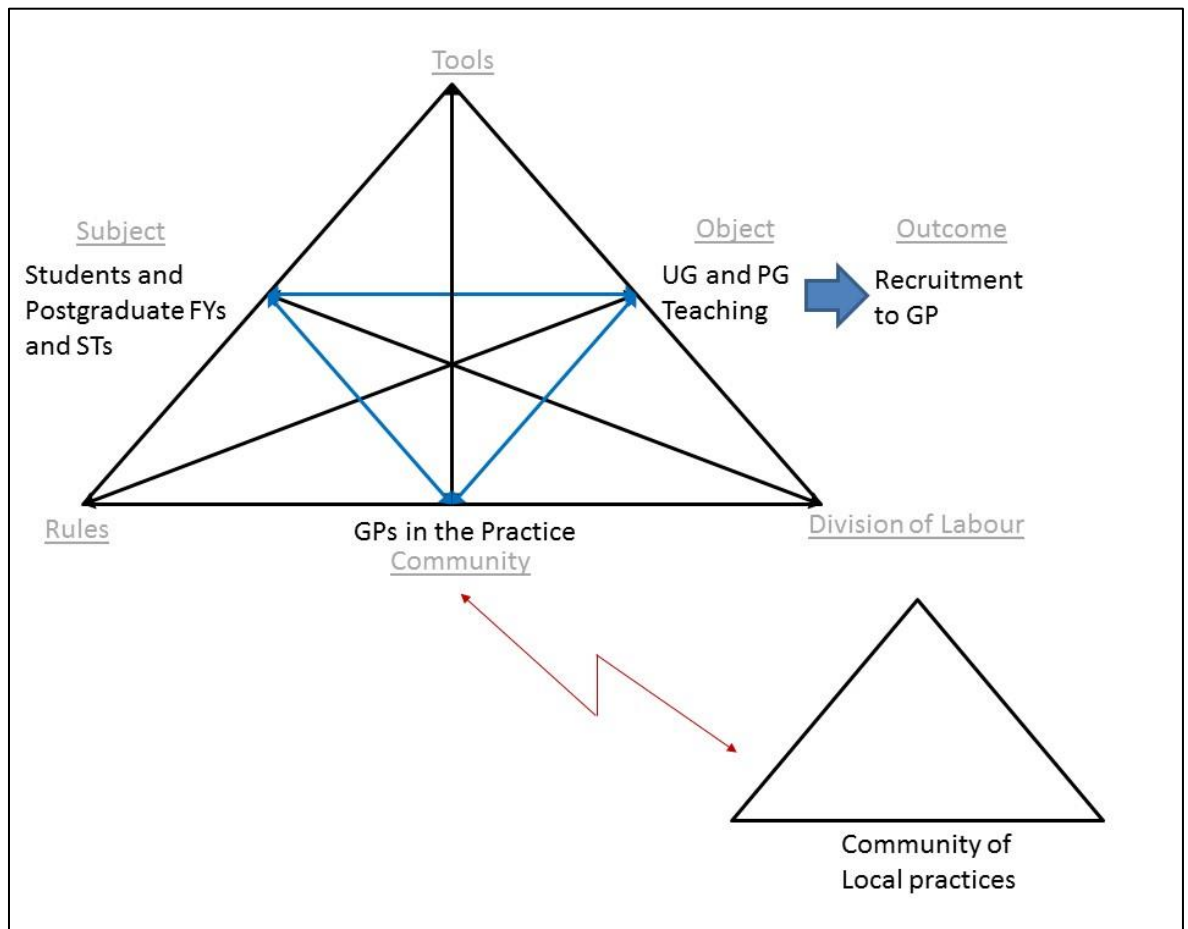
Figure 7-2 The relationship between recruitment and retention and teaching in general practice

7.3.2 The changing practice team

As presented in 2.2.4, changes to membership of the practice team has been a result of both the recruitment crisis and development of primary care over recent years. The expansion of nursing roles (e.g. Advanced Nurse Practitioners) and integration of new and broader members of the practice team (e.g. embedded pharmacists) aim to bring in new resource to help support practices and several interviewees embraced these colleagues as a way to help support them with their increasing workload.

> The problem of our crisis at the moment is not…a shortage of GPs. It's…a shortage of other people adequately trained…We've got 33 sessions if we were at full strength, we are down to 27 now…That's 3000 patients per doctor…which is way above the Scottish average… We can cope perfectly well with that because of the other people that we have in the team…the difficulty is that if you try to look for somebody to be a nurse practitioner you won't find one. You can only poach other peoples or you train your own and…the line that we've always taken is to train our own. (M10)

Whilst these new team members could free up GP time to support medical teaching, the time required from GPs who become involved in training them was also a potential threat to medical teaching.

7.3.2.1 Activity Theory interpretation

The expansion and development of the practice community can be seen as a tertiary contradiction as differences between the old and the new can create new tensions but also offer opportunities for learning. Interviewees describe a new secondary contradiction between the potential creation of time for the GP through the redistribution of clinical tasks (division of labour) balanced against the time that may be need for training and supporting new colleagues or those in expanded roles (tool). (Figure 7-3)
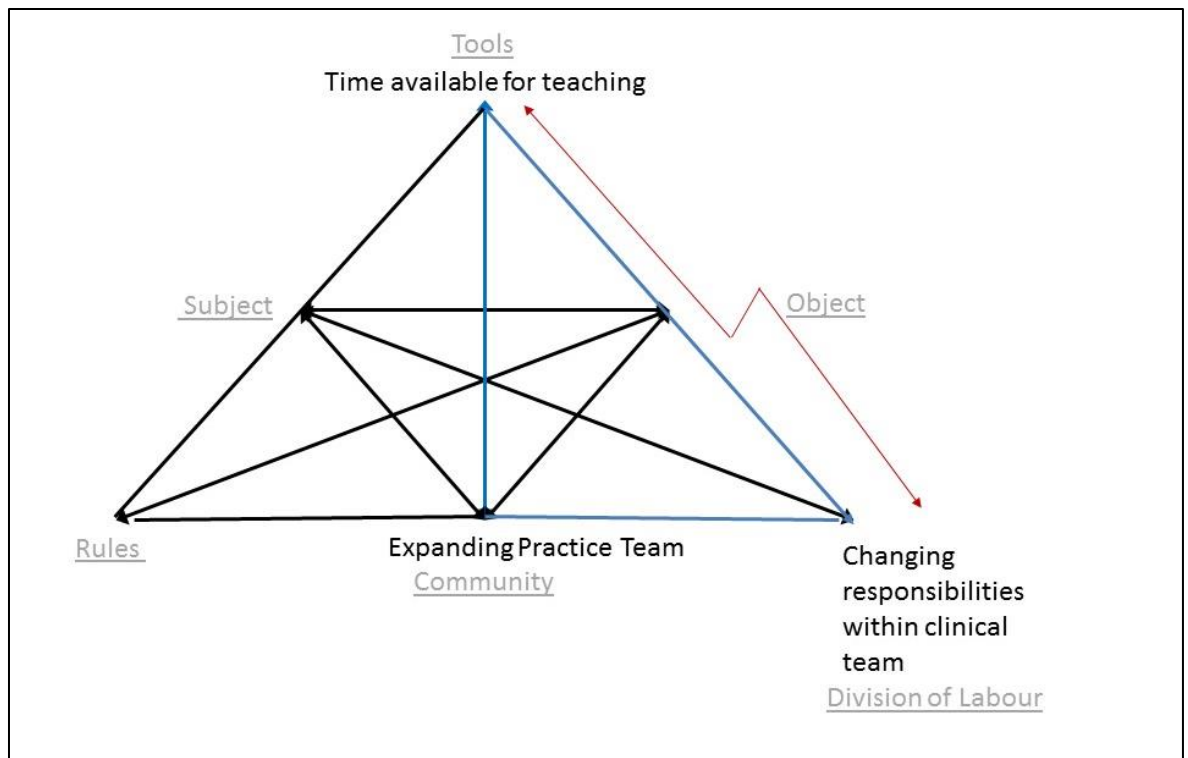
Figure 7-3 The impact of the changing practice team on teaching in general practice

7.3.3 Funding for practice premises

The other resource that the expansion of the team potentially impacts on is that of space for teaching.

> The health board have been very supportive in that they have been putting in extra resources in the form of clinical pharmacists and a

new advanced nurse practitioner started here last week in this practice ...we basically say 'yes' to everything so...that's eroding our space availability so again there's going to be challenges in clinical pressure and space pressure to keep the teaching at a personal level. (M1)

Space is under increasing pressure in some practices due to having both more members in the practice team and an expansion in patient numbers. Four GPs described lack of space hindering their ability to expand teaching opportunities as they would have wished to do so. One practice had been successful in securing additional consulting rooms when moving to new premises and reported being able to have expanded teaching '*3 to 4 fold*' (M1) because of their success:

> In the old building the main obstacle to teaching was lack of space, we had eight consulting rooms but of course during the last twenty years the primary care team expanded, lots of practice nurses, we've always had registrars so our ability to do undergraduate teaching did suffer from constraints of space. (M1)

Other practices had not enjoyed this success in securing funding for new or extended premises. Two GPs described new housing schemes being built locally with developers offering them free land to build new practice premises in recognition of the resultant increase in patient numbers. Neither of these practices had been able to secure Scottish Government funding to enable them to capitalise on these offers.

> We've increased by a thousand patients in five years with lots of building, no extra resources and a building that's falling down, propped up by two porta cabins...We have plans for a spanking new building... [as now we only have] three consulting rooms that we hot [desk] between...Our big problem is that we haven't got enough rooms... We have a plan for a building that should have six consulting rooms which means there's space for everyone including the trainees but also a room if we have a student in doing things. (M2)

The practice described above has been negotiating for over twenty years for new premises, so even when there is a willingness to expand teaching capacity, external factors such as funding for premises can negate that. The other practice offered land is using porta cabins long term to create more consulting

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space and described how they were so desperate for space that the current teaching room used to be the bin cupboard.

7.3.3.1 Activity Theory interpretation

Space results in contradictions both within and external to the practice (Figure 7-4). The competition within the practice for teaching space as opposed to space for expanding patient care activities is a secondary contradiction. This reflects the underlying primary contradiction of teaching versus service. Meanwhile, although developers have offered land for new premises, the lack of funding from the Government for expanding premises creates a quaternary contradiction as it inhibits expansion of teaching.
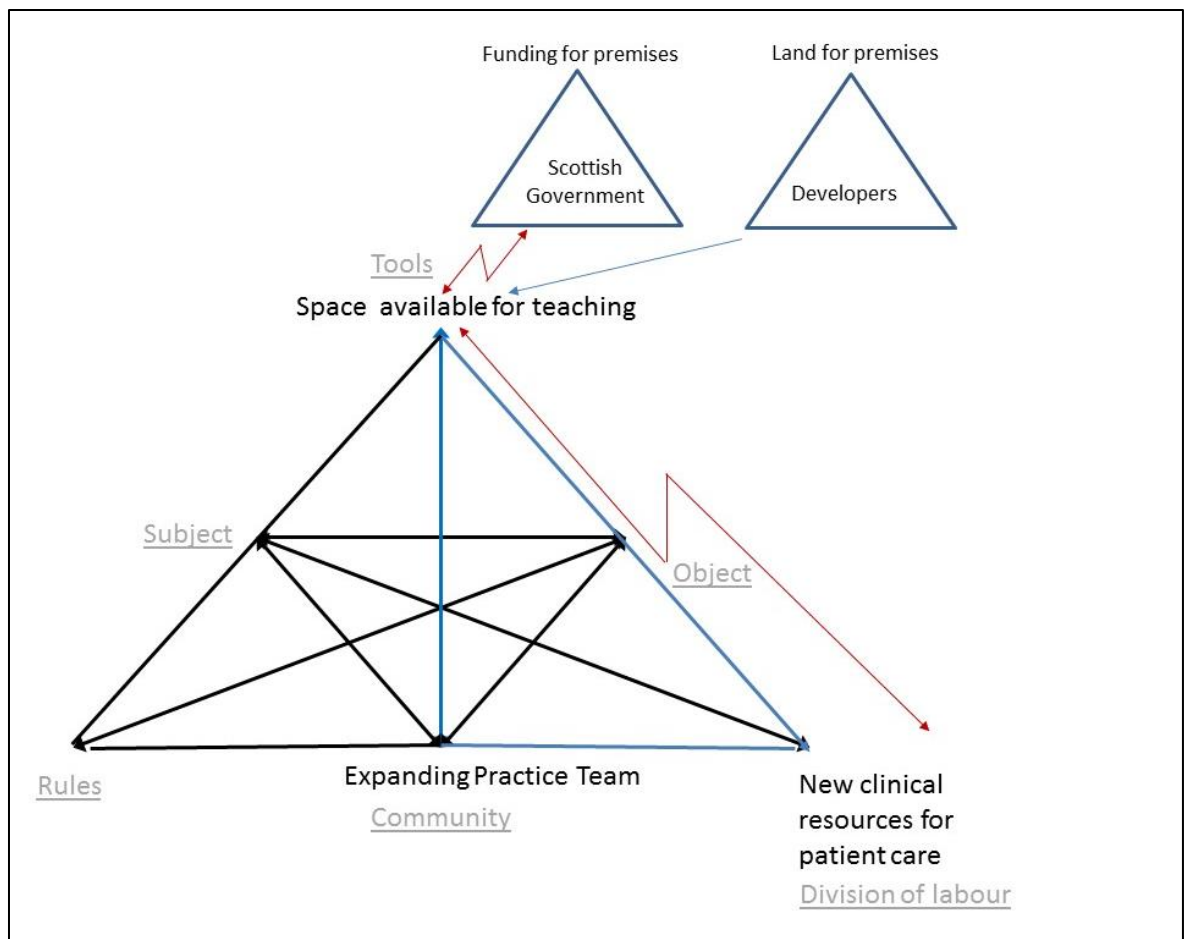
Figure 7-4 The pressure for space in teaching practice premises

7.3.4 Changing working patterns

As presented in 2.2.2, the changing working patterns of GPs could be both an opportunity and a threat to teaching in general practice. Reflecting national trends, the GPs in this study who were full time were most likely males in their 50s. One soon-to-retire full time respondent reported that he thought it was unlikely that he would be replaced by a full time colleague.

> Two of us are in our late fifties and won't go on much longer. We were talking about it and I suspect that it's unlikely we will get two [new] nine session people. Most doctors want four, five, six sessions so there could be as many as ...five doctors in the building, so we do need the extra space. (M2)

Of the GPs that did both teaching and training, five out of nine worked full-time. In keeping with the increased desire for portfolio working described in 2.2.2, several respondents describe their teaching contributions being over and above their routine contracted work in their practice. This will be further explored when considering motivators at an individual level (7.6.1) and the organisation and structure of teaching within practices (7.5).

In several of the practices, the fact that the majority of GPs were working part time had afforded the practice some capacity to expand their teaching commitment.

> I don't particularly want to be any more than eight sessions a week you know and I'll be seven plus the Uni next year and that's probably kind of where I want to sit. I'm not averse to doing an extra session but it would have to be for training rather than GP stuff. (F6)

> The other thing that's a great help is that, like many other practices, we are all part time. No one does five days a week...I think [none of us] could now follow the traditional model of ten sessions a week. It would just be too much... So we've all got a little bit of extra time that we can use for teaching. (M1)

7.3.4.1 Activity theory interpretation

The changing constitution of the GP members of the community can affect the division of labour and the resource of time (Figure 7-5). The participant characteristics in this study suggest that the GP educators are more likely to work full time than the general GP population so the impact of not replacing like with like in terms of service contribution could be a potential source of a secondary contradiction. However, it could also be an opportunity as increasing the number of members of the teaching community may increase capacity, as can GPs who are willing to do extra teaching in their time off (see 7.5.2.3).
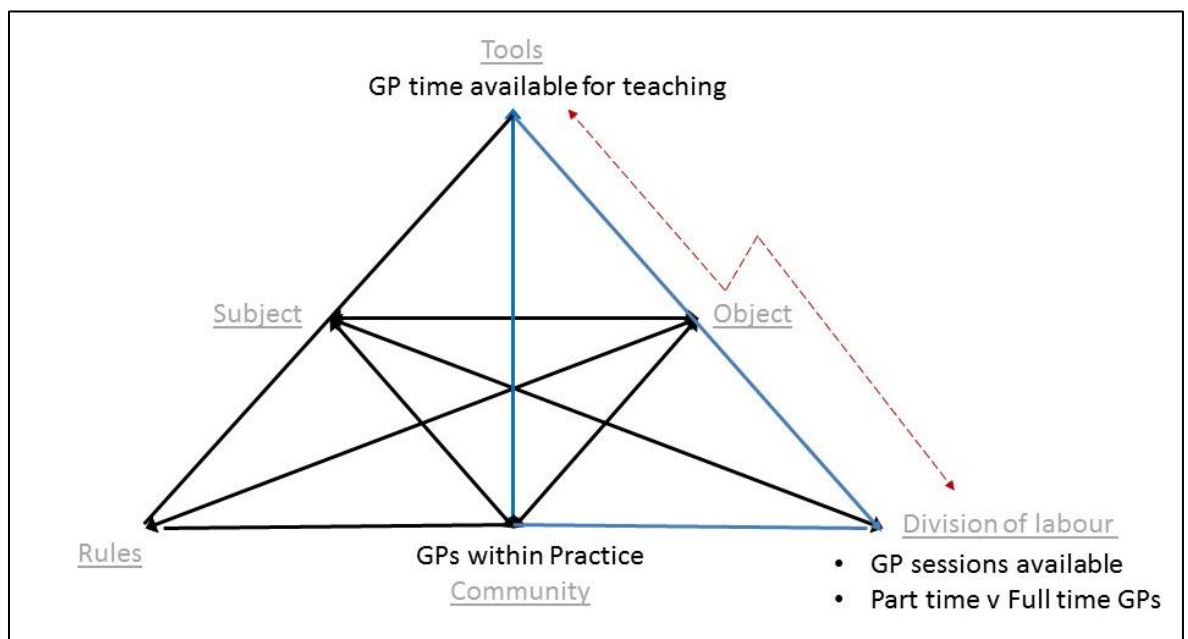
Figure 7-5 The impact of changing working patterns on teaching in general practice

7.3.5 Changing local practice relationships

Changing practice structure can shape the organisation of teaching as illustrated by this practice which had recently merged with other local practices. The GP described this enabling more efficient use of resources for teaching activities.

> We [were] effectively three independent practices [and] merged into [one]. That opened up…opportunities for more flexible training options. From the students' point of view, they probably see a bit more of an integrated set up because we quite often get them involved if there is registrar teaching…If there are things like that, there is [crossover],… economies of scale as well. (M3)

For other GPs based in new health centres with more than one practice, shared teaching or meeting space was described. One GP discussed needing to negotiate with his neighbouring practice for the purchase of a new projector for the shared teaching and meeting space. He suspected this would not be agreed due to differing funding priorities.

7.3.5.1 Activity Theory interpretation

As independent contractors, most practices function quite separately from each other. Increasingly, relationships with local colleagues are changing and this can impact on teaching. These two examples illustrate how this can either support or hinder teaching. A neighbouring non-teaching practice may have conflicting values, highlighted as a contradiction in desired outcomes between practices. Meanwhile, a neighbouring teaching practice may give the opportunity for boundary crossing through shared teaching as seen in the example of the practice merger.
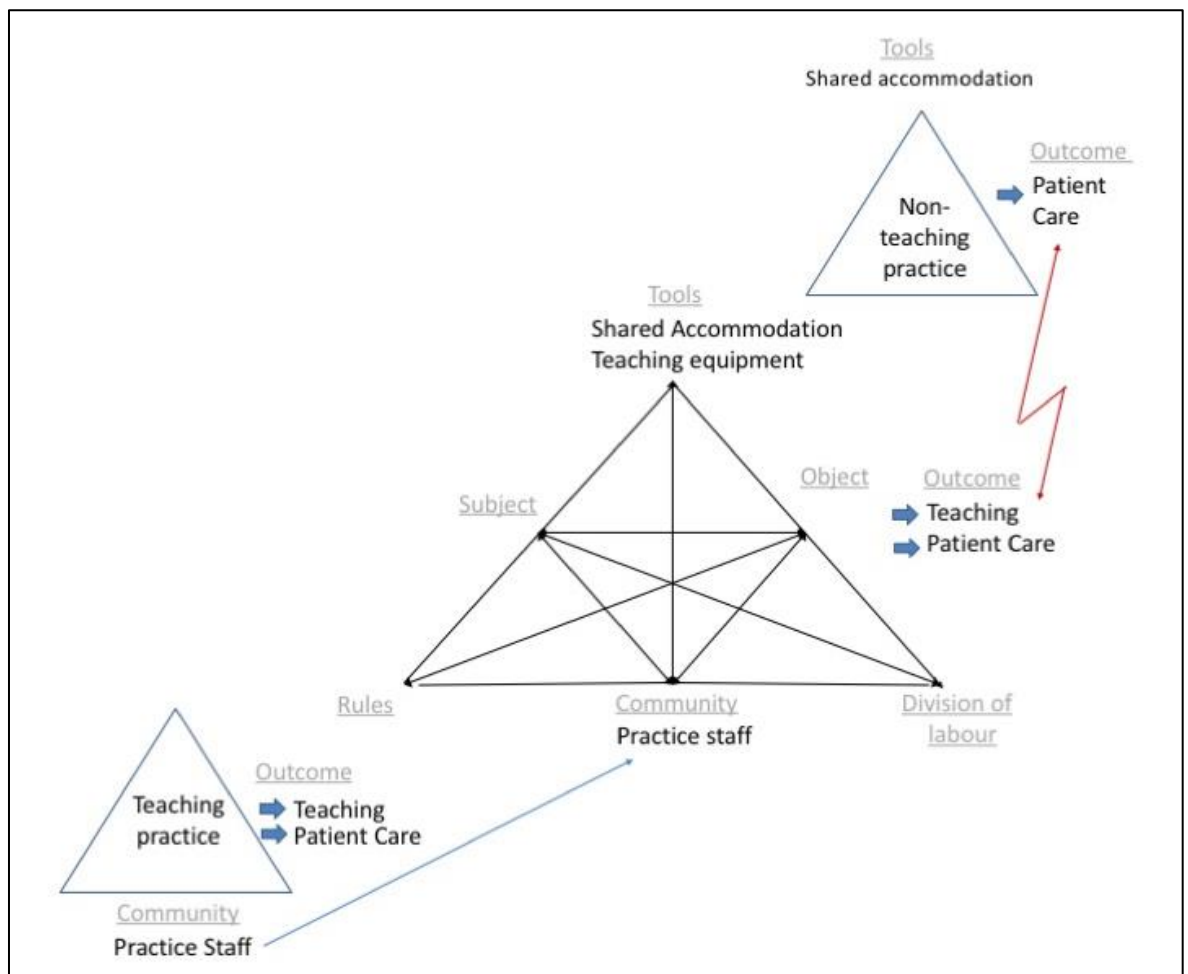
Figure 7-6 The influence of neighbouring practices on teaching in general practice

7.3.6 Theme 1 Summary: General Practice in 2017

Teaching was influenced by various features of the current context of GP in 2017. Pressures on service have resulted in changes to the practice team and competition for resources e.g. accommodation, GP time for teaching. The impact of the current recruitment crisis on teaching was also evident.

7.4 Theme 2: External relationships

7.4.1 Teaching for more than one medical school

In delivering both undergraduate teaching and postgraduate training, practices can have organisational interfaces with several external bodies. A few of the practices studied provided teaching for more than one medical school, both within Scotland and England, and they reported different requirements and expectations related to those. While some educational supervisors reported that this was a challenge, it was also described that this could be beneficial.

> It's a lot of extra work but I've said 'Look. If I'm good enough for LOCAL MEDICAL SCHOOL and [we keep being told] LOCAL MEDICAL SCHOOL is higher up in the tables every year [then] surely we are good enough for you guys. But they still say we have to have something in writing to submit to show [they've] at least accredited everyone. (M2)

> Both universities do things slightly differently and that again has been interesting and quite enriching…MEDICAL SCHOOL NAME is…very keen on the students from early on consulting with the patient [on their own]. Then the teacher comes in and they explain what's been happening…I've started doing that with my LOCAL UNIVERSITY students because they really like it and they find that… they actually have to sit with the patient and try and work out what's going on… without someone prompting them. They quickly learn and benefit from it so… I think my LOCAL UNIVERSITY teaching and my MEDICAL SCHOOL teaching have both got better because of the cross pollination (M1)

One supervisor described the confusion as a potential deterrent to other practices becoming involved in teaching across organisations and described his strategies for dealing with this.

> [Firstly]….we put the onus on our students and say…'It's up to you… 'I'm not going to email you, chasing you up for things. You need to

send it to me. It's your responsibility to make sure that you are
sending the right stuff because I can't keep track of your curriculum
requirements'… [Secondly]…we always just take a step back and
realise that from a teaching point of view we are teaching
undergraduates… medicine. The actual content really doesn't
matter… providing the students themselves are happy about checking
the objectives that they need to tick. Often we are tailoring so much
of the teaching to the individual student's need anyway…it doesn't
actually matter if it's from LOCAL MEDICAL SCHOOL or MEDICAL
SCHOOL NAME. (M3)

7.4.1.1 Activity Theory interpretation

The AT concept of boundary crossing facilitates understanding of the challenges
faced by tutors working with different external institutions. Different curricula
and quality assurance (QA) processes can be represented as quaternary
contradictions with curriculum documentation and QA paperwork representing
boundary objects, helping learners and GPs to manage crossing the boundary.
(see

Figure 7-7 Boundary crossing between teaching practices and external organisations
) The tutors demonstrate learning through their modification of what they do to
manage this tension. Further learning from boundary crossing is demonstrated by
the tutor who felt that his undergraduate teaching had benefitted from his
involvement with two different medical schools.

7.4.2 Communication

One tutor suggested that a '*Scotland Undergraduate Teaching Portal*'(M3) might
help supervisors navigate working with different medical schools – a place where
he could get information on the different expectations from each University in
one place. The desire for further IT development may not be shared more widely
as a couple of tutors expressed their frustration and difficulties using the
university's virtual learning environment system which is used to share
information with tutors. One described it as '*impossible to work my way
through*' (F4) and another stated they had never actually logged in at all due to
their dislike of it as a process of acquiring information.

Communication from and with the medical schools is generally felt to be good.
As well as clear course documentation, clearly identified and helpful academic

and administrative contacts were felt to be key to supporting them in their teaching roles:

> You know they are brilliant. You pick up the phone... to them and they can give you information. They can point you in the right direction. They give you a password to log into the right forms and they understand that they have [probably] emailed it to us five times already but...they don't mind us phoning up going 'I'm really sorry. I'm stuck. I know it's probably in an email somewhere [but] can you [help] me?'...I think it's so important to recognise that good admin support from the university is so, so important. (M3)

An area that caused specific concern from both an undergraduate and postgraduate perspective was communication from the external organisations around learners in difficulty. While tutors reported support being readily available to help those that they had identified as struggling, they described a lack of information in advance of learners' arrivals flagging those that may need additional support or who may present a potential patient safety concern.

> I mean the big thing...is the information that we get from the university...I still maintain that there needs to be more. ...I know there [are] problems with data protection and confidentiality but we are in such an exposed...and privileged position as student tutors that sometimes we would benefit from having a bit more background information...We are opening up our patients and our surgeries [up] to potentially quite...vulnerable people at stages of their career. (M3)

> We've had one or two difficulties with trainees where I don't think POSTGRADUATE ORGANISATION has been particularly helpful. One of [the trainees] was arrested and charged with crimes of dishonesty and we were told that as he was innocent until proven guilty. They wouldn't be able to suggest that he shouldn't...have access to the patients' records or the patients...We just ignored POSTGRADUATE ORGANISATION and didn't allow him access to the patients' records but I thought that was really pretty poor. They also knew about it, having been told by the police, and decided not to bother telling us until the police arrived to arrest him one morning. (M10)

For those students that tutors identified as having concerns, more communication back in response to their concern was desired. The need to maintain student confidentiality in this context was appreciated.

> We have had medical students we've had concerns about. Not concerns about their performance. Concerns about nonattendance. We had one that was particularly bad and...we did our best to feed

that back to the university but we don't know what happened [after that]. Not that it's any of our business…but even if somebody just phoned you up and said…'Okay… this is what we are going to do. You won't necessarily hear of the outcome though.' [That would be] fine. (F2)

As well as the GPs, the learners have to work across the boundaries. This could be most challenging for medical students as they only attend an individual practice for a maximum of five weeks. In contrast, FY doctors are embedded in practices for four months at a time and GP trainees for six months or a year.

Several practices have produced induction packs to try to facilitate this transition. These contain a range of information to ease the students' transition into their practice. This includes the 'rules' relating to the attachment such as a reminder of dress code, the code of conduct and the rule of confidentiality. As well as rules, they also contain useful practice information e.g. transport information, surgery times, contact details, structure of teaching day. Several GPs describe sending these packs out to students in advance of placements to make them feel welcome and as a prompt for them to start thinking what they might want to get out of their time in general practice, in particular during their flexible sessions.

7.4.2.1 Activity Theory interpretation

These GPs are describing the challenges of boundary crossing (

Figure 7-7 Boundary crossing between teaching practices and external organisations
). The educational bodies and the GP educators have an assumed shared intended outcome in the form of supporting the learners in practice. AT can identify the tools and rules that either help or hinder the GPs and their learners navigating across those boundaries. Identifying contradictions gives opportunities for learning and induction packs and contacting learners prior to their placements can be seen as an example of learning to facilitate boundary crossing for learners.
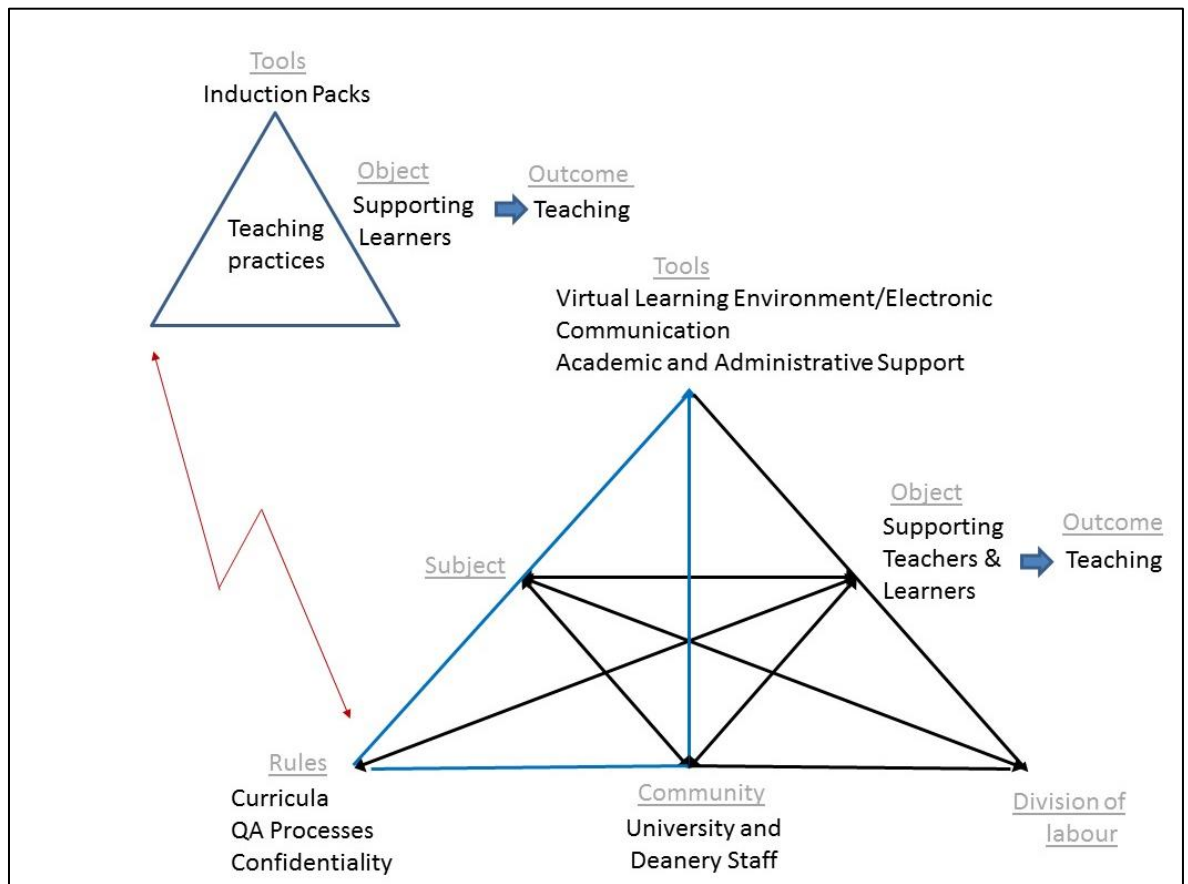
Figure 7-7 Boundary crossing between teaching practices and external organisations

7.4.3 The role of curriculum

In comparison to postgraduate training, undergraduate training is felt to be much less prescriptive.

> I think as long as the feedback that we're getting back is good, we're…not left on our own, but we're allowed to do it our way. (M5)

> I also think…it's not as regulation bound as it the ST training…I can't really be bothered with hoop jumping. (M10)

This comparatively "lighter touch" approach is welcomed by many supervisors, particularly those who have been postgraduate trainers in the past.

> I'm less hide bound by the rules than my postgraduate training colleagues because they have a much more prescribed curriculum. One of the joys of the undergraduate curriculum for me is that I can, largely speaking, be left to my own devices. I'm not told what to do nearly to the same extent and I don't also have to spend hours online completing assessment forms… I'm not sure I could cope with being a trainer now because it's just, for me, it's far too controlled. (M1)

While several interviewees appreciated the feeling of being trusted to provide teaching as long as their feedback is ok and the flexibility this afforded, this was not the case for all. A newer tutor described the challenge of knowing how you are doing as a tutor in practice, physically separated from the University:

> I think probably you just kind of pedal along assuming you are doing much what everybody else is doing but not really knowing. (M4)

This uncertainty was not exclusive to the newer tutors, as illustrated in this comment from one of the most experienced tutors.

> I remember asking SENIOR MEDICAL SCHOOL FIGURE what exactly it was that we were meant to be teaching. And he said 'Well, as the students all give you good feedback, what you are doing is obviously fine'. I thought that was a bit less than helpful. (M10)

As discussed in 3.4.3, there is not a national curriculum for teaching in General Practice. The lack of a specific curriculum is appreciated by some tutors and frustrating to others. To guide students, our medical school does produce a master list of clinical presentations for the senior medical students to use. (Appendix X)

Similarly, although there is a broad Foundation Curriculum, there is not a specific curriculum for GP which results in variation in what teachers think they are to teach. One tutor describes having created his own curriculum to fill this void for his foundation trainees.

> I've sort of invented a curriculum for FY2...I tell them that the 3 things I want them to do. [The first] is to learn how to do a consultation which I think is a generic skill, not just for general practice, but one very poorly practiced on a great deal of people out with general practice. [The second is] that I want them to be comfortable working to the limit of, but within, their capabilities. And [the third] thing that we have been told we've to do is long term condition management so I teach them long term condition management. (M10)

In contrast to the lack of an undergraduate curriculum, there is a clear and thorough curriculum for GP training. Despite this, direct use of the GP curriculum only arose in one interview. Its indirect use was implied in several ways, particularly when considering the various assessment requirements required to be undertaken by the trainees as part of the Work Placed Based

Assessment (WPBA) component of the MRCGP tripos. These are then recorded within their e portfolio.

Overall, reviewing respondents' descriptions of what they believed they were expected to teach or should be teaching, a huge variation was noted. All interviewees reported tailoring learning to their individual learners' needs and interests and the flexibility afforded by the lack of a prescribed curriculum seemed to support them to do this. This ethos of tailoring learning opportunities to the individual will be explored in 7.6.3

Across both undergraduate and postgraduate, but particularly postgraduate, there was a feeling that the assessments were driving the teaching content. In some ways, a lack of a prescribed undergraduate curriculum gave the tutors the freedom to deliver a curriculum they felt suited individual students needs or addressed areas they personally felt were underrepresented in the medical school curriculum (e.g. prescribing, doctor as activist). The downside of this is that the variability of content may be considered a concern. (See Table 7-2, Table 7-3 and Table 7-4)

Table 7-2 GPs perceptions of what to teach - postgraduate

What to Teach Postgraduate
Clinical examination skills
Team working in GP - in particular that they are not working in isolation
Gaps in training (eg identified from posts, rating scales, e portfolio entries
Preparing to work as a GP in practice (eg managing workload, running a business, doing polypharmacy reviews)
Quality Improvement Activity - audit, SEA
Research
Preparation for exams eg CSA
Assessment tools - CbDs, CoTs
Soft stuff' - communication skills and ethics
Consultation Skills
Comfortable working within capabilities
Long term condition management
Program of tutorials 'want ticked off early on' and often 'near the end' too
Clinical teaching based on areas expertise
Focused investigation and appropriate use of resources

Table 7-3GPs perceptions of what to teach - undergraduate

What to Teach - Undergraduate
Teaching for assessment eg OSCE prep, clinical skills
Clinical medicine eg common GP diagnoses, 'non-medical' presentations
'Everyday life'
Tailor attachment to what they want to do
Team working - breadth of clinical team
About General Practice in their practice context eg rural, deprived, multicultural
Consulting - student led surgeries and consultation theory
Prescribing and limitations of protocols
Lifelong learning - ask questions if don't know something, ok to make mistakes and not know everything
Focused history and examination
Principles of community based medicine and the role of the GP
What individual perceives is missing from or inadequately taught in medical school curriculum eg prescrbing , risk, dr as advocate
Ok to reassure if self limiting illness
Attitudinal - building confidence or teaching humility as needed
Clinical courage to challenge if feel something not right
Patient- centredness - teaching about life as a patient
Going beyond history and examination

Table 7-4 GPs perception of what to teach - common to undergraduate and postgraduate

What to teach - Common to both Undergraduate and Postgraduate			
Principles of lifelong learning			
Teaching to reflect			
Cultural norms if international students or graduates			
Doctor in Society - Social accountability, doctor as activist, health inequalities			
Sharing uncertainty with colleagues			
Generalism and personal doctoring			
Work life balance			
Holistic care			
Professional development including avoiding burnout and coping with stress			

7.4.3.1 Activity Theory interpretation

AT describes how the challenge of boundary crossing directly impacts on teaching in practices by identifying the tensions which arise through the variation in curricula and different organisational approaches to teaching content. The different undergraduate and postgraduate organisations are represented as their own activity systems with their own tools (e.g. curricula, master list of conditions) which can function as boundary objects. The difference in curricula can be represented as a quaternary contradiction (Figure 7-8). Although different rules may be seen between organisations, the underpinning value of learner-centred teaching was common to all and could be conceptualised as both a rule and a tool of teaching.
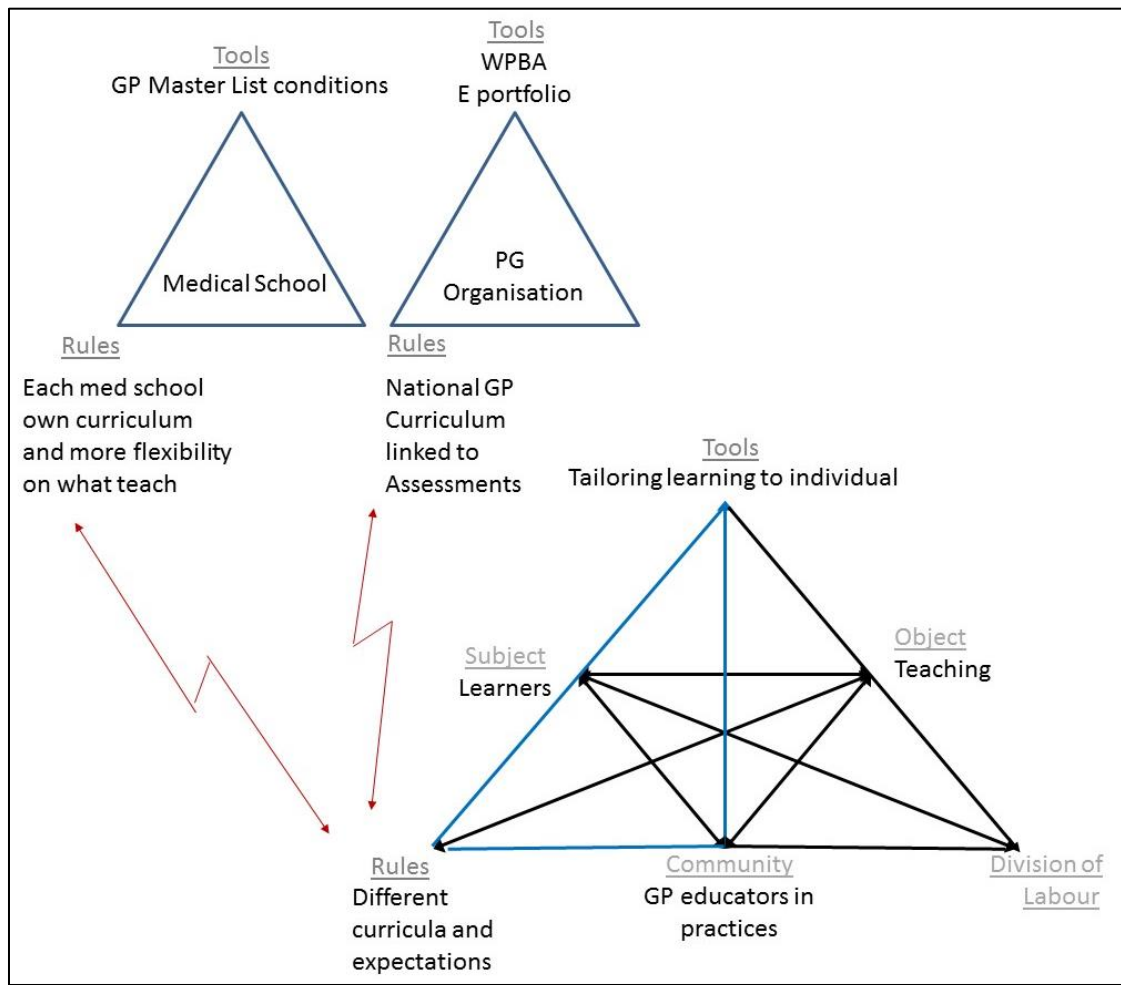
Figure 7-8 The role of curriculum in undergraduate and postgraduate GP education

7.4.4 The e portfolio

The purpose of the e portfolio was reported in 2.3.1 and generally, the e portfolio was not looked upon favourably by the GPs interviewed. Several GPs had been trainers when the e portfolio first came into use in 2008 and at least one GP had used it themselves as a trainee. One trainer described hating it so much when it first came out that they nearly stopped training because of it.

> I just thought 'What's it for?' It became greater than its purpose…
> Filling in the e-portfolio became more important than seeing patients and learning and reading and stuff. (M9)

His view was similar to that of the GP who had completed it as part of her own training when asked if she had found it useful for her own learning when she was a trainee.

> It was more like I had to get this many [log entries] done a week. Certain things it was good for… like keeping track of courses, reading up on things but having to constantly fill in about stuff that you were seeing, I don't know if [that was useful]. (F1)

Their views were reflective of those more broadly with a strong impression being given that the e portfolio was a lot of work and useful for a struggling trainee but not necessarily helpful for the majority of capable trainees.

> I think when there is a challenging student or a challenging trainee it probably is more helpful…If they are very good…[then] it's very difficult to find anything [for it] use wise. (M2)

> I mean that's what all this is geared up for…Could we not just have a red amber green light system rather than all this?...I think most people are ok but the whole of POSTGRADUATE ORGANISATION seems to be geared towards the not ok people…who shouldn't have been there in the first place…I don't find that terribly useful (F2)

7.4.4.1 Activity Theory interpretation

The e portfolio can be seen as a tool that crosses the boundary between the practice and the postgraduate organisation (Figure 7-9). It is a rule that the necessary components must be completed to a satisfactory standard and this is felt to be time consuming, potentially detracting from more highly valued learning activities. Therefore, the e portfolio is recognised as serving a purpose for a struggling trainee but less useful for the capable trainee.

AT would suggest that the perceived usefulness of the e portfolio could be seen as a reflection of subtle differences in the intended outcome of training between the GP trainers and the postgraduate organisations. While the postgraduate training organisations are responsible for the production of a safe GP workforce, their primary focus is the assessment of competence of the trainee via the e portfolio. In contrast, the GP teachers were prioritising learning for the purpose of producing a good future GP colleague. This tension between assessment and learning could be conceptualised as a quaternary contradiction.
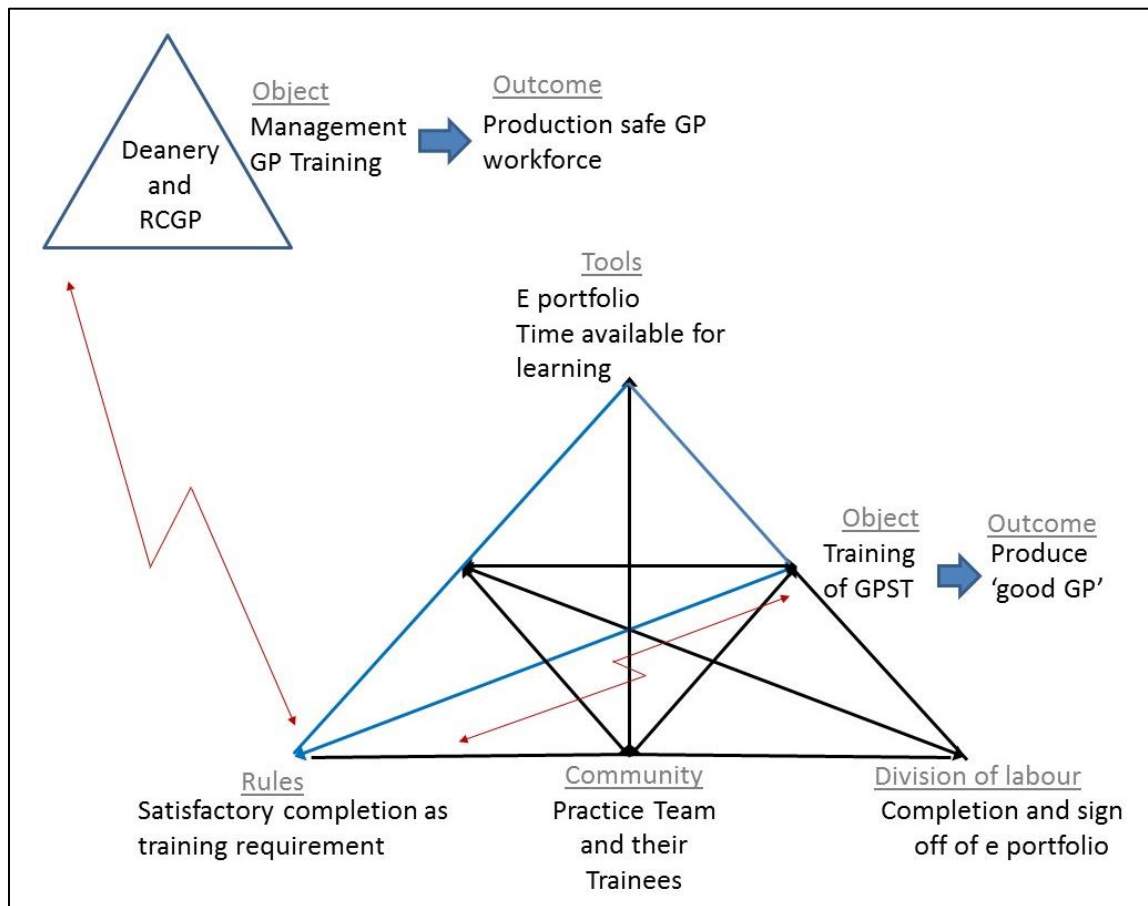
Figure 7-9 The place of the e portfolio in postgraduate GP education

7.4.5 Foundation training

Just under half the GPs interviewed worked in practices that train Foundation Doctors and in contrast to GP Specialty Training this was again felt to be "lighter touch".

> the FY2s [have] the... end of block thing but that's very much a...token thing... It's very much 'Yeah, there [weren't] any problems' rather than anything that's really detailed in assessment. (M7)

The GPs had variable perceptions of the quality of the foundation trainees that they had been allocated. One reported that they were better than some of the trainees they had while another felt there had been some that had been '*truly dire*'(F2). The latter GP described feeding their concerns back to the Deanery but that the system still allowed them to progress satisfactorily. This extreme variation could reflect that not all foundation doctors who have been allocated to work in General Practice posts will have chosen those posts. Therefore, they may have varying degrees of enthusiasm or aptitude for a job in GP.

7.4.5.1 Activity Theory interpretation

Foundation trainees occupy a transition point in the continuum of medical education and representation of foundation teaching varies between practices. Foundation training has some features common to undergraduate training (e.g. lack of specific curriculum) while also having some common to specialty training (e.g. deanery as external body), demonstrating the complexity of MLL in GP.

7.4.6 Placement allocation

Fair allocation of learners, particularly from a postgraduate perspective, was another area of tension. The majority of tutors working more peripherally felt that they were being allocated fewer trainees compared to their more central colleagues, with one suggesting they were disproportionately allocated less able trainees.

> We are not going to get trainees [because] POSTGRADUATE ORGANISATION is so focussed on everyone that wants to live in CITY must … live in CITY… They've got all their links in CITY and they won't dream of moving out of CITY… We are, rude to say, dredging the bottom of the barrel…We are getting the last people who can't get a trainee job anywhere else. (M10)

> It involved a lot of work [just to become a trainer] …You go to two residential courses and you have videos and all that kind of thing to do just for yourself…to become a trainer. But actually we've had very few trainees because nobody wants to come to PLACE NAME so it's not been a great success. (*laughter*) We've got two trainees in total in the last three years so it's not been good. (F2)

Three of the more peripherally-based trainers, including the two quoted above, mentioned the possibility of giving up GP training due to this recurrent lack of trainee allocations. Two of them felt their efforts would be better directed towards training interested and willing nurses as nurse practitioners while the other felt that they would be better focusing their efforts on FY doctors as they had been allocated these more consistently.

> 'if POSTGRADUATE ORGANISATION would divert some of the money that is not being used to train STs into paying for nurses to come and learn to be nurse practitioners, I think we would be in an extremely good position to do that.' (M10)

7.4.6.1 Activity Theory interpretation

This situation is a quaternary contradiction between the desired outcomes of the postgraduate organisation and those of the practice (Figure 7-10). The deanery may feel pressure to ensure trainees preferences are met, taking a longer term view of their responsibility for providing workforce. While at practice level, GPs are trying to balance delivery of teaching and training with meeting the current demands on clinical service. This need to meet service requirement leads to practices considering redirecting their resources for teaching to training alternative learners more likely to be able to contribute consistently to the practice team and this can be represented as a new tertiary contradiction within the practice system itself. GPs requested a desire for more equitable allocation of trainees as well as consideration of reallocation of teaching resources by the postgraduate organisation to enable them to redirect their efforts in more fruitful teaching endeavours.
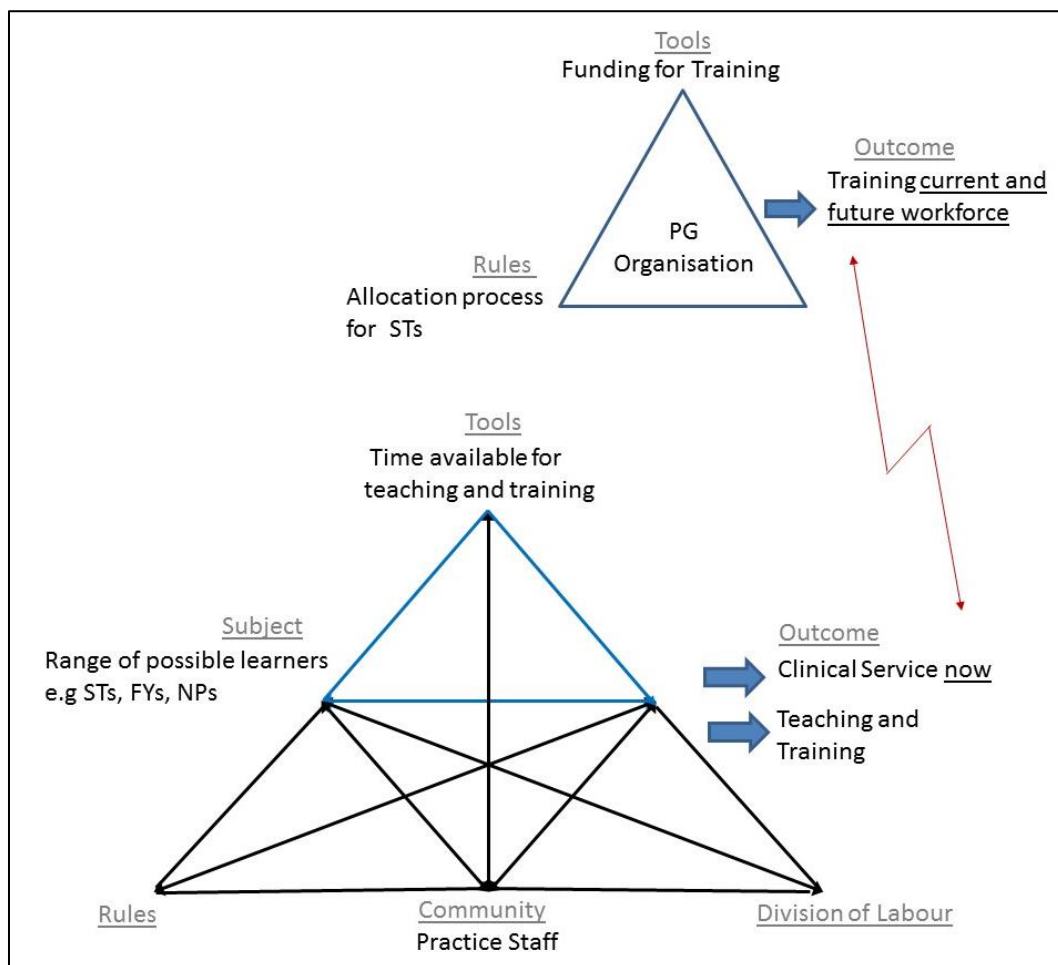
Figure 7-10 The tension of postgraduate placement allocation

7.4.7 Peer support for teaching

A positive feature for the GPs was the peer support they had for their undergraduate and postgraduate teaching roles. The provision of an annual medical school tutor training event was seen as an important opportunity for teachers to develop their skills and to share ideas with peers out with their own practice.

> Through just speaking to colleagues at the [training] event, [hearing] what other people did [was a help] because I felt that maybe...the students ...[weren't] confident enough to do that or [maybe I] wasn't confident enough (*laughter*) to let them do it. So...I think we get more out of doing the student led surgeries when I'm there and I think there's ...better feedback...doing it [the new way]. (F5)

> When we were at [training event] one of the sessions that I went to involved ... an exchange of ideas about how to approach things and one of the things that came up that we hadn't really thought much about was about was about...things that you might want to find out about your student that might affect their learning. Whether it be learning style...cultural preferences or things like that. [Finding] out a bit more about them as a person...early on...in case that has any impact on anything else. (M4)

The postgraduate trainers group and support from the Training Programme Directors (TPD) were highlighted as similarly important from a postgraduate perspective. Trainers group meetings kept trainers up-to-date with the latest developments in GP training, as well as providing educational activities. Calibration of marking of assessments was seen as core business, though they could be daunting.

> Last year we had to [show] a tutorial...and have that rated which was quite an experience because that's not just a straightforward thing... To talk and then [have] all the trainers feeding back...that was...absolutely terrifying. Having to show...a consultation and [be] marked is one thing because you know the schedule. You know what you're meant to be trying to [do]. An open half hour talk with someone is quite different and people are saying 'Why did you dominate it?' or 'Why didn't you ask them this?'. (M2)

7.4.7.1 Activity Theory Interpretation

Undergraduate and postgraduate teachers appreciated the importance of being part of a community of teachers external to their practices. From a

postgraduate perspective, trainers groups are fixed smaller communities where the TPD functions as a boundary object between the trainers and the deanery (Figure 7-11). A similar model does not exist for the undergraduate teachers. Both undergraduate and postgraduate teachers are expected to attend annual training conferences and these were reported to be beneficial tools for keeping teaching up-to-date and facilitating further development as teachers.
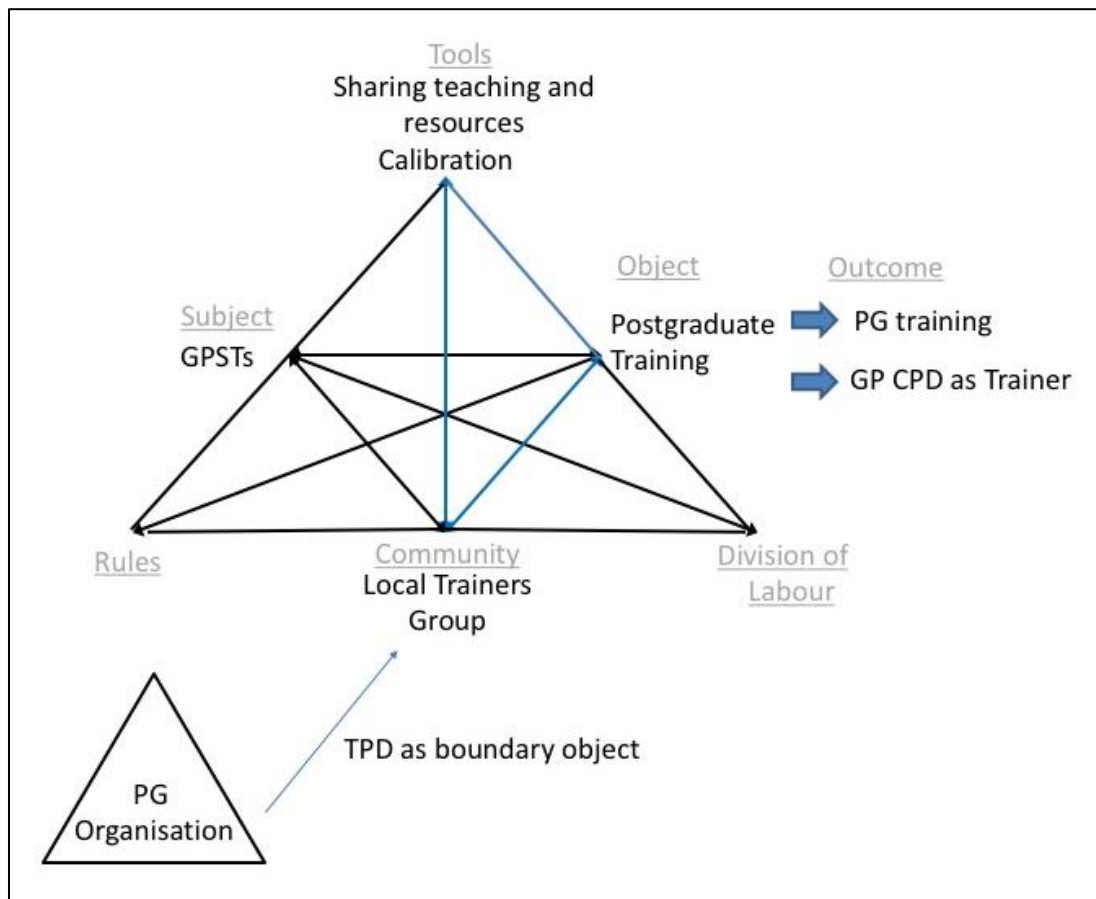
Figure 7-11 The role of the Local Trainers Group and TPD in supporting postgraduate teaching in general practice

7.4.8 Quality Assurance - Recognition and Approval of Trainers and Training Practice Accreditation

The peer review of a tutorial described above is only one of part of the requirements of remaining an approved trainer and training practice from a postgraduate context. Several of the GPs interviewed had led their practice through the initial practice accreditation process with those who were trainers having been through the Scottish Prospective Educational Supervisors Course (SPESC) or its predecessor. The process of becoming an approved trainer and training practice was felt to be a significant amount of work.

> I don't know if you recall but under a certain Professor NAME who had been very strict... not only did we have to get all our records onto A4 ...we had to get them summarised and that took two, three, four, five years to get up to that standard...Then there's the horrendous level of inspection...They would come out and if they found two files that weren't up to scratch you would be told off and [told] you're not getting it this year' (M2)

An experienced GP who had recently become the lead trainer in her practice described her anxiety surrounding an upcoming accreditation visit to her practice:

> I became much more anxious about it leading up to the reaccreditation visit because I never actually had to do the visit [before]. The previous visits we'd always been accredited for the maximum number of years...and at that point I was the second trainer so...I didn't worry about it the same...I remembered everybody else flapping at the time and me thinking 'I'm so glad I'm not the senior person'. So I had all this coming into my head this time [and] I got extremely anxious about the kind of rules for the trainees because when you started reading through the documents for that I thought 'Oh my goodness, it [is] quite a lot. (F6)

Although these requirements were seen as being a significant amount of work, when asked to identify useful tools and resources for their roles as teachers in GP, several GPs highlighted those from their trainer's course as useful. It is also worth noting that no postgraduate GP trainers reported feeling underprepared for this role.

In contrast to the amount of work needed to become and remain a trainer, again the undergraduate side was felt to be "lighter touch". A couple of those who had ultimately become supervisors for GPSTs reported having taught medical students first to '*break themselves in*' (M2) to teaching.

> First of all, we increased the number of students that we took and then the obvious next step was to become a training practice. (F3)

Some tutors had teaching handed over to them from other GPs in the practice whilst others had an interest in teaching that had inspired them to get involved. There was no mention in the interviews of an accreditation process for them to go through, though I know from my University role that this does exist. This process is minimal in comparison to its postgraduate equivalent so the main

focus of discussion with those who had taken on undergraduate teaching was on the usefulness of the new tutor training and ongoing training and support for teaching provided by the university. The internal practice dynamics of taking on and handing over teaching will be further discussed in 7.5.1.1.

7.4.8.1 Activity Theory interpretation

There are some areas where postgraduate and undergraduate teaching should be represented as two activity systems and other areas where there is a clear overlap between them and they may in fact be inseparable. At this time in the West of Scotland, there are distinctly separate and different quality assurance processes for undergraduate and postgraduate teaching and AT can be helpful to illustrate how these systems interact with each other in the context of the same practice (Figure 7-12). For some practices, a secondary contradiction has existed where the postgraduate QA process (rules) has hindered their desire to become a training practice. This has resulted in some practices engaging with the undergraduate "lighter touch" system as a stepping stone to taking on a postgraduate role. Using the tools (experience and resources) they acquire in the undergraduate process has helped prepare them for the postgraduate quality assurance rules or enabled them to gain relevant teaching experience. This is an example of learning in one system crossing into another.
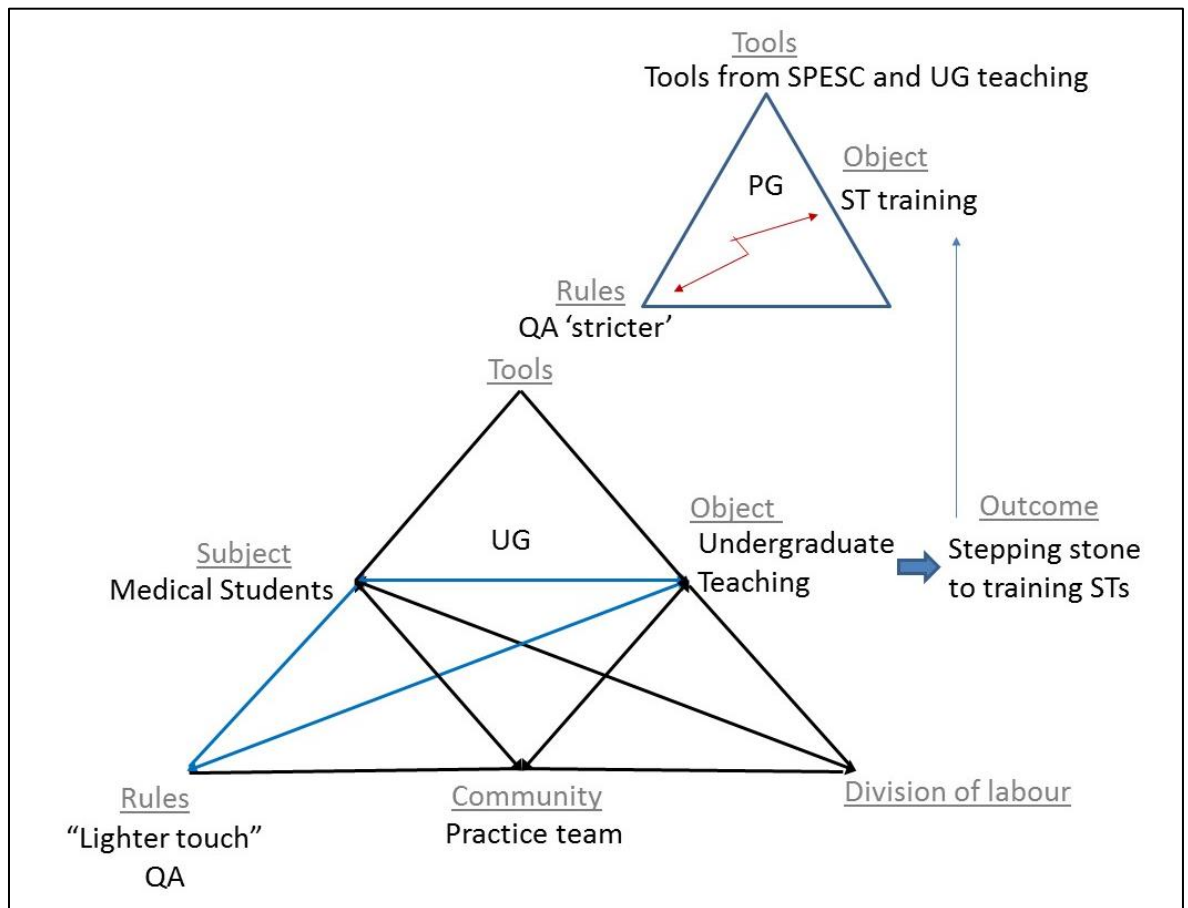
Figure 7-12 The contrast between undergraduate and postgraduate quality assurance processes in general practice education

7.4.9 Theme 2 Summary: External Relationships

From an external organisational perspective, each of medical schools and the deanery are distinctly different entities and are experienced as such by the GPs. The educational supervisors are required to navigate between the differing requirements and expectations and while they find personal communication with those representing the organisations helpful, the IT with which they are expected (undergraduate) or required (postgraduate) to engage is felt to be a potential area of tension.

From a postgraduate perspective, although there is now only one Scotland wide deanery, those practices that train both foundation doctors and GP specialty trainees describe different expectations and experiences related to those activities. From a postgraduate perspective, the original focus of this study had been intended to be GP specialty training but as eleven GPs interviewed also provided foundation doctor training with their practices, this has been presented as it arose in the findings.

7.5 Theme 3: The Joint Teaching Practice

The next level to be considered is that of the individual practice. Practice identity and the perceived value of teaching will be discussed. Within this, the tensions arising from the primary contradiction of the simultaneous delivery of teaching and clinical service will be further explored as well as the strategies employed by practices to try and address this. Following this, communication within the practice team and the influence of practice characteristics will be considered.

7.5.1 Identity as a teaching practice

7.5.1.1 Starting and handing over teaching

Of the seventeen GPs, five had been responsible for setting up undergraduate teaching and three GP specialty training in their practices. Two out of the three that had set up training, had set up both. Therefore, the majority of GPs interviewed had been 'handed over' their teaching role by a predecessor in the practice who had either retired or decided to stop training. In one particular practice, teaching dated back to the mid-seventies and it was handed over to him by his father. Most of the time, the GPs interviewed appeared to be enthusiastic recipients of their teaching role but on a few occasions due to practice circumstances or pressures the responsibility fell to them.

> I've been a trainer five years...and I'm now our lead trainer, just through retirement and restructuring, so that was a quick step up. But it's been fine, again the whole place is used to it. We have three trainers and our fourth partner is about to embark on training. (M6)

> My colleague who retired kind of persuaded me...he retired two years ago due to ill health and he was quite keen that we keep taking the students... He particularly enjoyed it and felt that because it was a training practice and because of the way it was set up, it was a good place to come. (F4)

Three GPs interviewed have either recently stopped training or are planning how they are going to pass the baton to a colleague. Succession planning is a standard component of postgraduate training practice accreditation discussions. The GPs described this also being part of practice discussions and planning. In all

the interviews conducted with long standing teaching and training practices, teaching came across as being an embedded part of their practice identity.

> The whole ethos of the place is to do both, to do it all the time...I think it was something that was so established that it's the right thing to do. (M6)

7.5.1.2 Activity Theory interpretation

AT prompts consideration of what those in the community consider to be their "work" through review of the value which practices place on teaching and the motivators for practices to teach. For the GPs that described teaching as being core to their practice's identity, teaching is clearly almost as important as the clinical service they are primarily contracted to deliver. In AT, the historical context of an activity is important and the division of labour can suggest how teaching has developed and continues to develop within a practice community. Decision making in relation to establishing teaching, handing over teaching and succession planning were all part of discussions (Figure 7-13).
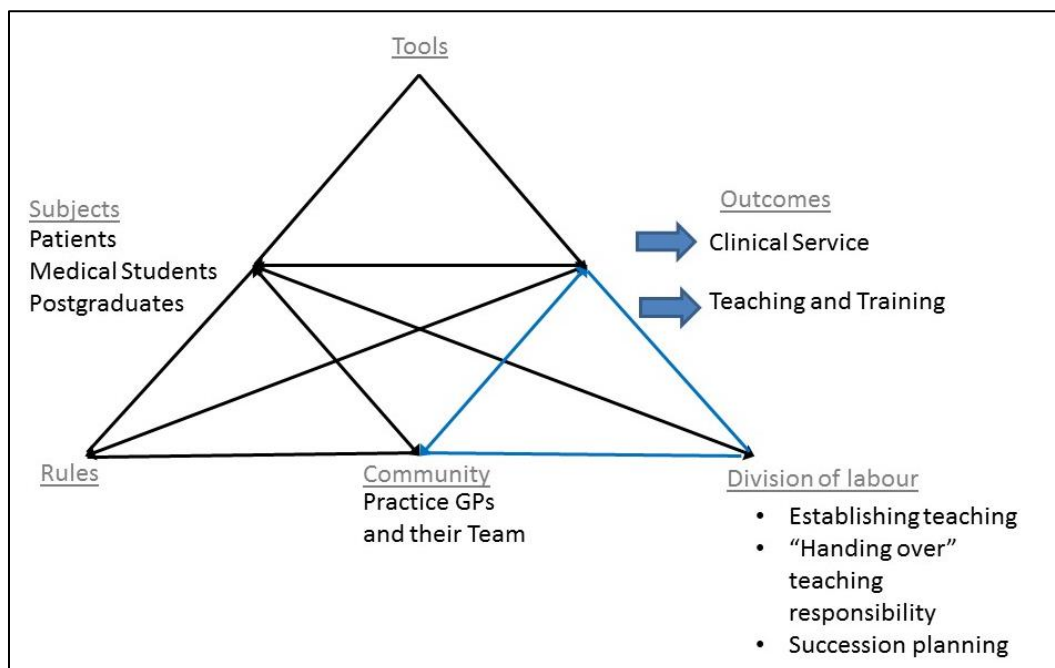
Figure 7-13 The history of teaching involvement in practices - starting and handing over teaching

7.5.1.3 Impact on recruitment

For those that had helped establish or expand teaching within the practice themselves, a practice vision with education at the core was desirable and aspirational.

> I'd really want the practice to have an educational focus, that's the side of it that I like and that's where I'd like it to head. (F6)

This shaped the development of the practices in a number of ways, most evidently in the choices that were made when it came to recruitment of GPs.

> I enjoyed the practice I'd done my training in and felt that it kept you up-to-date...I quite liked the whole vibe of a training practice and that was part of the reason I got the job in this practice. ((F3)

> We always thought it would be good to aim to be a training practice. That was kind of an aspiration...it meant that when we were recruiting we were looking for someone who was really interested in teaching. (M7)

The desire for likeminded colleagues when it came to practice appointments came across in many of the interviews.

> I think the biggest and most important [resources]...are colleagues who understand and are interested in teaching and a decent admin (sic) contact. (M3)

For those in whom it did not, it was clear that the recruitment of any decent GP was their current priority.

For a couple of those who were able to prioritise an interest in education, this was based on their own negative experiences of colleagues unsupportive of teaching or that of others.

> We have been in the situation previously where we had someone who wasn't as keen...Don't get me wrong, I know some of my friends have had it a lot worse than she was...but she would say "Oh, for goodness sake, how may tutorials do these [students] need?" and this kind of thing...It just gets annoying...because you are like, "oh [be quiet], you came here knowing that we were training, just [stop it]". (F7)

The example above illustrates the tension that differing opinions on teaching can cause. Two GPs reported that resistant colleagues had hindered teaching delivery - one colleague stopped the practice teaching all together while the other prevented necessary training developments. In both of these practices, the situation only improved when the resistant individuals retired. These examples highlight the importance of whole practice commitment to teaching which will be discussed in **Error! Reference source not found.** .

7.5.1.4 Activity Theory interpretation

In 7.5.1.1, the perceived value of teaching alongside clinical practice was highlighted. Having a full complement of GPs in the practice to deliver service is clearly the highest priority outcome from recruitment. Secondary to this, there is a desire to recruit GPs with a shared enthusiasm for teaching. When the latter has not happened the primary contradiction between teaching and service can emerge as a secondary contradiction (e.g. disagreements about division of labour) (Figure 7-14).
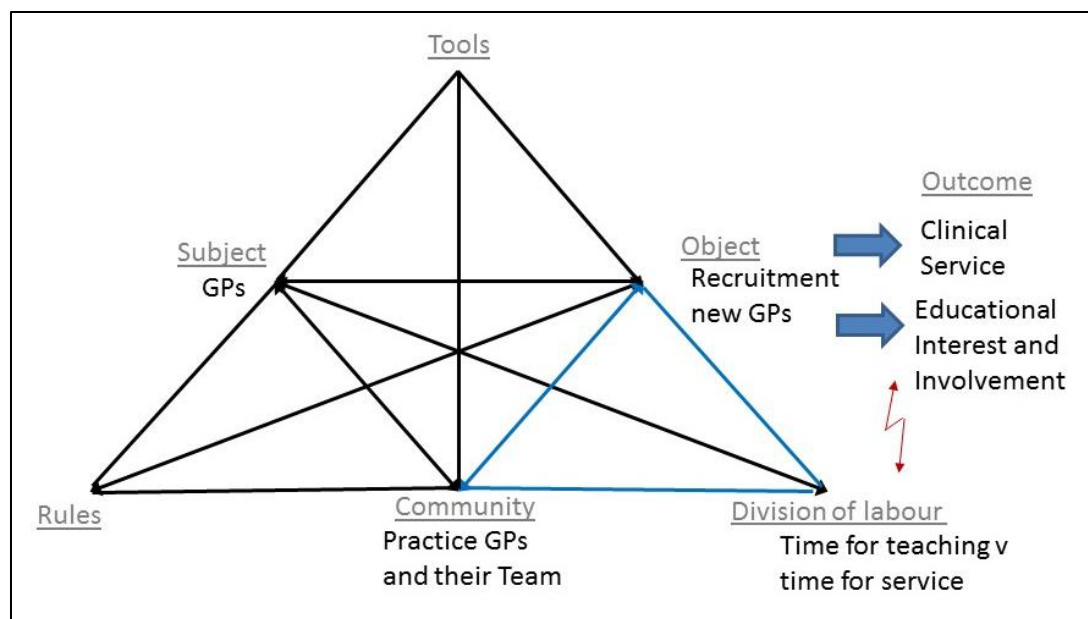
Figure 7-14 The impact on recruitment of teaching multilevel learners in general practice

7.5.1.5 Practice motivation to teach

Teaching was perceived to bring many benefits at both a practice and a personal level. Personal motivators will be explored in 7.6.1. From a practice point of view, the importance of practice identity as a teaching practice has already

been highlighted with the majority of GPs in this study having been "handed-over" teaching responsibility. There is some variation in what practices feel teaching undergraduates brings as opposed to training postgraduates. While both are appreciated to bring income into the practice, postgraduates are additionally recognised as hopefully bringing "a spare pair of hands". One GP described the significant benefit of this in the past when there would have been a much more onerous on call.

> In those days... we were doing a lot of on call. It was a 1 in 2, not very busy but very tiring and we decided our vision for the future, for the next 25 years...at least, [was to] go up the training route...It would give us a pool of resource to use. It's great. We have... trainees [who] can help out when they are very competent and can be left in charge. (M2)

The perception of the ability of GPSTs and FYs to contribute to workload is variable. In general, it was felt that the foundation doctors were effectively appointment-neutral, becoming more useful if allocated at later points in the year. A competent GPST3 towards the end of their year was felt to be a significant attribute but, in contrast, practices may struggle to support a struggling trainee.

> On one hand they give you an extra pair of hands and sometimes a brilliant extra pair of hands...On the other hand...if they are no good, there's so much work and ...I don't see us having the manpower to put in the work if they are no good. (F2)

Practice attitudes to income generation from teaching were diverse. A couple of GPs interviewed identified income as an important factor in taking on teaching but it was never the sole motivating factor.

> ...one of the senior partners didn't want to go back to training so we felt that doing medical students was an income stream, it kept us kind of a wee bit more in touch with the younger side. (F2)

> [Why did we add in the medical student teaching?]...Money probably. The FY training, now that would be money too... They were keen to get people to do FY2 training and we weren't entirely sold on how beneficial that would be for service provision point of view but we took it on...Most of the time we have had a...continuous succession of FY2s which I must say I've enjoyed very much. I've found it's possibly the most rewarding part of all the training. (M10)

In contrast, a couple of GPs felt important to be clear that money was not a main motivator for the practice and, at one point, one of the rural practices interviewed was paying more for accommodation for the student than they were getting for hosting the student on placement.

> We've put them up in a B&B, we pay for that and we had to negotiate with MEDICAL SCHOOL quite a lot because for a while it can actually end up costing more to host them than it is to get paid. (M2)

> We're not doing the teaching for the financial gain of it, really, it's not worth that much. (M6)

One tutor even went so far as to suggest that he thought most practices would continue teaching even if the trainer's grant was withdrawn.

> The truth of it is... they could save a fortune... if they withdrew funding for all training. How many practices would stop training? Not many. I mean, you get the training grant but the reality of it is I'd bet you most...none of them would stop. They could save five grand a year on each one, I think that's what it is. (M9)

Several GPs highlighted teaching as a way of keeping the practice up-to-date; both in terms of the requirements for being a teaching practice but also as a direct result of needing to keep up with the learners themselves.

> It's really ...making sure that the practice has got all the protocols and that we are doing things properly... It is a definite advance on three, four years ago. We have a regular clinical meeting every month now For many years that was the intention but it kept falling by the wayside... And maybe then it hopefully brings more consistency into what we do so it's a practice approach to something rather than an individual thing. (M7)

> I think it's good for the practice in terms of making sure that we keep up-to-date with things, I think it does...give an atmosphere of continued learning within the practice because there's people training...I think it's good for raising standards as well... I think that we feel because we've always been a training practice that we do have quite high standards and quite good...clinical governance and all these kind of things so...I think it's positive from that point of view. (F5)

Additionally, the GPs felt the learners, particularly the students, bring an energy to the practice.

> A really important thing is it brings a lot into the practice and that, even as…a practice team of around about 40 people,…teaching in general, and particularly medical student teaching, brings in so much kind of energy that is really, really positive. (M3)

Students' curiosity and lack of cynicism was welcomed in a couple of interviews.

> I think undergraduates…have a sort of freshness to their thinking that I think it's quite infectious. I mean…there's just something about having a young person in the practice, devoid of, usually devoid of, cynicism and the vast majority of our students are so curious. That I think feeds into the rest of the teaching practice and makes them better (M1)

7.5.1.6 Activity Theory interpretation

AT takes into account the historical context of an activity and the importance of a practice's teaching history has already been explored. The range of motivating factors for teaching can be represented as different intended outcomes of the same object – teaching (Figure 7-15). These are not necessarily in conflict with each other and in fact can amplify the benefits of teaching. A clear potential source of tension in the system is when it is effectively "destabilised" by a struggling trainee. Not only are practices not able to deliver service as hoped, struggling trainees also require additional resource and this can impact on the intended outcomes of teaching.
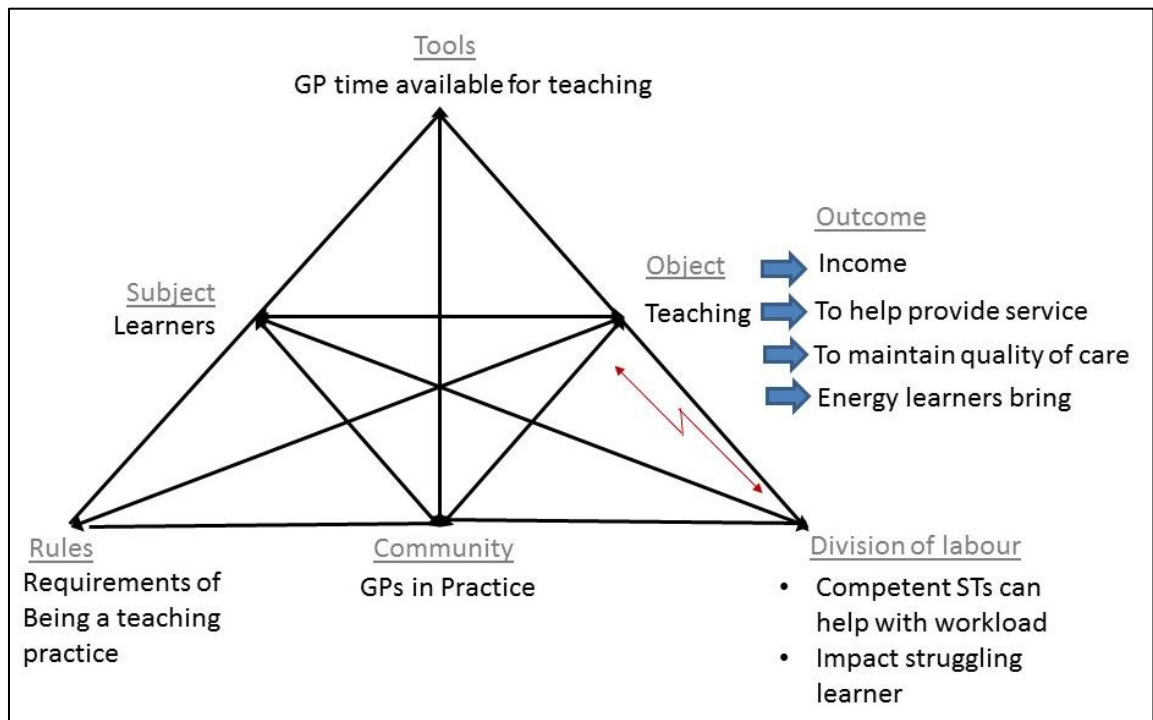
Figure 7-15 The range of practice motivations to teach in general practice

7.5.2 Teaching v Service - Time

In the context of General Practice in 2017, it would have been astonishing if the tension between teaching and service had not arisen.

> I suppose our biggest challenge at the moment [is demand]…We are all very committed to teaching but I mustn't look at things through rose-tinted spectacles because…these are very challenging times for general practice and demand on the practice is very, very high. And at times of high demand there are subtle, and sometimes less subtle, pressures on teaching. 'Do you really need to have that tutorial? Can we maybe use a little bit of blue slot time because someone's on holiday?' or whatever. (M1)

(Blue slot time is protected teaching time represented on the practice appointment template)

This quote was typical of the feeling across all the GPs interviewed and on several occasions supervisors described the need to try and defend teaching or balance it against clinical pressures.

> I found we were teaching a little but by the skin of our teeth because … we are busy…Sometimes you were teaching and folk were knocking

> on your door and wanting things done and actually [you just have to say, 'I'm not here'. (M6)

> I'd love to have more time for tutorials and things, to have more time to talk. [We work across] split sites [so] we have to travel between them… [and] I'm not a ten-minute-consulter so…it's not as if my day can split like that…I finish an hour late every day… so sometimes it feels like you sacrifice the teaching to get the job done…[It] would be nice if it wasn't like that but there's no way around that. (M9)

Just under half of interviewees discussed the stress of teaching while trying to deliver service and this will be described in 7.6.2.

7.5.2.1 Protected time for teaching

As a result of these stressors and external postgraduate accreditation requirements, practices have adopted a range of strategies to try and represent the work of teaching within practice schedules. The commonest of these was the provision of "protected time" for teaching. This arrangement is widely accepted for tutorials with tutorial slots the most likely time to remain protected during peaks of clinical pressure. There was much more variation when it came to the rules relating to supervision of STs or FY2s consulting or teaching students in your own surgery time.

> So, she (FY2) is on twenty minute appointments just now but you'll see here that one GP has got some debrief slots booked off for her to come in between patients and ask about things… She's got a clear go-to person for that day. [They have] space and time to…chat to her between patients if needed…When [FY2s} first come…they do half an hour [appointments] and…every third appointment of ours is blocked so that basically the last ten minutes of each of their patients, there should be a GP free. (M4)

GPs supervising FY2s generally have more time blocked off for their supervision than those supervising GPSTs. The time allocated decreases as the STs become more senior, assuming they are increasing in competency as expected. Where these systems sometimes fall down is when GPs are running behind in their surgeries.

> And what the trainees are supposed to do is…to come and ask…the person that has got the catch up slot. But in reality what happens is they ask the person who is running best to time. Which is invariably me! But that's fine. (F7)

In this particular case, she would like to change the system to have an "On Call GP" who would not be consulting but available in the surgery and therefore more accessible to trainees. Unfortunately, as they are currently understaffed, this is not possible. This was not the only example where GP vacancies and appointment capacity had influenced practices delivery of teaching or supervision.

> You're meant to have two slots…blocked off in your surgery if you're supervising the FY2. That doesn't always happen…[it depends] on demand for appointments. (F2)

7.5.2.2 Activity Theory interpretation

Various rules exist within practices related to the management of time for teaching. Some of these are locally agreed within the practice while others may a requirement from the deanery related to time allocated to teaching and supervision. However, secondary contradictions occur within the practice system when service demand exceeds capacity or there are staffing gaps which then impacts on the division of labour (Figure 7-16). This can put pressure on both individuals and the service as a whole and reflects the underlying primary contradiction between teaching and service.
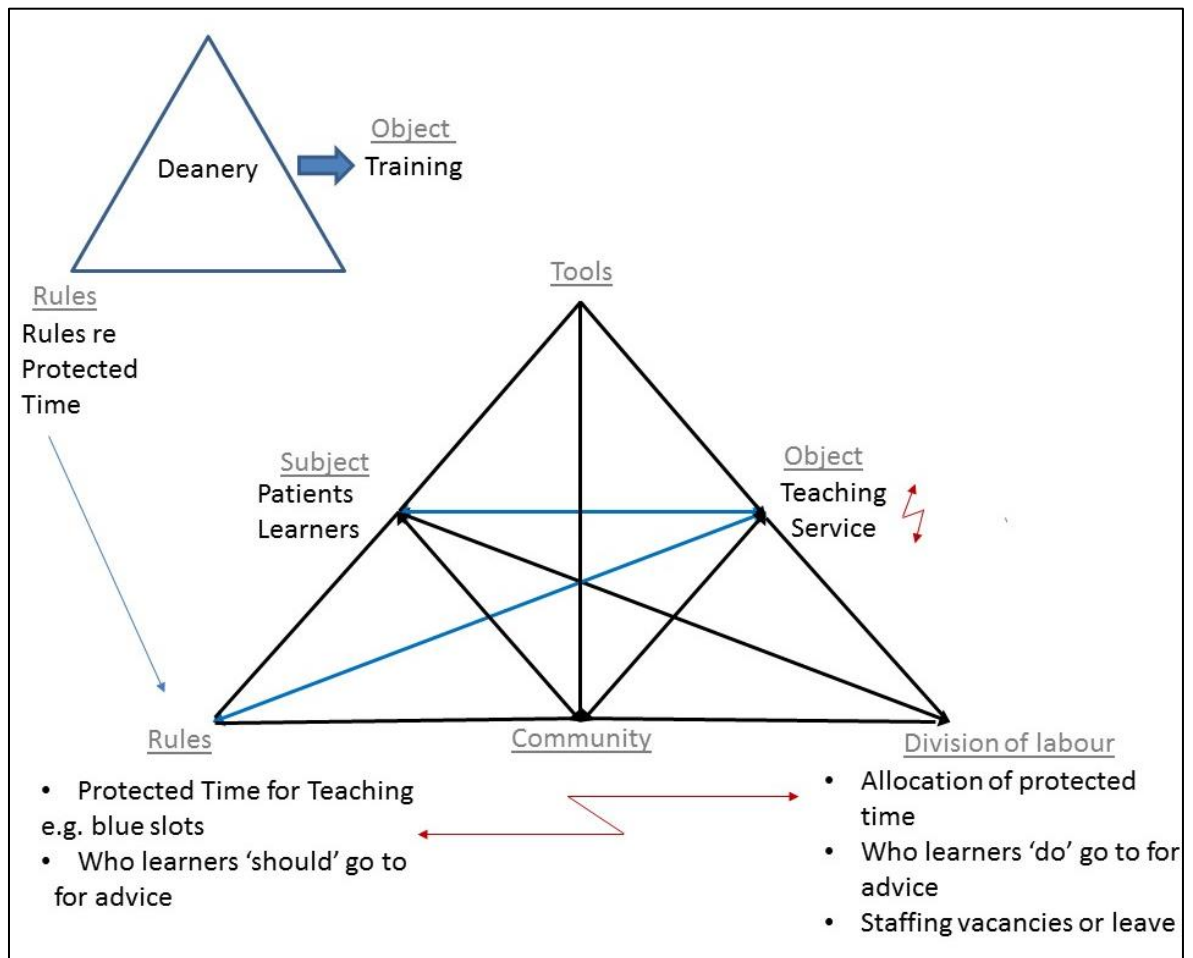
Figure 7-16 The place of protected time to support teaching in multilevel learner practices

7.5.2.3 Teaching on days off and pulling your weight

There were a number of ways that practices had tried to alleviate the tension between teaching and service. As the third year students attend for seven separate teaching days spread across the academic year, several of the part-time GPs who take third year students were able to provide teaching in their own time. In return for this, they either took time back in lieu or received the payment for teaching personally. These agreements were worked out locally between the practices and their individual tutors and were felt to be mutually beneficial.

> I tend to just take some time back…if I need it… I'd rather do it that way. We [discussed] it and the money was offered but I didn't feel that was why I was doing it, so, I would rather…be able to use the time and be more flexible elsewhere. (F4)

> It was very easy because what I decided I wanted to do was that if I [taught 3rd year students, I would keep the]... payment directly for that. I used my day off to do it so that I could basically not be accountable to the practice for having to do full clinics that day. It made it a much more enjoyable experience for me. (F6)

> We do a lot of our teaching on our days off. You come in and do teaching locums...We use income from teaching to fund teaching locums which basically is a 16-patient-day rather than a 32-patient-day. So we teach at [slower] intervals but that's 16 extra... appointments for the practice. So...the way I keep my administrative staff sweet is that...teaching leads to a net gain in appointment numbers, not a big one but a little one. We don't lose appointments...which is crucial. I think if we were losing appointments to teach at a time of such high demand that would be very difficult. (M1)

These GPs appreciated being allowed the extra time they felt necessary to deliver high quality teaching to the students. However, the loss of appointments to student teaching was felt to be unacceptable to some practices or on a couple of occasions to the GP actually doing the teaching.

> Basically I get a free reign...As long as you're seeing the same number of patients as everybody else there's not a huge lot of griping about what way we...spread that...I guess I'm just conscious of being quite careful with my timetabling because I don't want to look like I'm not pulling my weight in the practice. (F6)

> F5: When the student comes it's a busy time for me. I'm trying to slot in as many student surgeries [as I can] so I use my admin time for that. Or I'll maybe start my surgery a bit earlier...so that we can...have some protected time at the end to do a student surgery...I try as much as possible to see the same number of patients but it probably works out maybe two or three less slots if I've got a morning with the students.

> Interviewer: And is that something that comes from within you that you want to see the same number of people rather than the practice saying everybody must still see the same number of people?

> F5: That's me (*laughter*).

7.5.2.4 Activity Theory interpretation

The various models described are attempts to resolve the contradictions emerging from the underlying primary contradiction existing between teaching and service. This could involves modifying rules (e.g. appointment duration) or

making changes related to division of labour (e.g. individuals taking time back in lieu for teaching). Some GPs and their practices demonstrated learning as they found ways to adapt how they organise teaching to suit their circumstances e.g. creation of new teaching locum model.

7.5.2.5 Teaching "crunch points"

A significant number of practices are understaffed. Even those practices that are fully staffed identify GP leave as causing a crunch point when it comes to their ability to provide teaching in practice. Although practices are willing to pay for, or funding exists for, locum cover, locums are often not available and certainly not at short notice. As a result, practices either have to temporarily withdraw from teaching or modify what they are able to deliver.

> We had… a student scheduled in and I had to cancel. I've only ever done that once but … we've had quite a lot of sick leave amongst partners over the last year so we just…felt under pressure and under staffed and we just felt we didn't have time to do it. (F5)

> I think that it's time isn't it. That is always the problem. It's making sure consistently… that the trainees have enough of our time. The tension with that is if someone is on holiday and there are only two of us here when there really should be three…How do we manage that? Poorly probably… We just have to. One person teaches, one person covers the practice or…sometimes we try different things to see what works actually. [For example] we sometimes do … a shorter condensed teaching time of both of us teaching and then we all go and cover the practice later. (F7)

Other than annual leave, another predictable crunch point for practices with multilevel learners is the start of trainees' posts. Some practices will modify their availability for undergraduate teaching at this time of year as these are more intensive periods of training and extra time is needed to gauge trainees' level of competence. One GP described his practice not taking students in August or September as they had a new FY2, two new ST1s and an ST3 all starting on the same day.

> If you were to ask some of my colleagues I think they would say 'Well…at a time when we're under all the pressure, maybe we shouldn't have students all the time.' And [you need flexibility]. You can't have them all the time. I mean you can't have medical students

in August when you've got four other people joining. So I think you have to be pragmatic. (M1)

7.5.2.6 Activity Theory interpretation

The described 'crunch points' could be represented as tension for resources between three separate activity systems that co-exist within practices: undergraduate teaching, postgraduate training and clinical service. Successful adaptations to the system, attempting to resolve contradictions, can be seen as learning e.g. practices modifying their intake of students at the start dates for trainees. In this way, the practices are endeavouring to effectively deliver on all of their intended outcomes. The current shortage of locums adds a new tension as, if this was not the case, practices may be better able to cope with 'crunch points'.

7.5.3 Practice characteristics

The GPs involved in this study were from a range of different practices across the West of Scotland and, from the group studied, it was clear that various attributes shaped teaching in those practices in several ways. Practice size, geographical location, patient and GP workforce demographics, were all influential.

7.5.3.1 Practice size

A positive side of smaller practices was that different learners' paths were more likely to cross and it appeared to be easier to have a much more personalised approach to teaching and training. A couple of GPs commented that the students and FY2s seemed to value the one-to-one relationship in a GP setting, in comparison to a more technology-orientated hospital setting:

> I think if you want somebody to pay attention to what you are doing and learn from what you are doing as a doctor... there has to be a kind of relationship there. I'm not a surgeon doing stereotactic brain surgery so you can't put what I do on a screen and just get them to watch it without me there... For me it has to be an interaction between us [and] the patient. The three people in the room are all involved and talk about it and the patients love having students and... I'll talk to a student about the patient with their consent in front of

> the patient… Hopefully that's what the main strength is, that they
> just feel that we are actually interested in them. (F2)

The main downside for smaller practices was the impact of GP absence as described above, as these practices have less spare capacity in the system.

7.5.3.2 Geographical location

Geographical location of the practice was described as being important in two main types of practices; those formally classified as rural practices and those which were peripheral to Glasgow, particularly in Ayrshire, Lanarkshire and Forth Valley. Four GPs interviewed were based in practices that had branch surgeries which brought challenges and opportunities e.g. additional travel time for GPs and learners. For the GPs, travelling between sites ate into already precious time and supervision of learners across sites was a consideration.

> I'd love to have more time for tutorials and things, to have more time
> to talk. It's split sites we have to travel between so that makes that
> quite difficult… Because we are on three sites… things like…reviewing
> people's surgeries after [they've] done them..and stuff like that [is
> more difficult]. So that could be anyone who is responsible. (M9)

Travel to the practice was also an issue for learners allocated to the more peripheral practices. The rural practices provided accommodation for students and, in one case, the GP described the practice having to spend more on the cost of accommodation than they were remunerated by the university for hosting the student. They now have this fully reimbursed but essentially provide their teaching for no income, as their funding goes towards accommodation costs for the students. As discussed in 7.4.6, a few of the practices that are on the peripheries felt their geographical location had a detrimental effect on their trainee allocation.

> We try quite hard to give what we think is a good deal but still the
> fact that we are 20 miles from TOWN OUTSIDE GLASGOW means that
> nobody would possibly ever dream of venturing this far south and
> that's disappointing. (M10)

Practices were aware that their location affected students and had tried to make things easier for the students coming there.

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> Because we're quite peripheral, we're quite difficult to get to. If they're coming by public transport [and] they've gotta be in for 9, they've got to leave Glasgow at 6 in the morning. So we tend to say come in for about quarter past nine/half nine and then we teach through lunchtime…We give them lunch 'cos…it's difficult to get any food anywhere [here]… If they come by train we just say get a taxi and we'll pay for…the taxi. And we'll either get them a taxi back down or if I'm free I'll take them to the station, 'cos it's a bit unfair, 'cos it's two buses as well. (M5)

A couple of the rural GPs were conscious of the risk of students feeling isolated on placements so involved them in social activities with the practice team. Only two GPs interviewed for this study mentioned doing any out-of-hours work with their learners and these were both rural GPs. One GP had stopped doing out-of-hours work as he felt the local service was unsafe and the second GP tried to involve the learners where suitable, feeling it was an important part of them developing an understanding and appreciation of life as a rural GP.

> Some of our students we have up to our house and they end up…doing an on call shift with you… A lot of us have spare bedrooms… so it's not unusual for… students, if appropriate and…right for their training [to] stay over [when you're] on call, so that, if you get called to something, they can see that. And equally, as you know, sometimes if they are staying somewhere more isolated then it's quite nice for them to be somewhere where it's a bit more homely. (M3)

On a further positive note, GPs commented on the valuable experience that could be gained by seeing patients in more remote settings. This included at community hospitals or at branch surgeries.

> The other big part of teaching here is we go to the community hospital… We have got a really huge advantage here in that students can follow patients right through to admission. So, they see them in the surgery with a sore belly. Say it's a kid, for example, with query appendicitis…they will go up to the hospital initially for some stabilisation…while waiting transfer… (M3)

> You're that little bit further away from HOSPITAL NAME, the treatment room, the resuscitation facilities you're just a little bit more exposed and so that's a good opportunity to talk to them about issues of remoteness. (M1)

The importance of students respecting patient confidentiality came across in several interviews but was felt to be particularly relevant to rural practice when students were based there for the duration of their attachment.

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> We put a lot of time into an initial induction to go over confidentiality to explain…you are likely to come across this particular scenario, you are going to see a patient you might have met during the day, you potentially found an embarrassing or non-embarrassing problem and you will come across in the pub, or in the restaurants, or in the co-op. Think ahead on how you are going to handle that and then even quite complex things like sort of negative confidentiality so someone says 'Oh, I heard that such and such was at the hospital but they are doing okay now, aren't they?' (M3)

7.5.3.3 Patient demographics

In the urban practices studied, two demographic features are of particular note: a culturally diverse patient population and the impact of deprivation.

One of the GPs described working in a 'very multicultural practice' and the rich experience that could bring for learners at all levels. She estimated that thirty percent of their patients don't speak English and that it would be commonplace for there to be four appointments a day with interpreters. While presenting this as a positive learning experience she also described the impact of cultural differences on learners' opportunities in her practice.

> The male students find it [challenging sometimes] because they get kicked out if a Muslim woman comes in…so it's just being culturally aware. (F1)

Deprivation was felt to be important by two of the GPs based in deprived practices in Scotland. One described how a lack of transportation and a more chaotic patient population made it harder for her to organise planned teaching activities (e.g. third year signs and symptoms teaching) in an otherwise willing patient population.

> They're…very good at when they phone for an appointment in the morning or they phone for one the week before and they're told there will be students in. Almost universally they are absolutely happy, they are used to it being a teaching practice…Quite often it falls through [on the] day. If it's raining, it's miserable, why would somebody want to come out? (F4)

Several GPs commented on being mindful of the burden on their patients of their significant involvement in teaching. In the practice above, the GP describes spending time reassuring patients that they were "giving the right answers" to

students when they had agreed to be portfolio case patients. There are no similar comments from other practices to comment whether this seemed to related to being in a more deprived area but the tutor did feel that this was relevant.

> They very much worry that they're not getting it right, they...worried that somehow they were going to ruin it for the students. (F4)

7.5.3.4 Activity Theory Interpretation - Practice characteristics

A key feature of sociocultural learning theories such as AT is that the individual is inseparable from their social context and that the activity is therefore shaped by that context. As described above, the geographical location, practice size and patient populations shape the teaching and learning occurring in practices in a range of ways. Rural practices can offer different learning opportunities to trainees (e.g. branch surgeries, community hospitals, overnight on call shifts) while, for other students, practice size may impact on the intensity of the student-supervisor relationship.

To illustrate how practice characteristics can create tensions and offer different tools to support teaching, the perspective of a rural practice is presented (Figure 7-17). Tension is present within the community component of the activity system. On one hand, students are potentially at higher risk of feeling isolated as they are away from home and their usual social networks. On the other hand, they could potentially become much more immersed in the practice and local communities due to the nature of these placements e.g. living in the village and socialising with practice members and patients. This greater likelihood of immersion also creates a potential tension with the rule of confidentiality. This was raised as a more likely dilemma for learners placed rurally and tutors specifically made a point of discussing this with learners at their inductions to try and negate this.
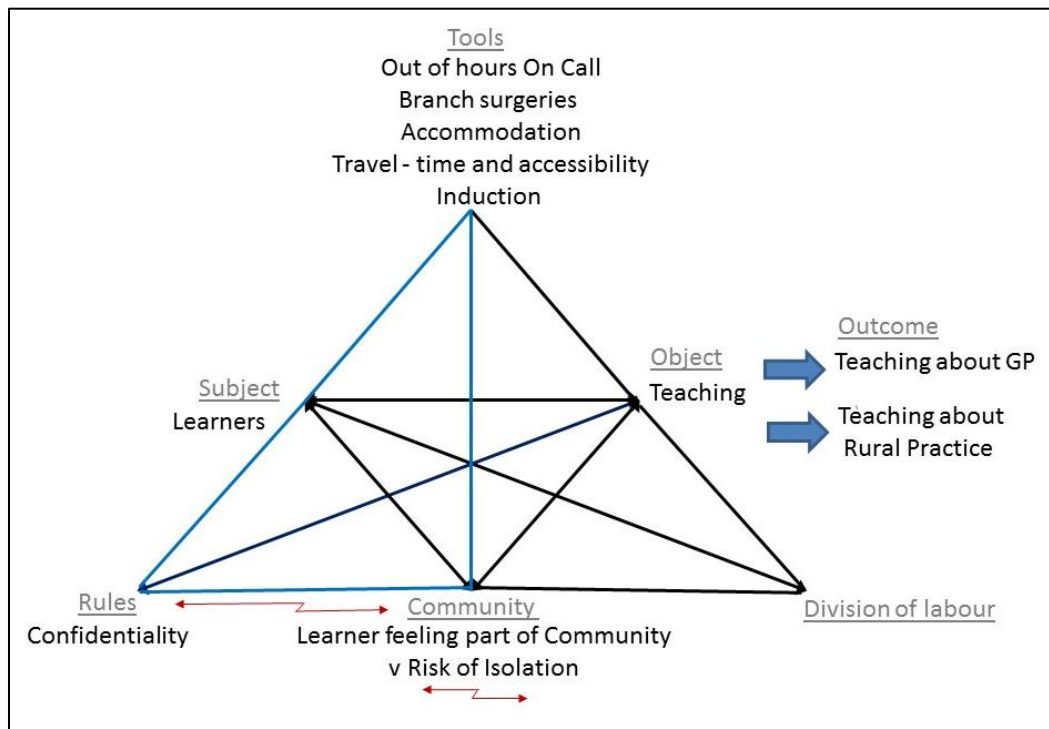
Figure 7-17 Teaching multilevel learners in rural practice - an example of the impact of practice characteristics on teaching

7.5.4 Whole practice involvement

In contrast to the historical apprenticeship model, teaching in modern day general practice is a whole practice activity. While the GPs are expected to lead on teaching, most clinical and non-clinical staff will contribute in various forms and amounts.

7.5.4.1 Contribution of administrative staff

The importance of administrative support within the practice was highlighted in a number of ways. From a pragmatic point of view, the coordination of the varying timetables and rotas for trainees and students is delegated to administrative staff by the majority of GPs. As well as creating individualised timetables for each learner, appointment templates need to be adjusted relevant to each learner's stage of training and level within that stage. One GP described how they use a teaching calendar to help support teaching. To facilitate learner identification, they get each learner to submit a photo prior to their placement which is uploaded to the calendar, identifying their level and their specific role e.g. Glasgow or Dundee student.

As described in 7.5.2.1, each practice has various informal 'rules' relating to protected time within surgeries and administrative staff are responsible for ensuring these rules are applied to appointment templates. Furthermore, GP appointment systems should readily identify when a learner will be present or leading the consultation so that patients are aware of this when they choose to book the appointment. As well as respecting patient choice, this facilitates smooth running of teaching surgeries. Administrative staff also must remind patients of the learners' presence and role when they check-in for their appointment.

In the majority there is one dedicated person responsible for all timetables and appointment template adjustments, while in at least one practice, there was a separate member of staff dedicated to each of postgraduate and undergraduate timetabling. Timetabling can be a time-intensive activity in practices with multiple learners with varying needs. One GP estimated that his administrator spent '*quite a large chunk of her day*' timetabling(M1). In this practice, the timetabling coordinator also provides the GP with an up-to-date list of future teaching slots to ensure the students can easily follow up suitable patients.

Although administrative staff are able to implement the agreed timetable requirements, several GPs describe still being very involved in timetabling due to some of the subtleties required in having a range of learners with different needs. These GPs recognised they might benefit from delegating further.

> On the Sunday evening, I'm...sorting out the programme...I think delegation is something we could probably improve but when you get to that stage that...you do things quite frequently... you sometimes just think...I'll crack on...because sometimes it's more tricky. For example,...there are nuances that we can add in or if we are not sure where to put someone one day, we've got other ideas about where they can spend the day...If you don't have quite so much of an attached insight then that's why sometimes we need to come up with it ourselves. (M3)

One of the 3rd year medical student tutors illustrates the importance of good timetabling when there are multiple learners in the practice as she was unable to share out the teaching load as she had hoped.

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> One of the problems is that it is a very busy practice and I kind of
> thought maybe if it was a [group of 3 students] then I could make sure
> that one of them sat in with somebody else. But that's quite difficult
> to organise because there's tutorials going on and because there's
> tutorials, it's difficult to ask other people to do that sometimes. (F4)

Respondents described the role of administrative staff in teaching being much more than simply timetabling. As well as practice managers providing tutorials on the business aspects of GP to trainees, reception staff might contact patients who had volunteered to come in for "signs and symptoms" teaching. Furthermore, there was an appreciation of the role of administrative staff in troubleshooting problems with students or trainees.

> The other big thing really to mention is that our admin staff are
> fantastic at sussing things out…We realised that it is the admin staff
> who often come to us and [say] you work with such and such and they
> were with someone else the day before but that's the 3rd morning
> they've been late or they've sussed them out from a personality point
> of view. (M3)

7.5.4.2 Activity theory interpretation

Administrative staff were key to helping cross some of the boundaries that arise between activity systems within the practice setting. Most often this relates to managing the tension between teaching and service e.g. putting teaching surgery templates (boundary object) on the appointment system to ensure protected time for supervisors. To manage this tension, they are often responsible for enacting the rules related to teaching through their use of various tools. An example of this would be their role in contributing to the creation of individualised timetables for learners. The concept of tailoring learning to the individual was highlighted as a tool to optimise learning but it could also be seen as a guiding principle and therefore an informal rule as practices create individual timetables for their learners to suit not only their stage of training but also their individual needs and interests (Figure 7-18).
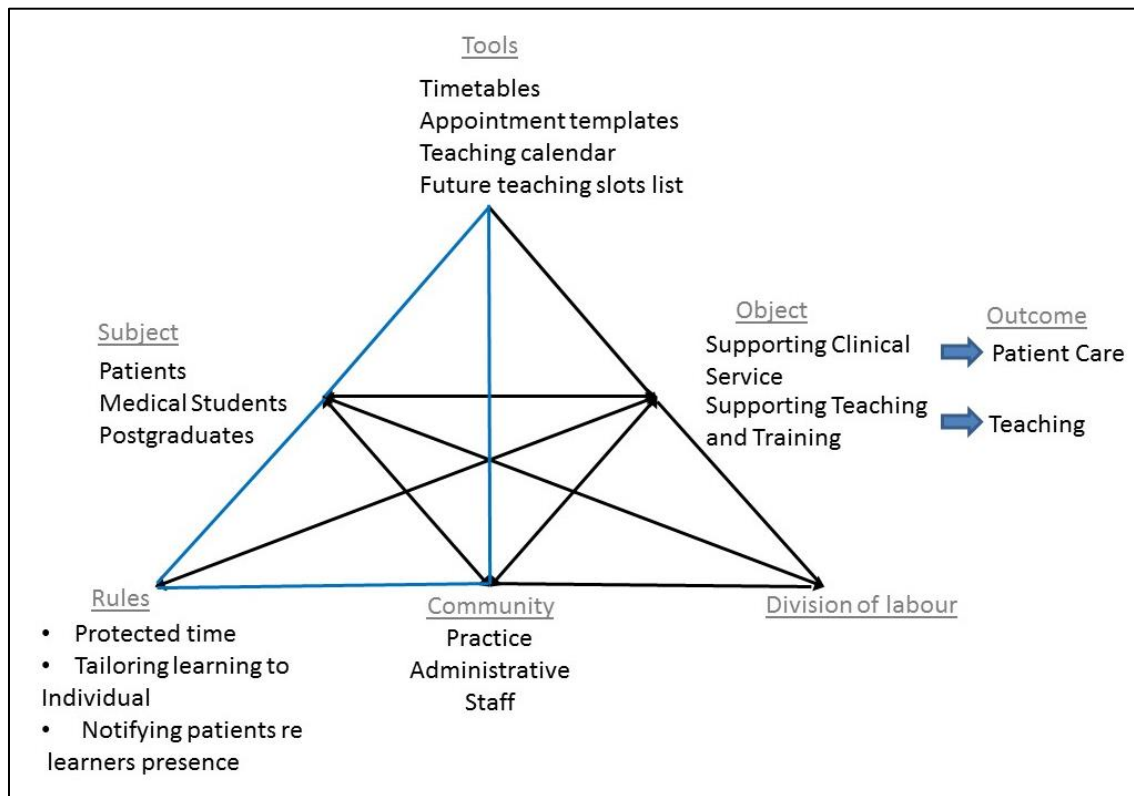
Figure 7-18 The contribution of administrative staff in supporting multilevel teaching in general practice

7.5.4.3 Contribution from the wider practice team

Other members of the practice team and the wider clinical community were involved in teaching multilevel learners. They offer variety and can enhance the learning experience, as well as providing additional teaching capacity. The range of practice or health centre based staff contributing was wide, as evidenced by this representative list from one GP.

> You'll see that there are teaching surgeries and all the partners are involved but there are also midwifes, CPNs, consultant psychiatrists, community pharmacists and the treatment room nurses, the district nurses, the health visitors, practice nurses for chronic disease management and it's going to get bigger and we're going to have clinical pharmacists involved. I'm sure the advanced nurse practitioner who is specifically coming to help us look after our nursing home patients, they are all very useful teaching resources and they are …really happy to be involved because…one morning in a month, it's no skin off their nose and they really enjoy it. (M1)

When describing what these sessions involved there were two main narratives: one related to 'sitting in' and the other related to practising clinical skills

undertaken by that healthcare professional as part of their daily role e.g. venepuncture.

A potential barrier to other staff supporting teaching is that, similarly to GPs, there may be staffing gaps that can impact on their potential teaching capacity:

> We'll get them…to go and sit with the nurses or the HCA to do some bloods if we can…I did hope to involve some of the district nurses but they've been very short staffed, or they were last year, so that didn't really work. (F4)

7.5.4.4 Activity Theory interpretation

Identifying the different activity systems can be useful as it can highlight potential barriers to more extensive formal involvement in teaching by other staff. For example, when compared with GP colleagues' allocation of protected time for teaching, there was no mention of an equivalent rule for non-GP staff when the student or trainees were allocated to "sit in" them. A practice may be willing to provide protected time for the nurse they employ to teach as they benefit from the income generated from that teaching. In contrast, the same incentive may not exist for protected time for practice-attached staff such as midwifes and CPNs who visit the practice for one or two sessions a week. Increasing formal support of teaching by these staff could require local negotiations and boundary crossing as often clinical resource of this type is shared with neighbouring practices and funded by the health board. (Figure 7-19)
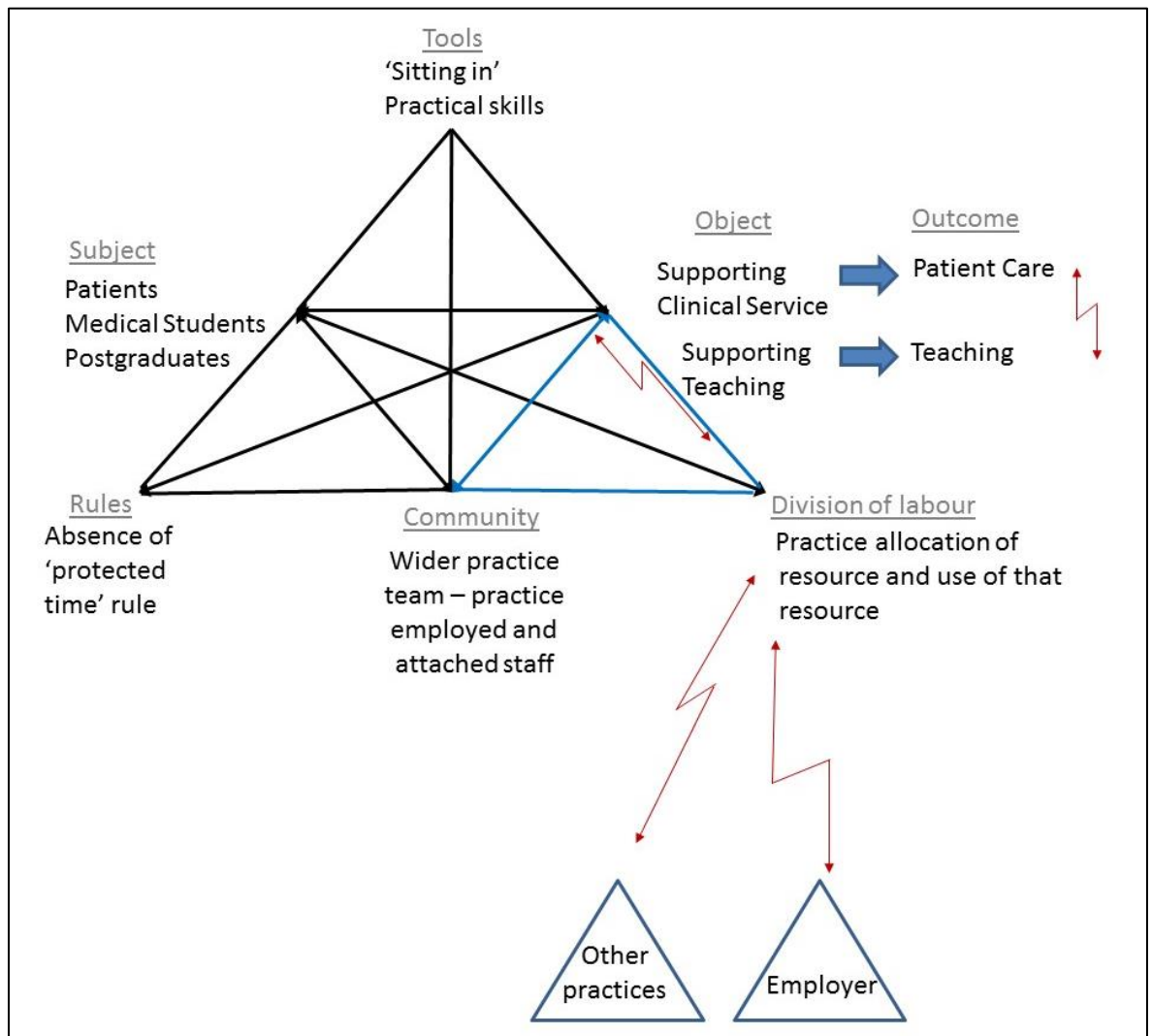
Figure 7-19 The contribution from the wider practice team to teaching in multilevel learner practices

7.5.4.5 Training non-medical staff for contribution to teaching

Training of members of the wider practice for their teaching involvement only arose in one interview. In that case, it was a practice that had taken on trainees for the first time and the GP described preparing staff on what to expect of a GP trainee.

> We had to introduce our staff to the concept of trainees and…[recognising that they are not] fully-qualified GPs…It's… something that they don't quite understand. I think at the beginning…they are like "Well, what do you mean? Are they a doctor, are they not a doctor?" and they don't quite get the idea that you can be a doctor but not be a GP. So you have to… make sure that they appreciate what these differences are and what the expectations are. (M8)

In contrast, the same staff seemed to find it easier to appreciate what to expect from students and seemed to enjoy their interactions with them.

> The only thing with the students that it involved was making sure that everybody understood that the students weren't doctors. And therefore staff should have...zero expectations in terms of them doing anything...That was just a case of me making sure everybody knew that from the very outset...I think the staff quite like having the students and they...comment on [their] different attributes...Some of them are very confident and come in and sit in reception and make themselves a cup of tea and chat to the staff. And some of them... come and hide in a corner and don't talk to anybody... They all find it very amusing, basically commenting on what the different types of students are that we get. (M8)

Systems for triage and allocation of patients to appointments with students varies between practices. It was felt that GPs allocating patients had a better understanding of who was suitable to allocate to see learners. This seemed less clear to nursing and reception staff and was identified as a potential area for training.

> We operate a triage system for same day appointment requests... so the triage doctor can push particular patients into teaching surgeries...For example, you're talking to a patient who's having a fairly classic flare of COPD [and] you think that would be good for the student, 'Go and see Dr X with the student'. (M1)

> I don't know if maybe the staff aren't giving them the right information. I tend to have [appointments] open so that they can be booked in advance...The nurses will do a lot of triage. Sometimes ...they might not be using them properly. So I maybe need to speak to the people actually making the appointments...to try and...see if we can direct certain kind of patients into those slots. I think certainly at the beginning it might be much nicer for the students if we had more...acute presentations...in those slots. And sometimes, because they're longer appointments, because they're...bookable in advance, they've put...somebody with postnatal depression or something in and you're just thinking 'That really wasn't [suitable]'... So that's maybe something I need to be a little bit more proactive about...this year. (F4)

7.5.4.6 Activity theory interpretation

Triage is a tool that can enable practices to navigate the tension between teaching and clinical service delivery. The examples given above show how this can work well or otherwise. All staff with involvement in teaching need to have

some appreciation of the different learners' stages of training and the expectations related to that. Training staff to suitably triage patients into teaching slots is one example of learning which could potentially integrate the two intended outcomes of service and teaching more effectively.

7.5.5 Community involvement in teaching

Allied health professionals from the wider community were also involved in teaching. This included physiotherapists, opticians and pharmacy-based pharmacists. Rural GPs also described using the ambulance service and their local community hospital to provide broader learning opportunities for students.

> We send the medical students to the opticians. We've got an excellent opticians in PLACE NAME who has state-of-the-art stuff. They do a session with the students, just an eye examination and common eye conditions that's usually very well appreciated so [I suppose that's] an external resource...it's just a courtesy from the opticians. (F2)

7.5.5.1 Activity Theory interpretation

Visiting services outwith the practice, enables students to cross the boundary into the wider community. In so doing, they can gain a greater understanding of the local connections a practice may have and how these link to provide care for patients. It may also give insight into the patients' experiences of managing those interfaces.

7.5.6 Organisation and Structure of Teaching

Several features of practice organisation have already been described. The particular issues of communication and the division of labour with multilevel learners will be considered.

7.5.6.1 Impact of one or several GPs leading on teaching

GPs from two types of teaching practices were interviewed: those from practices where the same person leads on postgraduate training and undergraduate teaching and those from practices where different people lead on each of these. One of the purposes of this thesis is to reflect on what appears to work and why. It was clear from the interviews that different approaches worked in different

practices and that in practices where different people lead on each, perhaps unsurprisingly, segregation of the two activities was a lot more common and marked.

> I think they are probable seen as two separate things by the practice… Different people have responsibility for the two different things so there's not much crossover there…I suppose I'm not fully aware of what the trainer does with the trainees and I know that my colleagues are not fully aware of what I do with the students. [For example], last week, my colleague who does the training said "Oh, I didn't realise that you marked their assessments. I thought they went off to the university". So you know we've [obviously never] had that conversation about what is actually involved. (F5)

One difference that was noticeable, and could be expected, was that those GPs interviewed who were only leading on undergraduate teaching in their practice had an appreciation that training was more work but were less aware of the details of what was involved. One tutor described her experience of trying to find out more about training by attending a "training for non-trainers" event:

> Well, a couple of years ago, I went to a training for non-trainers event. And to be honest, it was pretty useless. It didn't really tell me anything… I think I was looking for more structure… but the training course itself is very in-depth. There's lots of structure and education speak and things like that. (F4)

7.5.6.2 Activity theory interpretation

Each practice could be represented by its own activity system mapping similar to the mapping of each interview. Common to all mapping is the primary contradiction between delivering teaching and service. The practice and its wider community are common to both and there may be some overlap in tools utilised. The formal external rules are different between the external organisations and how these influence each practice may vary. There would be differences in the subjects and intended outcomes of teaching based on the level of learners being taught, how that labour is divided among the GPs in the practice and the underpinning values of each practice.

In practices where the same individual leads on both undergraduate and postgraduate education, integration and overlap of the practice-based components of the systems was more likely but not guaranteed. For example, a

GP who was a postgraduate trainer described using teaching resources (tools) that he used with the trainees for the medical students. In practices where different people do both, it is more likely for quite separate activity systems to exist. For example, those who led only on undergraduate teaching described being relatively unaware of postgraduate assessment requirements. Figure 7-20 demonstrates areas of likely overlap within a practice where different individuals lead on different components of teaching.
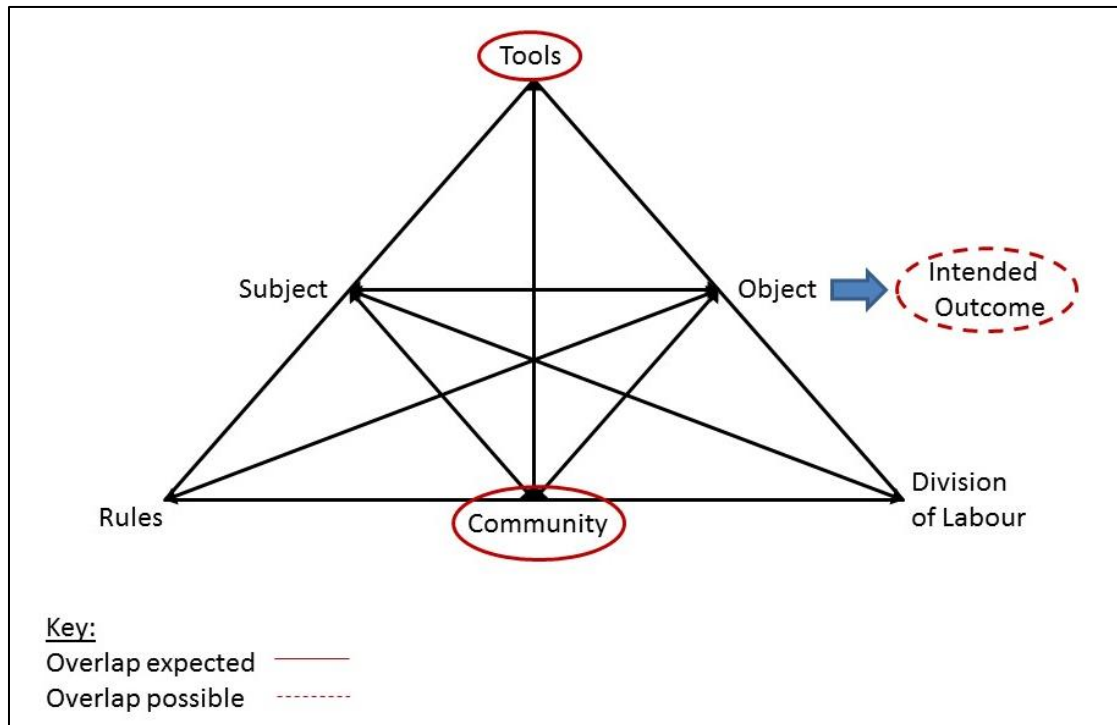
Figure 7-20 Locations of overlap in the Activity Systems where different GPs lead on postgraduate and undergraduate

7.5.6.3 Communication within the practice team

Communication relevant to teaching was both formal and informal within practices. Informal discussions over coffee or in corridors, electronic communication and formal meetings all supported teaching in different and often complementary ways. Although different individuals may lead on each level of teaching within practices, the preferred methods of communication were the same across the board for each team.

A striking feature of a majority of interviews was the importance of the coffee room as a focus for communication. Exceptions were two practices that worked

across sites and one with no coffee room. The coffee room appeared to represent a place for learning, for sharing information and uncertainty, for supporting each other and working as a team.

> We have a morning meeting... a coffee break…We have a regular chat and it's feedback about difficult cases. The trainees bring interesting cases, the students talk about amazing things they've just seen and it's quite good…We also discuss the overnight or weekend cases so that we are all abreast of what's going on. And by meeting every day … we pass things around and actually sometimes you make a decision about something there and then, without having to wait for a partners' meeting a month away. So we can actually decide things and do things…very quickly and that can involve trainees and the students. …It's just saying, if you have a practice team that talks to each other fairly regularly, and has a chat and a laugh, and a bit of support, actually that makes a good working environment. (M2)

> No one is allowed to go and sit at their desk and eat on their own. They have got to go away from their desk and… be away from their work. That's just a rule. Everybody does it… It encourages them to share the things that have been difficult for them in the morning because it's about relationships isn't it? And it's about feeling supported, feeling that people are listening to you and if I've had a [bad] day then I can tell my colleagues that and they can go 'Oh, that was nonsense.' (F7)

Practices with significant amounts of multi-site working are more likely to communicate electronically using email and other messaging systems (e.g. EMIS tasks, Click Memo) to support working across sites. Although trainees and FY doctors will be included in these communications, students are not. In addition to this, a couple of single site GPs described intentionally using internal electronic communication to seek feedback on students and to support sharing concerns about learners.

> We tend to do a bit of chitchat from that point of view anyway but obviously, the other thing we can use is the tasks on the EMIS. So I would send a message to… the other GPs, so it's not being viewed by anybody else, but highlighting if there's some kind of issue going on there. And I use that for information sharing in a confidential way, particularly if you maybe do have trainees floating about the practice and you're not wanting to go and have a chitchat with your colleague, in case the door opens and they over hear you (F6)

> I will do a formative assessment halfway through. I email all the people that have been involved with the student up till that point and I ask for some feedback and my e-mail is usually quite structured. It's

> structured…'It's great if I could get some feedback [on NAME]… and if you could put it under the headings knowledge, skills and attributes.' (F3)

Supervisors vary in their approaches to collecting feedback on their students. In contrast to the structured approach above, this tutor is more informal.

> It's mainly informal… I'll just ask…and often the doctors feedback to me if they've had the student in or they've been out on calls or something with them…. It's quite an informal thing and often…the day before their end of block assessment at the practice meeting [I will just ask] …if anybody has any particular feedback on this student…but they know to let me know if they have any concerns or if the student didn't turn up or anything like that. (F5)

Despite the range of approaches to collecting information, it was clear from the interviews that all the GPs valued input from their colleagues and indeed felt this was essential if they had a struggling learner.

> So we made the plan together, NAME was his lead trainer but we all did some of it because in terms of recording, because we weren't sure he was going to pass. So, in terms of recording for… the e-portfolio… we needed all of us to make comment on that. So that it just wasn't one person saying 'Actually, I don't think you are good enough'. It was everybody saying 'Well, this is better. That's better. This isn't.'…so there was continuity in our team. (F7)

Several GPs also emphasised that even though responsibility for teaching was shared, a clearly designated tutor was important in case there were concerns. It was felt that issues were best dealt with by talking about them as they arose. Formal practice meetings were sometimes used to address teaching issues though more often these were reserved for practice business. All practices that had regular educational meetings emphasised that these were open for learners at all levels to attend but not all practices had these.

7.5.6.4 Activity theory interpretation

Communication related to teaching within the practice team appeared to reflect the general culture and patterns used for clinical communication within each practice. AT allows recognition of the boundary crossing of tools between these systems e.g. electronic communication tools (Figure 7-21). A striking feature was the importance for many practices of the informal discussions over morning

coffee. These function both as a teaching tool and as an opportunity to support each other through the challenges of daily practice. In the practices where this time was clearly valued it was often the most obvious example of the continuum of medical education functioning in clinical practice.
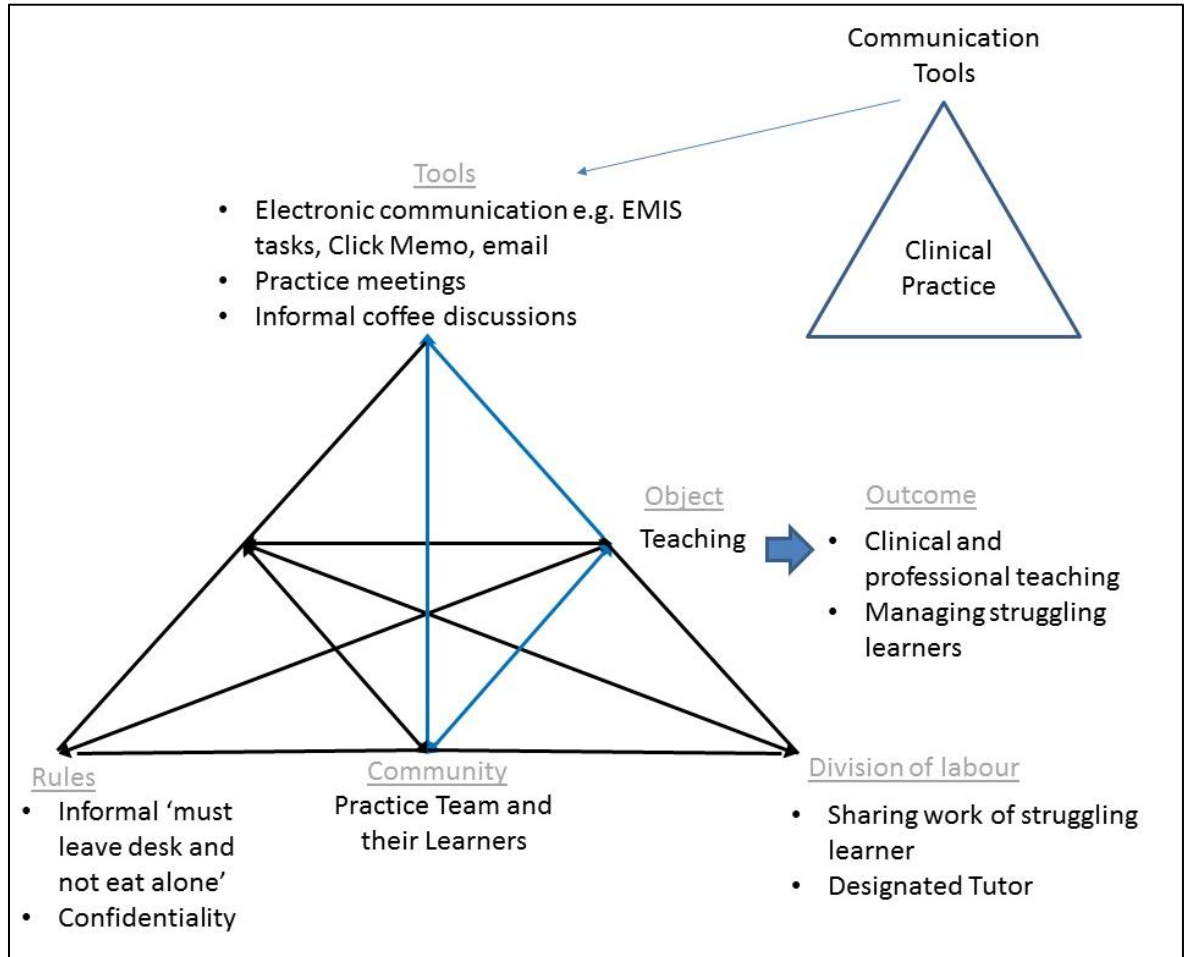
Figure 7-21 The role of communication within the practice team to support teaching in multilevel learner practices

7.5.7 Theme 3 Summary: The Joint Teaching Practice

Teaching in multilevel practices involves the whole practice team and can extend into the local community. Greater levels of organisation are required to deliver teaching effectively and administrative staff are key to facilitating this. Various drivers exist for practices to teach and they employ a range of strategies to enable them to balance providing clinical service with teaching. As well as good organisation, a supportive practice culture and a functioning practice team are key to the sustainability of teaching.

7.6 Theme 4: GP as Teacher

This theme will consider personal motivators to teach as well as the "work" of teaching which includes the related stress. It will expand on personal development as a GP teacher and consider tools that GP teachers employ to support them in their teaching activities. Finally, findings on attitudes and approaches to vertical integration will be presented.

7.6.1 Individual motivators to teach

Teaching is seen as helpful in keeping both the practice and individual GPs up-to-date. This was the case for the most experienced GP through to the most newly-qualified.

> I enjoy teaching and training...because I think if you did just clinic after clinic I think you become a bit stale... Teaching is really good for the GP, especially when the students are supervising you, because you have to take your consultation skills...up a... level, [to] cover all bases... I think when [someone is watching]... you act differently, [not even consciously]. (F1)

Not only did several GPs want to keep up-to-date, their teaching prompted them to develop further as doctors.

> I enjoy the training and ... I like being involved in education...It makes me want to be better, to know more. (F6)

The same GP reflected on how students' enthusiasm prompted her to reflect on her own development as a clinician and also compared that with the STs in her practice.

> The similarity? Obviously they're both still on a learning curve...and they are both probably still very open to being... taught and influenced and ...changing the way they work. The differences so far that I've seen? Enthusiasm in the undergraduates was huge...[they're] just still at that stage where everything was exciting and they were so nice for the patients...They had a real appreciation for people that were poor souls that had a lot of health problems... and it was interesting because you realised...you lose that enthusiasm as you get older....I still think I love my job but actually, I'm not the same as what they are...Listening to them,...being very empathetic and with the GPSTs, again they are more along the road that I can see me being on now, and a wee bit more cynical about things... I think it's because...you get

pressurised with work...People tell you things and you think 'Okay, that's very sad but actually I've got 10 minutes and I have to sort x, y and z out'...When you're not pressurised and you're able to sit and listen to somebody... you can be much more empathetic and you don't have the stress in your head of 'what actually am I going to do about this?' (F6)

Feedback on their performance as a teacher was felt to be a reinforcing factor for several of the GPs. Good feedback was appreciated and returning learners were felt to reflect previous efforts to provide learners with a positive placement experience. Furthermore, for those learners not considering a career in GP, changing their attitudes to GP was also felt to be rewarding.

The feedback is always so nice and it's great and...we've had people say 'I'm now going to be a GP' or 'I'm going to be a rural GP' or 'I'm coming back to work in Scotland'...It's fantastic! So it does happen and we've had others say 'I only want to be a brain surgeon but at least I know what you guys do and I won't slag off GPs'... it just helps make a pleasant experience for us. (M2)

I usually spend a bit of time at the end when they're finishing up to try and just get that feedback as to what we can we do better for next time...We must be doing something right because we do get some nice feedback...I think the fact that there's so many people here who trained here is telling you something. (M6)

A couple of the GPs interviewed clearly saw the learners as a source of potential feedback on their own clinical performance.

I find it quite reassuring to have somebody else feedback on what I'm doing. I always ask them to say [what] they think and...I hope I... succeed in creating a sort of barrier less... environment where they feel they could [genuinely say] what they thought or if something was wrong or I didn't do this. (M9)

They like the fact we have time to explain to them. They complain [that] in hospital clinics they are sitting in a queue of three of them and they really don't have any interaction with them and we do try and explain things and explore...'what would you do?' and we discuss [each] consultation. I get them to rate me for instance. (M2)

7.6.1.1 Activity theory interpretation

This section again highlights how intertwined the activity systems of teaching and clinical practice are in this context, suggesting benefits for clinical care from teaching involvement. AT represents the different individual motivators for

the activity of teaching as different outcomes of the same activity. (Figure 7-22) As each level of teaching has different subjects and objects, each level of teaching could be illustrated by separate activity systems. Having multiple learners at different levels prompted one GP to reflect on her personal development since being a student. The reflection she describes is richer than might be expected had she only taught at one level and this would be considered to be further learning from teaching across the continuum. Potentially, this new insight might positively impact on her patient care.
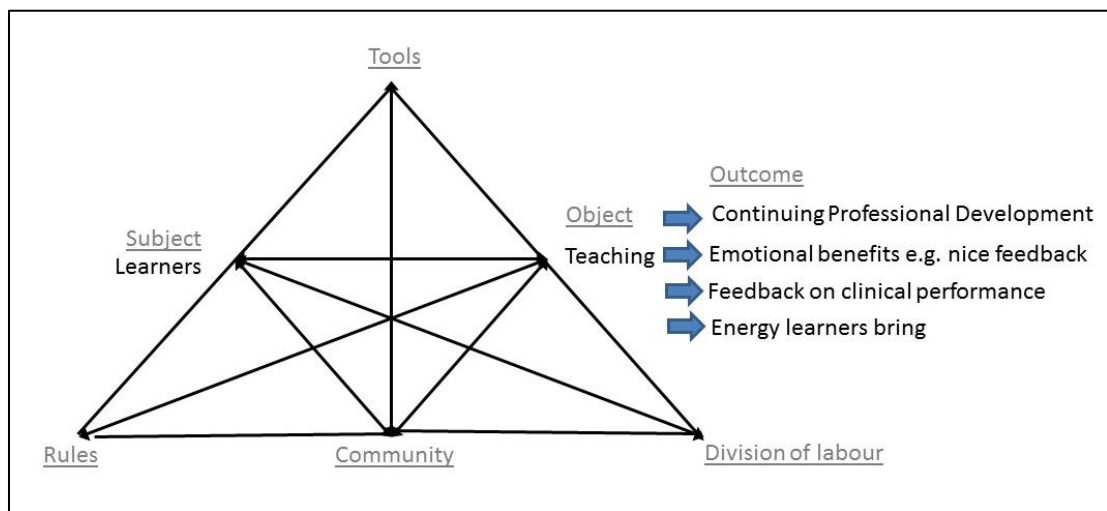
Figure 7-22 The range of individual motivators to teach in general practice

7.6.2 The stress of teaching

Nearly half the GPs interviewed described how the stress of balancing teaching with service had this affected them and GPs identified a number of factors contributing to the stress of teaching. In particular, at times they could be overwhelmed by the added time needed to teach in an already busy clinical day.

> Having people sitting in is great. I think it's a great thing to do but it slows you down and if you are going to make it worthwhile … it's needs to be a conversation. And that's fine if everything's a bit relaxed but once it gets tense…it's the potential isn't it? You're almost frightened of the tidal wave, even if it's not there, but you know you couldn't cope if it was. That in itself becomes a little bit frightening. (M9)

One tutor describes trying not to let the student realise the impact of their presence in their surgery.

> I think if there is someone on holiday and there is only two of us here, I have found having the medical student makes me late and I internally find that frustrating. I try and not to externally express that but sometimes that's probably unavoidable. I try not to because it's not their fault and we've agreed to have [them] so I just need to kind of suck it up. (F7)

Some have taken measures to try and address this pressure by adding more structure and protected time to their day. This was discussed in 7.5.2.1.

From an undergraduate point of view, the intensity of teaching varied with the seniority of the student. Several 3rd year tutors described their intensive teaching days as more exhausting than having a year 4/5 student attached.

> The 3rd years, although they are not here much, they are quite time consuming … because they…follow you around a lot more. They need a lot more encouragement to do things and a lot more time spent with them... So, although they are only here for a few days…once a [fortnight] for [7 days in total] … I think that they are quite draining days. (M4)

In contrast to postgraduate training, the fact the students weren't there all the time did at least provide some respite from the intensity of teaching.

> I think it's less of a … commitment. It is quite intense while the students are here but it's not … an all year long thing… It's not constant [whereas] the training obviously is and I think there's not… as much involved in [teaching students]… in terms of assessment and formal teaching. (F5)

While protected time for teaching has been described, it is recognised that some GPs undertake activities that support teaching in their own time. Examples given included chasing trainees for e portfolio entries, reading e portfolio entries or planning teaching activities. Overall, this appeared to be more of an issue from a postgraduate point of view. GPs also identified the challenge of balancing their teaching with other practice activities requiring their time e.g. management activities.

A significant stressor to a practice and a trainer can be a struggling learner, in particular a struggling GPST. Practices anticipate and plan for new FY2s and ST1s

needing significantly more input and support but expect them to progress and become more "valuable" as time progresses.

> When the trainees first come into the practice...they shadow everyone. They get a chance to sit in with everyone or go out on the calls... So for the first month when they are here there's quite a wee bit of chat, especially for the ST1s...the ST3 maybe less so but still a little bit in the first week or two. (F5)

> Obviously you want your ST3s to get to a point where they are [like a] fully-fledged GP and doing exactly what everybody else does or they're failing. (F6)

Those practices that took FY2s commented on the marked difference between those allocated to the first rotation of the year and those allocated at the end.

> They tend to get a lot more confident as the year progresses. We noticed like by the third round of FY2s during the year they are a lot more confident and know what they are doing a lot more because they tend to have done general medicine and stuff. (F1)

Therefore, the impact of a struggling trainee is two-fold: they require additional resource in the form of support and are unable to contribute to service as had been anticipated.

> This has involved a lot of intense work by our trainers putting in extra time, teaching, [tutorials], reviewing notes, following up (M1)

From their descriptions, it is clear that some of the GPs emotionally invest in their learners. GPs can experience guilt at having to fail learners but also satisfaction when they help a struggling learner progress.

> I had one time where I had a failing student and I had to fail him at the end of his block [due to a probity issue]. I felt terrible about that because it meant he was going to fail his whole year and had to repeat a year. (F7)

The student described in this example subsequently returned to the practice as an FY2. The GP described being puzzled when she realised he had been allocated to come back but on returning, he thanked her for failing him. He had been unwell and failing his attachment had been the trigger for him getting

help. He had requested to return to the same practice to prove to the GP how he had progressed since she last saw him.

The emotional impact of working with a struggling or challenging learner can also include frustration, most commonly when there is a professionalism concern or learner disinterest.

> I've never had a student that's been problematic in terms of performance but I have had a few that I've not particularly enjoyed because they've not been interested… and I found that very frustrating… I don't care whether people don't want to become general practitioners, that's perfectly understandable, but I want them to be interested because what we are doing here has lessons for every young doctor, whatever speciality. (M1)

The possibility of teaching precipitating burnout was the most concerning emotional impact of teaching raised. For one GP, this appears to have been exacerbated by the current context of General Practice which was explored in 0.

> I sometimes…worry… because I do so much, whether, I'll burn out from it…I think having a break every so often would be a helpful thing. That's one of the things when we first started teaching…there was three of us that would take year 3 and two would take one year and there would always be one person that didn't take. The way the practice is at the moment everybody's taking every year, so it's not quite gone to plan. (F3)

Another GP described the impact when one of their fellow trainers had been struggling to function as a trainer and a GP. As well as coping with the additional workload pressures, the GP interviewed also had to manage the impact on teaching in the practice and the personal impact of the situation.

> We had a partner who wasn't functioning very well and… he was a great guy and all the rest of it but essentially he wasn't writing anything in the notes… So we'd have whole empty surgeries with nothing written and he was a trainer too so it was quite awkward and difficult. (M9)

7.6.2.1 Activity Theory interpretation

Although the stress of teaching is often a result of the primary contradiction between teaching and service, further factors can increase the pressure on the teacher. Learner characteristics (e.g. struggling learner) can create a secondary

contradiction between the subject (learner) and the object (teaching) which may impact on the division of labour for an individual GP and their practice. Mapping allows identification of tools which may help identify opportunities to alleviate tensions. (Figure 7-23)
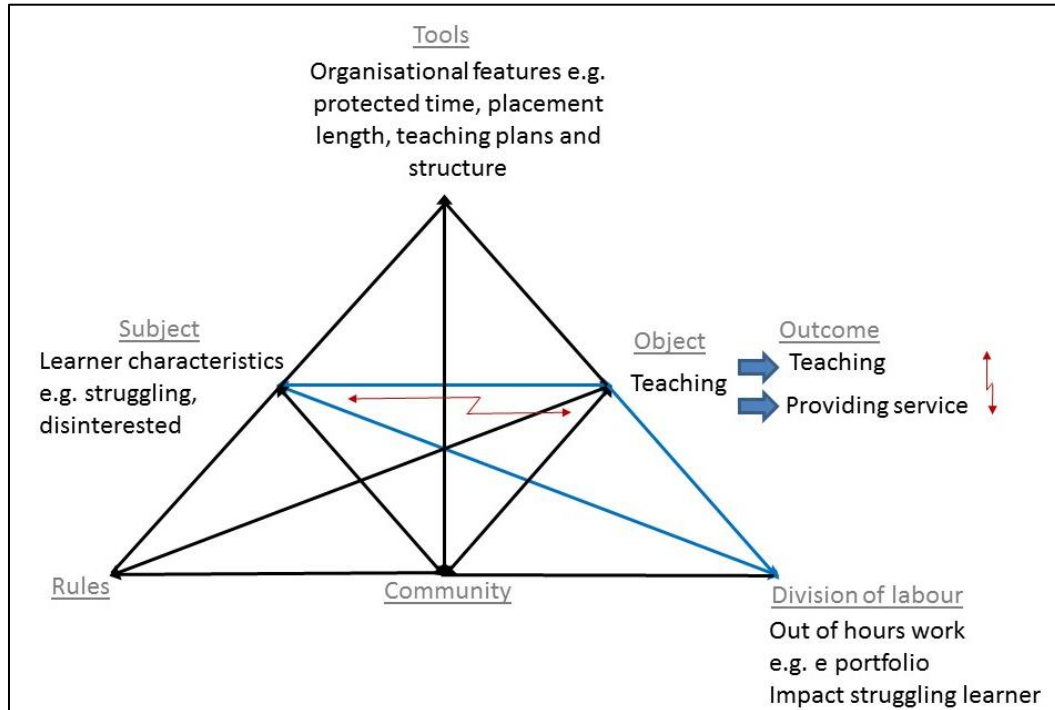
Figure 7-23 Factors which can contribute to the stress of teaching in multilevel learner practices and tools which may help alleviate the stress

7.6.3 The tools of teaching

GP teachers describe a range of tools used to support their teaching. These fall into 3 main categories: organisational, assessment and teaching tools. Organisational tools are predominantly used at practice level and were described in 7.5. Teaching and assessment tools will be further explored below.

7.6.3.1 Assessment tools

GPs teachers use a range of summative and formative assessment tools in their teaching roles. The role of the e portfolio in documenting required MRCGP assessments has already been covered (see 7.4.4). Formative feedback to learners was identified as an important developmental tool and undergraduate teachers in particular appreciated the benefit of structure for giving this.

> You have the proforma of feedback that you give them so I would fill those in and then discuss them… I find them good for structure and knowing where to start…giving feedback. I wouldn't always stick to [it] but I talk around it as well and just use it as… something to follow. (M1)

One tutor collects feedback from all her colleagues who have been involved in teaching students in a process which she has mirrored on the postgraduate MSF process.

> I suppose it's like an MSF for the students. I collate it into a document and I feed it back half way through and say 'You know, this is the things that they said': 'You're good at this, you need to work on this'. And at the end of the block we do the same…I like structure because otherwise I forget things. (F3)

As well as timetabled feedback, teachers also recognised the importance of regular feedback during teaching surgeries.

> We will give feedback after each consultation and allow the student to reflect on things after each consultation as well so we kind of do that in an ongoing way. (F5)

7.6.3.2 The teaching tools

GPs utilise a range of different tools to support their teaching in practice. Documentation provided by organisations to support teaching was highlighted as a useful starting point. Individual GPs and practices also identified their own useful resources. Several GPs identified self-rating scales as useful for identifying postgraduate learners' needs. These were used both early in training and further along, to identify knowledge gaps as training progresses (e.g. Manchester, Lanarkshire and patient safety checklists).

> We used them in the beginning and that's for the [self-rating of] knowledge and then later on we go through them again just so that we are looking at the areas they should be competent. (M2)

Although there was not an equivalent undergraduate checklist, year 4/5 students use a master list of clinical conditions (Appendix X) which gives them an expectation of typical presentations they can expect to see while on their GP placement. One tutor suggests that although this is not ideal, it does help inform individual teaching content.

> The master list of clinical presentations is … quite clunky and some of the things on it I wouldn't necessarily say sit right in terms of what's common to see or uncommon to see… I think in general sitting-in [with] different GPs over several weeks they will get a chance to see most common presentations to primary care…I try to get them to have a look at it to say 'Is there anything on here that you are very unsure about or uncertain about?' I think it's probably a good place for them to try and grab some ideas for things they are going to ask about. (M4)

A culture of tailoring the learning to the individual was common to both UG and PG and checklists were just one way that GPs do this. From an undergraduate point of view, local medical students are expected to arrive at their GP placements having identified ILOs based on their knowledge gaps as well as areas of interest. There is supporting documentation for this (Appendix XI) and the GPs described using this with students at initial induction meetings to shape the teaching timetable for the block ahead. Similarly, from a postgraduate perspective, trainers modify tutorial topics and learning activities based on both initial and emerging learning needs.

> It's very much about their needs...We usually do a session at one point that we sit down and use the Manchester rating scale. But it's fluid as well, as things come up, so there might be something in that week. For example, my trainee at the moment got a complaint at out-of-hours about something. It's trivial but it's something that's obviously knocked her a wee bit and so the tutorial we've got coming up this week is actually going to be about that complaint so it's managing what the complaints procedure is like. (F3)

The need to individualise learning activities was felt to be particularly important by those GPs who had more experience of struggling and remedial GP STs. This example illustrates the need to constantly review and refine the teaching for a struggling international medical graduate in GP training.

> We [made a plan and every week] we concentrated on a different thing with him. He had to practice in all his consultations that week and then at the end of the week we had the observed consultations where we could see that he had managed to apply the thing that we were targeting. Then the next week it was something different we were targeting but we still expected him to be able to do the thing he'd done the week before you know and it was just… more kind of very baby steps. (F7)

Most practices described having a list of initial core topics they like to cover with trainees early in their training. Some practices also describe having a list or

online site with tutorial topics which trainees can use to help select future tutorial topics. Where they exist, these lists may have note of the GP who is most suitable to deliver that topic. Non-trainer GPs in particular felt this was helpful as it meant they would be teaching on topics more within their areas of expertise or those of interest to them.

> We have got a tutorial hub where individual GPs have said 'I've got a particular interest in this, I can do a session on diabetes, I can do a session on the mini mental state examination'. (M3)

> I do some tutorials and I do the child health surveillance in the practice… not a huge amount of tutorials but some on … areas that I'm responsible for in terms of the QOF and things. (F5)

GPs reported a range of transferable skills that they could utilise in their teaching capacity. These skills transferred between teaching roles (e.g. tutorial skills), between teaching and their clinical work (e.g. consultation skills and models) or between their teaching and other roles (e.g. appraiser, clinical governance tools).

> The skills we've learned doing [trainee tutorials] work with students and I've learned a few things through the student teaching days that I've been able to use [with the trainees]. And then as an appraiser, some of the skills… I'm feeding back and [reviewing evidence]. Well, the students don't do multisource feedback but the trainees do, so there are a lot of transferable skills. (M2)

Although GPs described using their skills in giving tutorials at different levels, there was significant variation when it came to the issue of joint tutorials. This will be explored in 7.6.3.4.

In contrast to their own training, GPs felt that modern learners don't tend to engage with hard copy books and a range of online teaching resources were felt to be more useful for both teachers and learners.

> We have a book library upstairs but unopened these days because most things are online [and] we have good internet access. (M2]

Online resources used included clinical resources used by GPs and patients (e.g. patient.co.uk, EMIS web mentor) as well as useful teaching websites. In particular, websites with resources for clinical examination teaching and

Vocational Training Scheme (VTS) websites such as those created by Bradford (Bradford VTS, 2017) and Pennine (Pennine GPST Programme, 2017) were highlighted as useful.

7.6.3.3 Activity Theory interpretation – Assessment and teaching tools

GPs describe a range of tools that they use in their teaching. These mediating artefacts often boundary cross from one activity system to another (e.g. clinical to teaching, postgraduate to undergraduate). For those that train GP trainees and teach medical students it is more likely that they will transfer tools from a postgraduate to an undergraduate context. In one example, the GP created a new MSF style document based on her postgraduate experience to shape feedback to the students during their attachment, demonstrating boundary crossing and learning. As described before, GPs can utilise their clinical experience to inform their teaching. GP teams dividing topics based on areas of clinical responsibility within the practice is one way of minimising additional work of teaching and potentially enhancing the student experience. (Figure 7-24)
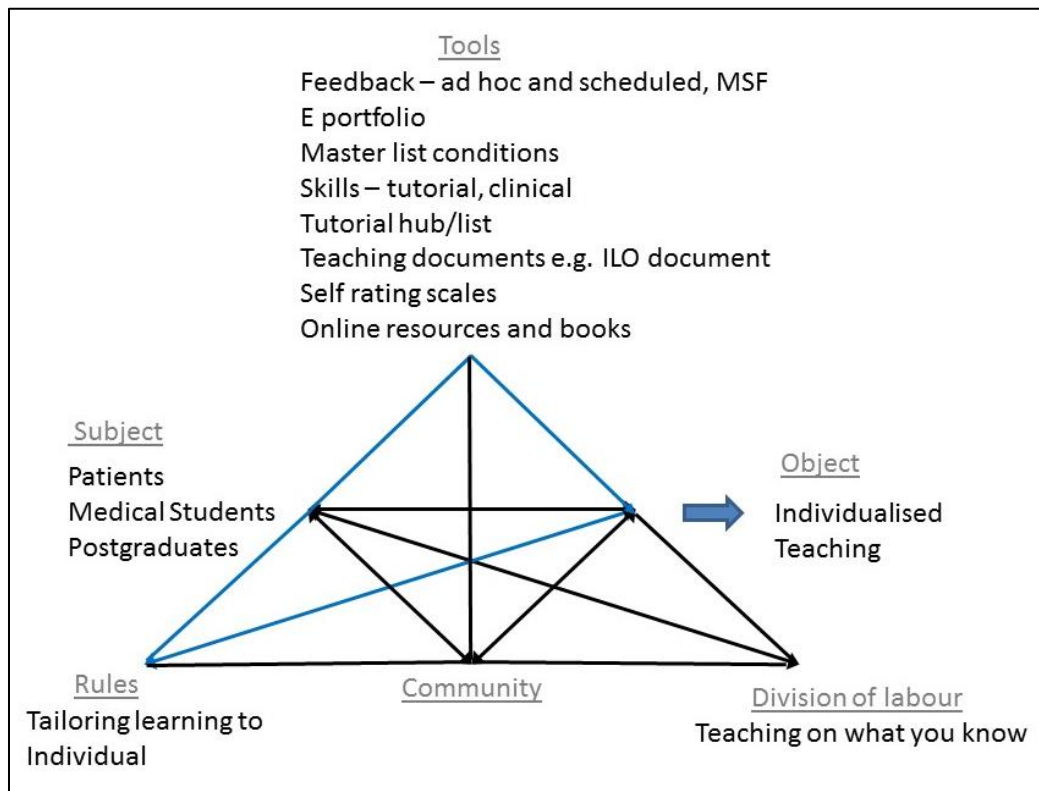
Figure 7-24 Tools which can support teaching in multilevel learner practices

7.6.3.4 Teaching formats

Teaching formats are an important teaching tool. Depending on the level of the learner, and the purpose of the teaching activity, students or postgraduates either "sit in" or will take the lead within consultations with patients. From an undergraduate point of view there is a mix of both formats as they learn about consultation structures and common GP presentations. "Student Led Surgeries" (SLS) give opportunities to put developing knowledge and skills into practice. Typically, the GP will be in the room when 3rd year students first start doing student led surgeries.

> Our surgery is all student led. So they're not sitting in, they're actually doing the consultation. I'll take them in the morning and I'll have a surgery first thing that's got maybe four people in it.Twenty minute appointments and they will do it...[The students] are very stunned when you first do it...We brief them when they come in and say 'this is what we're gonna do, this is how we're gonna do it and there will always be somebody with you but we're going to make you do it, 'cos you'll learn that way'...The transformation at the end is amazing because they've got a lot more confidence. (M5)

With the more senior students, GPs will often use parallel consulting models for student led surgeries, where students will see patients in an adjacent consulting room. While students are doing this, the GP will either be seeing another patient or catching up on paperwork or prescriptions. The student then returns to present the patient and their proposed management plan to the GP. The GPs who have the physical space to do this feel this offers an optimal learning opportunity, even though some students find this more daunting.

> Some do enjoy [student led surgeries] and some don't...I will say 'Right, you go and see this patient next door and then in 10 minutes you can present them back to me like a short case' and actually that seems to go a bit better than me sitting in with a patient turning round, looking at me, when they really should be talking to the student and that happens sometimes...I think they learn more exploring everything with the patient and then feeding back to me...rather than trying to talk to a patient and the patient really trying to talk to me which is awkward. (M2)

Sitting in is also used in a postgraduate context but with a slightly different purpose. When FYs and STs initially start in practice, sitting in will be used to help familiarise them with the practice, its IT systems and also how to approach

management of common GP presentations. Furthermore, the trainer will use these early sitting in appointments as part of the assessment of their new learner, deciding how soon they will be ready to see patients independently and the level of supervision they will likely require for doing this.

> With both ST1s and FY2s they do a period of shadowing… We will get them to do some of the consultation while they are shadowing [and] once they feel that they are ready to go on their own we give them half hour appointments. We will give them three patients for a morning. Then you analyse all the cases that they have seen after the surgery. We also do our mini CEX or COTs depending which [level] you are doing by videoing them and I try to get a fairly early video done for the FY2s and then repeat it later on in their time. (M10)

Tutorials were seen as a key part of learning in this setting and the content of these was explored in 7.4.3. Tutorials were usually delivered to single learners but the option of multilevel tutorials also arose in many of the interviews. A minority of practices used joint tutorials to deliver simultaneous teaching to all levels of learners while the rest had either had not even considered these a possibility or had tried and dismissed them.

> We often have joint tutorials…especially on things like practice management. It's usually the ST1 and the ST3 together or my FY2 and my student… We will often discuss patients together. One of the most satisfying aspects of teaching expansion in the last 2 years [is] that we've got a group of young doctors all working together. (M1)

> We tried doing teaching and linking up our FYs and our STs. We actually had joint tutorials. It didn't work. It worked at the very beginning but I think very quickly the needs become quite different…Like our second FY2 of the year comes in December, by which time your ST1 is 4 months into the job and has different needs. (M6)

One GP described contacting the deanery to check if they were "allowed" to do joint tutorials.

> We looked into trying to do some more joint tutorials and having FY2 and STs line up at times but the answer we got back [from the deanery] was that if we can clearly identify that they've got the same learning needs that we can do. But [if they don't'], then no. (M4)

This same GP expressed that he would be interested in exploring joint teaching more as he thinks shared teaching sessions could bring benefits beyond simple economies of scale.

> It's nice sometimes to have that joined up bit and they all seem to get on quite well with each other so I think it would be nice to try and get things together a bit more but it doesn't always work out...They could all...get...something out of it in terms of imparting their knowledge on something to others around them... Teaching to someone about something reinforces your knowledge about it. So the idea of getting to teach each other, with us facilitating...would be quite good from both points of view and it maybe brings up things that you haven't thought about or questions that you hadn't anticipated... Or [someone else asks something someone else secretly wants to know]...It's just the benefit of having more people there. We might get ideas come up that wouldn't have come up if you were doing [it] individually. (M4)

Those practices that more regularly deliver joint teaching activities did feel there could be additional benefits to these sessions beyond the intended learning outcomes of the subject matter.

> If there's a medical student and a registrar, we will have the tutorial together. They like that. I think it's nice for the registrars to have contact with a student and make them feel like they're teaching and we involve them in teaching the students as well. When we have the tutorials with the registrars we will often have them in, we use them for role modelling as well. They're quite handy for that and for things like roleplay, either as patients or doctors... Then we switch it round, we do a lot of roleplay for preparation for the CSA. (M9)

Involving the students in roleplay for examination practice for the trainees was mentioned by a couple of tutors and one tutor also involved the students in marking the trainees performance.

> Because if they are marking it, they think about it. They watch it more and they see what it is they are looking for and they're looking for the communication...and reflection and is this a shared management decision or not? Is it patient-centred? So you get them to think about that, which I think is quite good. (M9)

Preparation and planning was more important when delivering multilevel teaching sessions. One practice used a white board in the office to record different learners' needs and this became the focus for planning tutorials in the weeks ahead. The GP described that once topics are decided, each learner is

given a suitable preparatory task in advance of the session to ensure everyone can contribute to the teaching and benefit from it, appropriate to their level.

7.6.3.5 Activity theory interpretation

AT enables us to compare and contrast the teaching formats used in the separate activity systems of undergraduate teaching and postgraduate training (Figure 7-25). The slight difference in purpose of teaching surgeries can be illustrated and joint tutorials can be represented as an opportunity for learning across the boundaries. Common to both systems is the tension created by the rule regarding tailoring learning to the individual. This is both a formal rule reported to come from the deanery, as well an informal rule by way of a guiding principle for best practice in teaching, as described by the tutors.
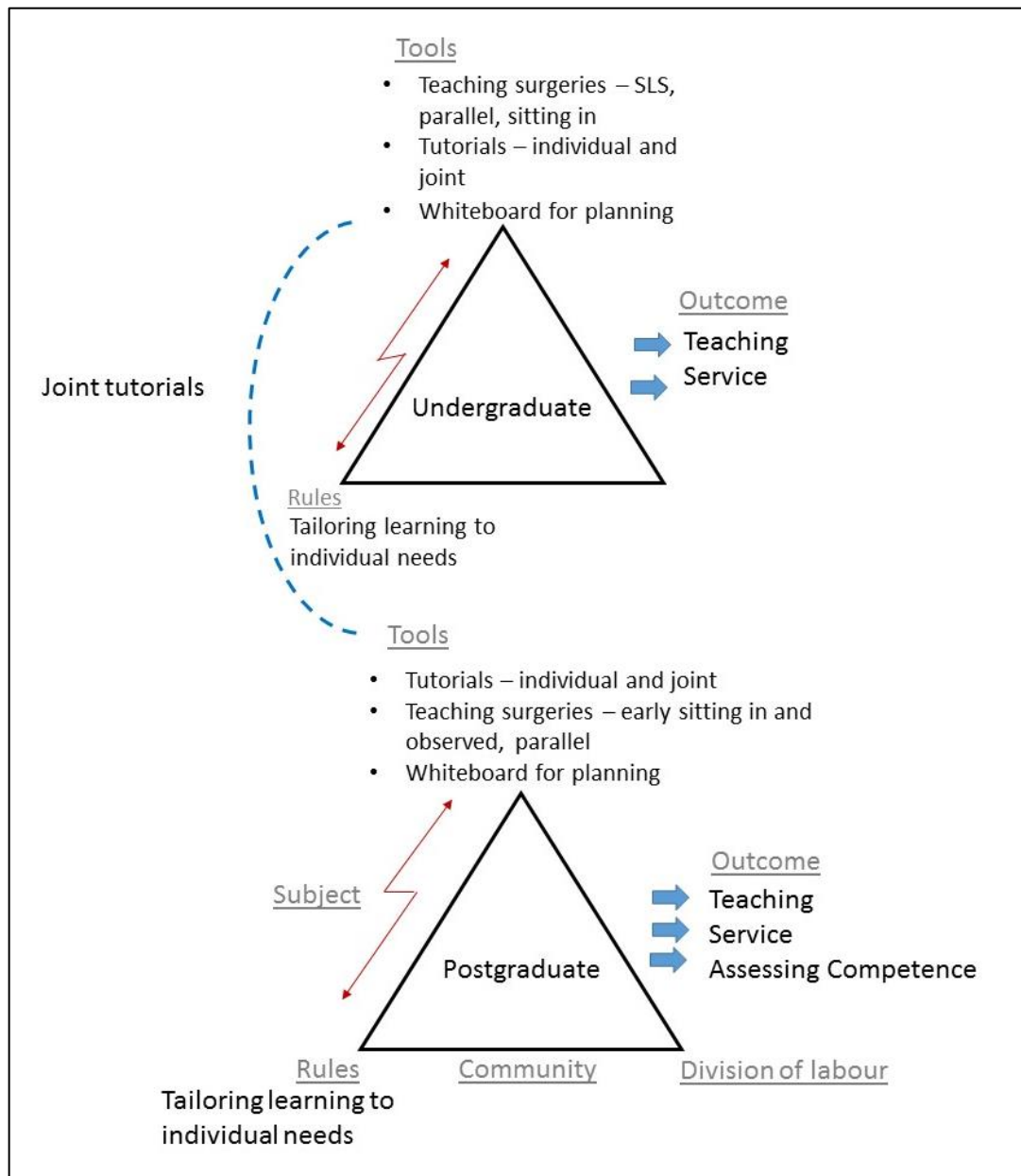
Figure 7-25 The relationship of teaching formats between undergraduate and postgraduate education in multilevel learner practices

The specific issue of near peer teaching will be explored in 7.7.

7.6.4 The GPs perception of a continuum approach

When specifically asked whether they felt there was a continuum approach in their practice the GPs' responses suggested that there was not a consensus on what this term actually meant. Half of the respondents conceptualised this as a pipeline of learners and learning. Some identified this as starting with local school pupils interested in doing work experience while others felt the beginning of medical school was the starting point. Regardless of the starting point, there

seemed to be an appreciation that any point in training was part of a journey of lifelong learning, crucial to life as a practicing GP and that it was beneficial for learners to see this expectation in practice.

> There's a continuum of learning within medicine from when you start as a first year to when you finally hang up your stethoscope...Well there should be, shouldn't there? (F2)

The incentive of future recruitment has already been discussed but GPs also identified other advantages of a continuum of learning. In particular, those with multiple levels of learners felt it was helpful for benchmarking expected standards at different levels.

> If the [medical students] are coming... towards the end of a consultation and they have managed to take a good history and then are struggling for a differential [diagnosis],... you know what's wrong and what to do, but they don't. And you can say 'Well, would so and so... have come to ask me about this patient?' or 'Would they have managed it?' And so you can say 'Actually, the FY2 [or the ST1 probably] would have struggled with this one. So it's reasonable they have got stuck at that point.' (M4)

Additionally, one GP felt it offered useful insight into how learners develop along the continuum and therefore how to help them to progress.

We get quite an interesting insight and observation into the evolution of how people...learn medicine... Because we have that continuum I think that helps us ...to support students at the right level. (M3)

A number of the GPs seemed uncertain what was meant by the term "a continuum approach" and from their answers it was clear they understood this as referring to whole practice involvement in teaching. The significance of this will be further considered in Chapter 8.

7.6.4.1 Activity Theory interpretation

This is challenging to describe from an AT perspective, as the main source of tension is actually in the different understandings of the term "a continuum approach" and its representation as an activity (Figure 7-26). Therefore, collating intended outcomes et cetera would not be representative, as people were using the term in different ways. This difference in understanding will be

explored further in Chapter 8 as part of a reflection on what this study has revealed about the continuum of medical education in general practice.
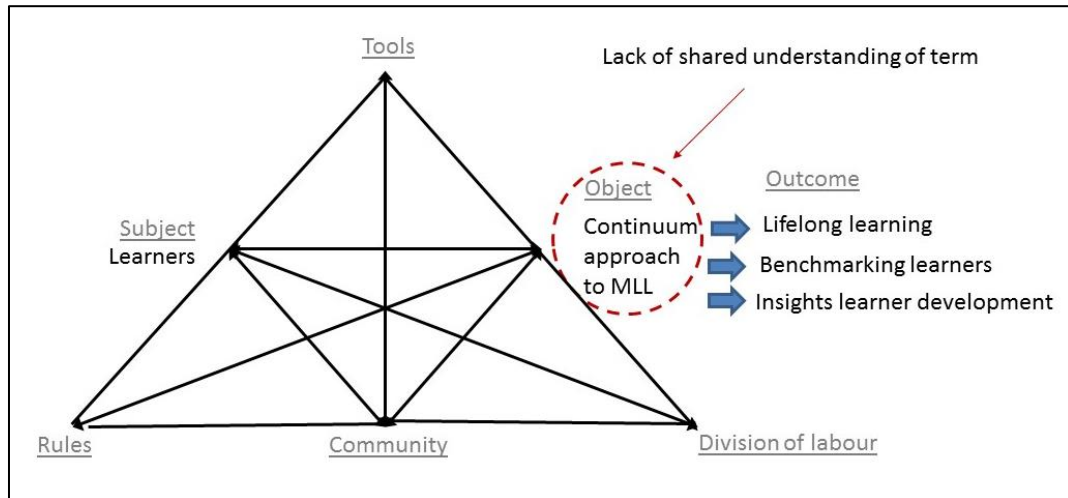
Figure 7-26 GP teachers' perception of a continuum approach to multilevel learning in general practice

7.6.5 Summary Theme 4: GP as Teacher

GPs described a range of motivations for their involvement in MLL teaching, both cognitive and affective. Conversely, the added pressures of additional learners could be stressful. A range of organisational, assessment and teaching tools which support teaching were described. Despite the co-location of learners, the level of vertical integration of learning activities was low. This was reflected in the collective understanding of "a continuum approach".

7.7 Theme 5: Near peer teaching in General Practice

The majority of practices supported near peer teaching (NPT) amongst their learners. Most commonly this involved the ST3s teaching medical students, though on occasions STs would also teach FYs and FYs could be involved in teaching undergraduates. On one occasion, a GP described an enthusiastic 4th year student on a student selected component (SSC)[1] teaching 3rd year students

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[1] SSCs offer students the opportunity to study a topic of their choice for a 5 week block during their medical degree.

on placement, though this had been prompted by the individual's desire to teach, rather than a culture of NPT in that practice.

> We had a 3rd year who was very good and he came back...to do an SSC [in 4th year]...He was absolutely brilliant...he actually wanted to teach the students. So I said 'that's fine, brilliant' and he...did some neurology examination with them...and he talked to them about how you do the OSCEs and what might come up in the OSCEs and...I thought that was actually a really good way of using him, and the students got a lot out of it. We've never used the trainees for that...but having this conversation now, it's something we maybe should be thinking about getting them involved [in]. I don't know, is there any specific guidance from yourselves about that? (M5)

7.7.1 The benefits of NPT

GPs varied in their opinion on the utility of NPT. Some felt it simply allowed the senior learner to "tick a box" for their e portfolio.

> I would have to say that the FY2 tutorials for the students [are] more of an exercise for the benefit of the FY2 so that they can practice their teaching skills than it is particularly because that's the best way of teaching the students. (M10)

Others felt it facilitated a richer and mutually beneficial exchange between learners. They believed the students appreciated speaking to someone nearer to them in age, which gave them the opportunity to get both relevant career and exam preparation advice. They also noted that trainees had often been through the same course and exams and could discuss colleagues and placements they had in common with the students.

> If you're getting peer teaching that works really well...I think students maybe feel more comfortable with someone who's younger. And they can also say to them, well this is what my last few years have been like. This is what hospital is like. This is what practice is like. Rather than somebody like me going 'Oh, you know, it was never like that in my day'. (M5)

The GPs also appreciated the potential for role modelling to occur, not only between the junior doctors and the medical students, but also for school pupils potentially interested in applying to medical school.

> I think it's actually helpful for the likes of the third year students to see … younger doctors…if [they] hear what jobs the FY2s [have] done or what they are doing next… they often will chat about that. It's the same…if we have [school] students who are coming, who are hoping to do medicine then you…try and link them in to get a chat with somebody like that…Young people tend to [appreciate that]. I think it's a role model type thing. (M7)

Another perceived advantage was that NPT gives students the opportunity to ask a junior doctor questions that they may not want to ask the GP.

> I suppose sometimes if they think there is [a silly question] that they will be less afraid to ask…They may not want to ask a more senior clinician but they are happy to ask someone more junior…Obviously, it's not a silly question but if they think it's a silly question then they might feel a bit more open to ask a bit more. (M4)

It was reported that trainees benefit by developing their leadership skills and NPT also allowed those interested in teaching to get some experience of this. There was a hope that this may be a way to engage GP educators of the future.

> I think [for an ST3 it is] good from a leadership point of view. I think it's good to encourage them to start [teaching] and… you then hope that maybe they quite enjoy it and they think 'Actually… at some point [in the future I] want to take on an educational role. (F6)

7.7.2 Approaches and challenges to NPT

There was variation in supervisors' approaches to supporting the STs to teach. Some described providing a briefing prior to the teaching, to either the student or the teacher, while others seemed to simply instruct them to "sit in".

> I try to have a chat with them about what they're actually doing…we talk about different things, so we talk about observe the doctor…how they are consulting? What kind of skills are they using to consult or what kind of communication skills? What kind of questions are they using when they are consulting? And then also think about the diseases they are seeing and try and keep notes. (M8)

Occasionally, junior doctors were also involved in delivering tutorials to their more junior colleagues. As discussed in 7.6.3.2, when a fully qualified GP was delivering the tutorial, topic selection aimed to be learner-centred though was often based on their area of expertise. In the following example, the tutorial

topic choice is restricted to a match between what the FY feels confident to teach about and the students want to learn about.

> Our current FY is very interested in stroke so he was talking about stroke and one of the previous [ones]… was something to do with pharmacology and prescribing…It is random, it depends on what the FY2 is going to be able to teach on [and what] the students want the tutorial on. So it can be tricky to tie the two up. (M10)

The same GP was critical of GPs teaching clinical skills as he felt that GPs daily clinical examination practice is different to the requirements for assessment. He commented that FY2s would be much better placed to teach this but hadn't used his own FY2s to do this.

> I mean surely there is an FY2 somewhere in Glasgow that can teach clinical examination skills better than we can. (M10)

Another challenge to making NPT a more regular occurrence was whether the learners' placements actually overlap. An ST3 will typically be placed at the same practice for at least a year, so will most likely encounter other learners at some point in these joint teaching practices. In contrast, FY2s are placed for four months and ST1s for six months so may not overlap with those more junior depending on placement capacity. Furthermore, GPs seemed quite cautious about when it would be suitable for students to "sit in" with trainees. Most identified this as an activity only suitable for the ST3 year, often only in the last few months of the training year.

> When the ST3s come back…quite often we… ask them…, suggest that it's a good idea…that they do some teaching with the undergraduates, especially after they've done their ESR in May. We quite often get them involved in having them in consultations. (F3)

Variation in the ability and confidence of trainees to teach was described. For one tutor, it was the calibre of recent ST3s that influenced whether to involve them in teaching or not.

> We tend not to get the ST3s involved in the undergraduate teaching…but that might change if the calibre of STs was different. But the FY2s, paradoxically, I have usually invited them to do some teaching with the 4th/5th year students. Because, to be perfectly honest, they are much better that the STs we have been having. (M10)

Several tutors commented that trainees could be nervous about teaching and sometimes needed encouragement to do so.

> Some of them were a wee bit more nervous about the idea of someone watching them but...I still involve them. I still get them to do it and I think you just have to remind them that you are taking someone who is more junior...It's not a peer that is sitting in watching you, which is quite different...They wouldn't be able to do it any better than you. (M8)

Expectations of the ST3s teaching could be limited. One tutor expected the trainee to impart knowledge but not to give feedback to the student.

> The ST3 doesn't always get involved...but if they're happy enough to do it...I would have a chat with them...and say 'there's not really anything, I wouldn't expect them to be...giving feedback...to the students...It's more just allowing...the student to be in and trying to use the teaching opportunities that...they feel they want to have...and they might pick up...and the student might ask them some questions. (F5)

7.7.2.1 Activity Theory interpretation - NPT

AT enables identification of the tools of NPT and also facilitates reflection on the different intended outcomes of this activity (Figure 7-27). Whilst some tutors see this merely as a "tick box exercise", others recognise opportunities for learning and benefits extending beyond simply the transfer of knowledge on the subject area being taught. By understanding the difference in intended outcomes, the differences in perceived value and approaches to NPT can be better understood. For example, if a supervisor sees it simply as a "tick box exercise", then they may not promote this beyond a simple session 'sitting in' and may not support the near peer teacher to reflect on and develop their teaching skills and experience.
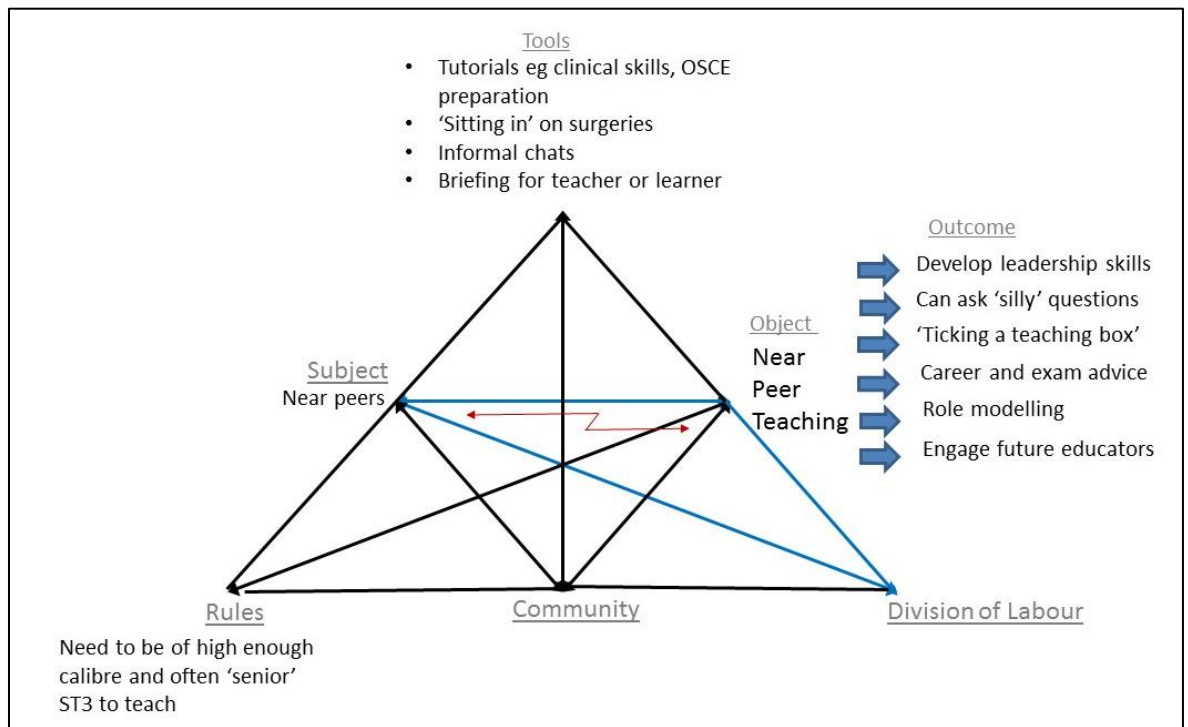
Figure 7-27 The activity system of near peer teaching in general practice

7.7.3 Theme 5 Summary: Near peer teaching in general practice

Trainees in the majority of these MLL practices were involved in NPT and GPs reported a range of benefits that could be derived from this. However, formal NPT was often ad hoc and limited in time and expectations.

7.8 Conclusion

This chapter presented the findings from my interview analysis, utilising both Activity Systems Analysis and Thematic Analysis as described in Chapter 5. This dual analysis resulted in five hierarchical themes which enabled contradictions and opportunities for learning to be identified at each level. A consistent contradiction was that between teaching and service, persisting even when strategies to address resultant contradictions had been successful.

8 Discussion and Conclusions

8.1 Introduction

This chapter begins by revisiting the questions posed in this study. In order to demonstrate how I have answered these, the findings will be compared to existing literature, highlighting where they build on this and where gaps still exist. I will specifically reflect on what Activity Theory has added to this work and the strengths and limitations of this approach. Throughout the chapter, I will consider the implications of this work for the continuum of medical education in a general practice setting.

8.2 Research Questions

This thesis aimed to study the continuum of medical education via a case study of multilevel learner general practices in the West of Scotland. Four research questions were presented:

9. How does Activity Theory enable us to understand the activity of teaching in GP practices with multilevel learners?

10. What are the tensions experienced by GPs in multilevel learner practices in relation to their teaching?

11. How have these tensions shaped the activity of teaching in multilevel learner GP practices?

12. How does activity theory promote better understanding of continuum of medical education in GP practices with multilevel learners?

8.3 Discussion of key findings

8.3.1 General Practice in 2017

Key features of the current context of teaching in General Practice in 2017 were current workload and recruitment pressures. Much of the recent literature and policy focuses on the need to increase teaching in general practice as a means of

increasing GP recruitment (Alberti et al., 2017; Harding et al., 2015; McDonald, Jackson, Alberti, & Rosenthal, 2016; MSC & HEE, 2012; Nicholson et al., 2016). However, this study demonstrates that recruitment should be considered as a bidirectional challenge spanning the continuum of medical education as issues in each part of the continuum were seen to affect each other.

Recruitment difficulties within participants' own and neighbouring practices influenced teaching. Due to lack of capacity, some practices had already cut back on their teaching commitment. The decrease in capacity created by a GP vacancy exacerbated the constant primary contradiction between teaching and service delivery. Clinical pressure on GPs workload is not anticipated to improve due to the increasing complexity and intensity of this work (Baird et al., 2016). Furthermore, recruitment remains problematic as GP trainee places are under filled and the popularity of General Practice as a career choice remains low (MSC & HEE, 2012; RCGP & MSC, 2017; UKFPO, 2016). Therefore, it is important for multilevel learner practices to be able to optimise the teaching capacity that they do have and vertical integration has been suggested as a way to facilitate this (Morrison et al., 2014; O'Regan, Culhane, Dunne, Griffin, McGrath, et al., 2013) .

Changes to the primary care team can affect teaching. While GPs recognised that these additional healthcare professionals (HCPs) could help free up time for teaching by sharing the clinical workload, they require consulting rooms to see their patients. A lack of space had inhibited expansion of teaching in four practices with two having been provided land for new premises but being unable to secure Government funding to build these. While space for teaching is not a new issue in itself, the issue of space is felt to be particularly relevant to multilevel learner practices (Dodd et al., 2009) and the clear impact of this was seen in this study.

Frustrated at gaps in their trainee allocation, several practices have started to focus their efforts on training existing and new HCPs for extended roles with several GPs suggesting that they may stop GP training completely to focus on these new training opportunities. If this pattern was to start to emerge, it may further negatively affect current plans for expansion of GP training (Millett, 2016).

Changing working patterns, as evidenced in a recent national survey (ISD, 2016), was reflected in my data. The potential impact of this on teaching needs to be considered, as a recent Kings Fund report stated that only 10% of GP trainees intended to work full-time on completion of training (Baird et al., 2016). There was some concern in the literature about the increase in part-time working by GPs (Gulland, 2017; McKinstry et al., 2006). However, a positive finding in this study was that some GPs are using their part-time working status to increase their teaching capacity. This shows some similarities with previous VI models described in an Australian context (Laurence et al., 2011). Several part-time GPs described teaching medical students on their "day off" to ensure the enjoyment of teaching. Easing the pressure between teaching and service, they provide the practice with additional appointments, while retaining the autonomy to structure the teaching as they felt best-suited the students' learning needs. Various mutually beneficial arrangements were agreed at practice level and wider awareness and adoption of these or similar models may facilitate finding additional capacity within currently pressured systems.

8.3.2 External relationships

Working across the boundaries of at least two external organisations could be frustrating to GPs. For those teaching students from more than one medical school, the existence of different QA processes and curricula were a potential deterrent. However, on several occasions GPs recognised their experience with teaching in one context "cross pollinating" into another, with the resultant teaching potentially being greater than the sum of the individual parts.

The importance of good communication across the interface between practices and their various educational bodies was emphasised. In keeping with previous recommendations (Cotton et al., 2009), participants felt boundary objects such as clear documentation and helpful, familiar administrative and academic contacts were crucial to support them in delivery of multilevel teaching. A common area of tension reported was communication relating to learners in difficulty. Tutors described their impact on the activity systems of teaching as significant, particularly in relation to the division of labour within the practice.

As discussed in 3.4.3, there is no national undergraduate curriculum for general practice (D. P. Gray, 2017) and possibly, this was demonstrated by the variation in responses when asked to describe how GPs decide what to teach. However, when compared with the responses from a postgraduate point of view, where there is a well-established curriculum, there seemed to be a similar variation in responses. Therefore, it could be questioned how influential the postgraduate curriculum content actually is. The debate regarding a national undergraduate curriculum in General Practice will continue and our study would suggest that while some GPs would welcome it, others appreciated being trusted to provide teaching as they see fit. Regardless of the GPs opinion on the curriculum, a consistent and clear principle of learner-centred teaching came across in this study. This was demonstrated across the educational continuum and was clearly valued.

In contrast, the e portfolio, which requires satisfactory completion by all GP Trainees, was less valued. From their descriptions, supervisors conceptualised it as a tool to support the outcome of assessment which was at tension with their desired outcome of learning for the trainees. The only time when it was perceived to be useful was when there was a struggling trainee, though mostly this seemed to be to help evidence their assessment decisions through documentation of progress rather than as a learning tool. Recently, changes to the requirements for workplace based assessment have streamlined requirements for the portfolio (RCGP, 2017b).

Perceived unfairness in allocation of trainees was reported by a couple of practices a greater distance from the University. This is important given the concerns regarding recruitment of GPs to more remote and rural areas as one of the drivers for VI in Australia had been to increase recruitment to traditionally under-doctored areas (Rosenthal et al., 2004). In an attempt to redress this issue, the Government has recently introduced a Targeted Enhanced Recruitment Scheme (TERS) which pays trainees for choosing to be based in traditionally hard-to-recruit areas (NHS Scotland, 2017). The GPs in this study recognised training as a potential means to produce future GPs for their practice and in one of the practices, five out of the six GPs had been trainees at that

practice. My data would, therefore, tend to support the potential for a scheme such as this.

While the GPs interviewed acknowledged the peer support they received for both their postgraduate and undergraduate teaching roles, these communities function independently of each other. GPs valued being part of a community of educators and saw regular teaching events as an important way to keep up-to-date and to network. There was an absence of any specific training related to managing teaching in a VI learning environment and the literature suggests that being able to optimise this requires additional skills from GP educators (Ahern et al., 2013; Stocks et al., 2011; Thomson et al., 2014). This suggests that development of a tailored teacher-training event for GPs in MLL practices may be beneficial going forward.

Despite shared standards for all undergraduate and postgraduate medical education in the UK (GMC, 2015), the GPs still experienced quite marked differences in expectations between levels and medical schools. NES has introduced a program of joint QA visiting for hospital sites and the creation of a similar process for general practice, as described in an earlier pilot in the southwest of England (Harding et al., 2011), could be considered. An advantage described in that pilot was that participants found out more about the involvement of other GPs in the practice in teaching. In contrast, in some of the practices in this study, it was clear that the postgraduate teaching and undergraduate teaching functioned quite separately, with minimal understanding between the two activity systems of how each other functioned.

8.3.3 The Joint Teaching Practice

A striking feature of the practices included in this study was the longevity of teaching in the majority. GPs spoke of teaching being "handed over" to them, highlighting that, in many practices, teaching was seen as being a core practice activity. This aligned with previous work consistently emphasising the importance of culture and organisation in practices with multilevel learners (Ahern et al., 2013; Cotton et al., 2009; Dick et al., 2007; Kirby et al., 2014; Laurence et al., 2011; Morrison et al., 2014; O'Regan, Culhane, Dunne, Griffin, McGrath, et al., 2013; Thomson et al., 2014).

The balance between teaching and service delivery is recognised in papers on teaching in general practice (R. W. Gray et al., 2001; Park et al., 2015) and the increased impact of multilevel learners on this tension is also highlighted (O'Regan, Culhane, Dunne, Griffin, Meagher, et al., 2013). While these studies proposed that shared learning and NPT may provide additional capacity, further details of how GPs and practices can manage this tension were lacking. Using Activity Theory, this study enabled the tension between teaching and service to be better understood and in so doing, identified where learning had occurred within practice teams to change how this activity was enacted. For example, a common way for practices to try to address the service-teaching tension is to apply rules related to division of labour e.g. protected time. While some of these rules will be formal rules provided by the deanery, practices also agreed their own informal rules in relation to this.

Teaching crunch points were described. In addition to usual points of pressure such as annual leave and staff illness, the GPs in multilevel practices described additional and often predictable crunch points. They identified times of increased intensity in the training year (e.g. trainee induction) as times when they would cut back on student placements. Cutting back student involvement at the start of the training year gave them time to gauge the level of competence of their new trainees. This enabled them to predict the likely required level of input for that trainee over the following months and to adjust their student placement numbers accordingly. This flexibility of availability for student teaching is a new finding and has important capacity implications, if there is to be significant expansion in multilevel learning.

The impact of placement location, particularly rurality, emerged in this study. The GPs described different learning opportunities for rural learners, while recognising that rural teaching also brings different challenges. For example, students do not like travelling long distances to practices due to the additional cost and time required. Therefore, the GPs made various adaptations to the teaching day, trying to make things easier for the students. Travel expenses are funded centrally and there is not a consistent national funding systems for this. Reviewing this funding could make these placements more attractive to learners

Furthermore, the rural GPs interviewed suggested that the financial benefits to them from teaching was potentially less than for their urban colleagues, reflecting previous financial modelling from Australia (Laurence et al., 2014). Perhaps, as part of the current national teaching costing exercise, the impact of rurality should be considered to help further promote teaching in these areas.

Other practice characteristics also shaped the learning experience in this study. Practice size was relevant and this is important in the wider context of a general increase in practice size (Kelly & Stoye, 2014) . A larger practice can have the advantage of more "give" in the system if there is a GP absence. Conversely, this could impact on the one-to-one relationship that is valued both by teachers and learners (van de Mortel et al., 2013).

Patient demographics can shape the experience for the learner but may also make teaching more challenging. One GP in a deprived area described more challenging logistics when arranging teaching with her patient population. She also felt that her patients put more pressure on themselves "to give the right answers" to students than she thought other patients would. It is known that GPs in deprived areas are less likely to teach than their colleagues working in more affluent areas (Mackay, Sutton, & Watt, 2005; Rees et al., 2016; Russell & Lough, 2010). This is hypothesised to be for a number of reasons and future research exploring the specifics of teaching, including multilevel teaching, in a deprived area in a formal way may be worth considering. The Deep End Project in Scotland (Alexander, Scotland, Budd, Sambale, & Watt, 2010) conducted a single focus group with eleven GP trainers and started to identify potential issues at a single learner level but a formal comparison with their more affluent colleagues may be beneficial.

Reflecting existing literature (Anderson & Thomson, 2009; Cotton et al., 2009; Dick et al., 2007), GPs in this study, saw teaching as a whole practice activity and recognised that a coordinated approach to this was vital with multilevel learners. Previous studies mostly focus on the role of the clinical staff in supporting teaching and through the use of activity theory this study highlighted the significant role administrative staff play in ensuring successful teaching of multilevel learners. One previous study specifically explored the views of administrative staff and suggested that practice involvement in teaching could

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increase the complexity and stress of their work (Quince et al., 2007). This study starts to illustrate what that additional complexity may look like and suggests that further understanding of the impact of multilevel learning on non-clinical staff is important.

The wider practice team are regular and valued contributors to teaching of both undergraduates and postgraduates and this study suggests that their involvement in teaching multilevel learners can be a significant part of their work. A previous local study suggested that nurses are not usually trained for their involvement in teaching (P. Smith et al., 2009) and while the GPs in this study suggested that their staff appeared to enjoy teaching, there was no reference to formal training or protected time for them to support their involvement. This could also be an area for further training.

This study intentionally included practices where the same GP led on postgraduate training and medical student teaching and practices where different GPs led on these activities. Both of these models of division of labour seemed to work in different practices for different reasons e.g. GP working patterns. However, the model used did occasionally, but not consistently, seem to shape how integrated teaching activities were when compared to the definition of VI (Glasgow & Trumble, 2003). In practices with distinctly separate systems, there were clear examples where understanding of the other system appeared limited to what was necessary for their personal involvement. Unless there is a greater level of shared understanding, adoption and optimisation of the benefits of a more integrated model might be more challenging.

Communication related to teaching within the practice team seemed to reflect general communication within the practice. Good communication was recognised as vital with multiple learners, particularly when dealing with a struggling learner. As well as communication between teachers, the importance of informal learning over coffee discussions was recognised as an important opportunity for learners to be part of the practice community. This is consistent with previous research and is important for learners' clinical and professional development (Thomson et al., 2014).

Activity Theory helped to identify the different motivations that practices and individuals reported for their involvement in multilevel learner teaching. This is important to understand in the context of a demand for expansion of teaching in general practice (Department of Health, 2017; Harding et al., 2015; MSC & HEE, 2012; Nicholson et al., 2016; Rimmer, 2017). GPs reported differing attitudes to the income generated from teaching. Some described it as a key, but never the only, driver for expanding into multilevel learning while others reported the practice culture of learning as their main driver. As with previous studies, the service provided from an additional pair of hands was appreciated (Ahern et al., 2013; Morrison et al., 2014), especially at a time when their service is under strain.

Reflecting previous studies, there was no acknowledgement that students could be contributing to providing service. Despite this, the GPs described examples of student led surgeries and the powerful learning that students gained from these. This triangulates with the study by Nicholson et al (2016) which reported that students value authentic clinical experiences where they feel they are contributing to the work of the practice. Furthermore, they suggested that those particular experiences were strong motivators for students considering a career in general practice. Possibly, addressing this perception of non-contribution to service might make teaching in general practice more attractive and might also help tutors to promote the value of all learners' contributions to their practices.

8.3.4 GP as a Teacher

GPs in this study recognised the personal benefits of their involvement in teaching and this was consistent with previous broader findings on teaching in general practice (Park et al., 2015). The main additional driver for GPs having multilevel learners appeared to be the level of enjoyment that they derived from engaging with enthusiastic and appreciative learners across the continuum who helped keep their knowledge and skills up-to-date in various ways.

A downside of teaching multilevel learners was that there was a clear picture of the stress of teaching and while previous studies on vertical integration occasionally allude to this, they mostly focus on the potential benefits of VI (Ahern et al., 2013). Nearly half the GPs in this study described the stress of

trying to balance teaching, service and other practice activities. Multiple learners or a struggling learner potentially amplified that stress. Several GPs reported sometimes feeling overwhelmed with teaching, with one specifically commenting she was worried she was doing so much it may cause burnout. Another described a teaching colleague who had demonstrated signs of burnout and was no longer working as a result. This contrasts with previous work suggesting multilevel teaching can protect against burnout (Thomson et al., 2014). This emphasises the importance of specific training events to enable sharing of best practice in managing multilevel learners and a need to review the relationship between the teaching organisations to determine how the teaching burden on our supervisors might be reduced.

The biggest challenge for supervisors in multilevel learner practices was meeting the different needs of the various learners. For many, this was sufficient to put them off shared learning activities. For others, despite a willingness to try this, they reported being advised this was "not allowed", unless all learners had the same learning need. While the literature recognises that meeting differing learning needs requires additional skills for facilitators of shared learning activities, it does not suggest that this should preclude this activity (Ahern et al., 2013; Morrison et al., 2014; O'Regan, Culhane, Dunne, Griffin, McGrath, et al., 2013; Thomson et al., 2014; van de Mortel et al., 2013; Van De Mortel et al., 2013).

The tools of teaching described in this study were consistent with those described in the VI literature. In an example of boundary crossing, supervisors described utilising tools identified from one level in another and they reported the benefit of this. Although several practices reported multilevel learning during coffee breaks or practice teaching sessions, only one of the GPs described a formally arranged shared learning session. They recognised the importance of planning and preparatory work on behalf of the learners and the supervisor, and felt the benefit of multiple perspectives in a teaching session as well as an economy of scale as reported in the literature (Ahern et al., 2013; van de Mortel et al., 2013).

8.3.5 Near peer teaching (NPT)

Having read the literature on the potential benefits for both the learner and the learner-teacher, it was a disappointment that there was a relative lack of NPT in this study. Despite trainers recognising the benefits, for most trainees, NPT was reserved for the last few months of GP training once they have completed all of their necessary training requirements. GPs reported concerns about trainees' willingness and ability to teach, as well as describing practical limitations (e.g. lack of learner overlap, learner-centred topic selection). This reflects findings from previous studies (Dick et al., 2007; Dodd et al., 2009; Kirby et al., 2014) as well as the lack of a formal programme for NPT in our locality. Possibly, it could also be an unintended consequence of the increasing professionalisation of medical education (Morris, 2011). As the GPs are required to attend training and evidence various standards in order to teach, perhaps this "sets the bar too high" for significant trainee involvement in teaching. Rather than proposing a lowering of this bar, this creates a case for more widespread formal NPT training and consideration of teaching fellows as utilised in hospital settings (Furmedge et al., 2013). Previous work has suggested high levels of interest in teaching from GP trainees (Halestrap & Leeder, 2011) and although not all trainees will be in multilevel learner practices, these practices could capitalise further on opportunities to engage potential future educators further.

8.4 Strengths and limitations of this study

This study is unique in its use of Activity Systems Analysis (ASA) to understand the continuum of medical education in a general practice setting. Through use of Activity Theory, I was able to appreciate the influence of both the historical and current contexts on this case study and to conceptualise the tension between teaching and service as an underlying contraindication. Through identification of the tensions that exist, within and between activity systems, I was able to identify where learning had occurred and where opportunities for further learning still exist. These findings have the potential to inform the development of multilevel learning going forward.

A challenge of this study was the application of ASA. A criticism of Activity Theory is the breadth of approaches which this term now encompasses

(Roschelle, 2009). This made it difficult to find a clear and recognised analytical process to follow. Through developing an understanding of the origins and resultant principles of Activity Theory, I was able to analyse my data in justifiable alignment with accepted principles.

When beginning this doctorate, I had naively hoped that, through my analysis, I would be able to create an overall diagrammatic representation of the continuum of medical education in these practices. As I analysed my data, it became clear that the reality was far more complex than I had appreciated. There was variation between practices and between components of the overall activity of teaching within those practices. At times, postgraduate and undergraduate teaching was inseparable (e.g. communication) and at others, there were clear and distinct differences (e.g. curriculum). Therefore, I felt reducing my overall findings to one, or several, overarching activity system(s) would be doing my topic a disservice.

Initially, I was disappointed by this. However, Regehr (2010) cautions against the desire for simplicity in favour of a richer understanding. Furthermore, Lingard et al (2012) demonstrated Activity Theory's utility as a theoretical lens to appreciate and understand the complexity of a clinical environment. I suggest that my work demonstrates Activity Theory can be used to better understand the complexity of teaching in clinical settings, in particular, in the context of general practice.

From the outset, the lack of a formal definition of a continuum approach was a challenge. A temptation was to rename this study "a case study of vertical integration…" as the concept of VI was helpful for starting to articulate what is meant by a continuum approach. However, as this study was undertaken in a UK context, I decided to use the terminology currently utilised in UK policy. Furthermore, this guarded against an assumption of the existence of VI in this study.

As with many of the previous studies in this area, a limitation of my work is that it is a small study conducted in one geographical region. Therefore, my findings on the continuum may have limited transferability. Through provision of details

of the context of this study and characteristics of the study population, readers' judgement of this has been facilitated.

8.5 Personal reflection

At the beginning of this study, I possessed an enthusiasm for medical education research and a passion for teaching in general practice. The opportunity to combine these interests in this doctorate has enabled me to explore a range of theories and to develop a deeper understanding of the complexity of learning in clinical settings.

Prior to commencing this work, I naively assumed my insider status would bring only advantages. However, as this study progressed, I recognised that sometimes this status could be a double-edged sword as described by Mercer (2007). For example, at times it was hard to make the familiar strange (Hockey, 1993) and a non-clinical supervisor was beneficial in this regard. Having completed this doctorate, I now have a responsibility as a researcher to disseminate my findings. In this final regard, I hope my insider status, as a GP within medical education, should be an advantage. However, I am aware that some of my findings may seem critical of the GPs in this study or the institutions responsible for teaching and I shall need to remain sensitive to this tension in my dissemination.

8.6 Concluding Summary - Returning to the concept of a continuum approach

Vertical Integration is defined as:

> The coordinated, purposeful, planned system of linkages and activities in the delivery of education and training throughout the continuum of the learners' stages of medical education (Glasgow & Trumble, 2003, p. 8).

Comparing this with what I heard, the majority of practices in this study did not fit this definition. While the activities in these multilevel learner practices were mostly purposeful and planned, the linkages between the levels were less so. When I enquired if study participants felt they had "a continuum approach" to education in their practice, there was no clear consensus on this term as

demonstrated by the descriptions of their teaching activities. Activity Theory, through its appreciation of the historical context of an activity, may offer insights into the origins of this lack of VI. The current separate organisational structures for undergraduate teaching and postgraduate training in the UK has its foundations in the establishment of these activities over fifty years ago. While there will be inevitable differences between the stages (e.g. curricula), separate organisational structures and culture mean that currently the onus for the integration of these activities falls to the GP teachers in their practices.

O'Regan et al (2013) suggested that better interagency collaboration was required to promote VI. My study, through its use of the analytical lens of Activity Theory, presents further evidence to strengthen this argument. At a time when there are unprecedented pressures in general practice, alongside a desire to increase teaching capacity, closer working between the educational bodies would be key to promoting and developing VI in a more meaningful and consistent way.

Finally, having reflected at length on the literature and my data, I offer what I think the definition of a continuum approach should be:

A continuum approach is organising and enabling multilevel learning to create something that is greater than the sum of the parts.

Appendix I: Initial literature search flow chart
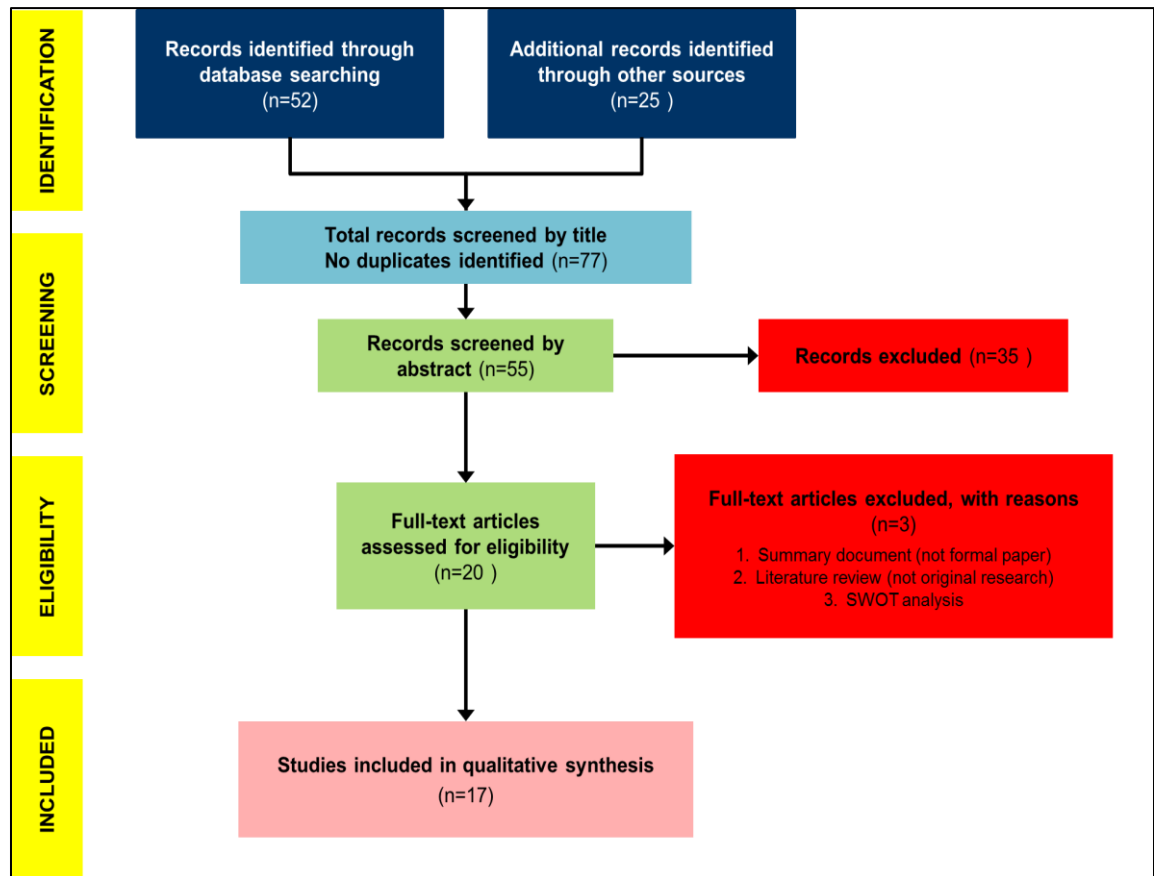
Appendix II: Electronic questionnaire content

ABOUT YOU

1. Gender :

Male

Female

Other

2. Age:

26-35

36-45

46-55

56+

3. Practice Commitment:

Full Time

Part Time

ABOUT YOUR PRACTICE

4. Location:

Urban (settlement of 3000 or more people)

Rural (settlement of <3000 people)

5. Number of Permanent GPs ie partners and salaried (actual number,not FTE)

6. List size (approx):

TEACHING COMMITMENT OF GPs IN PRACTICE

In the following questions, please tick any answers that apply. Leave blank if not undertaken in your practice.

7. Undergraduate medical students – Vocational Studies (VS)

You

Another GP in Practice

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Buddy Practice

8. Undergraduate medical students – year 3 Clinical Practice in the Community (CPC) tutor

You

Another GP in Practice

9. Undergraduate medical students – year 4/5 educational supervisor

You

Another GP in Practice

10. Undergraduate medical students – other e.g. SSCs, electives

You

Another GP in Practice

11. Supervisor for undergraduate medical students from another medical school

You

Another GP in Practice

12. Other healthcare professions students

You

Another GP in the practice

Please specify which students:

13. Foundation trainee Educational Supervisor

You

Another GP in Practice

14. GP Specialty Trainee Educational Supervisor

You

Another GP in Practice

15. Other supervisor e.g. for retainers or returners

You

Another GP in Practice

INTERVIEW INVITATION

16. Would you be happy to be contacted to be interviewed regarding teaching in your practice

Yes

No

Appendix III: Questionnaire invitation

Sent invitation

FROM: ▮▮▮▮▮▮▮▮▮▮▮▮ a surveymonkey.co.uk

DATE: Thursday, February 09, 2017 3:48 PM

SENT TO: 180 recipients

SUBJECT: 5 minute survey on the teaching that you do

MESSAGE:

General Practice Tutor and Educational Supervisor questionnaire

Dear tutor/supervisor,

As part of a broader research project studying GP practices who teach undergraduates and postgraduates, we want to update the information that we have on the various teaching activities tutors and practices are involved in.

We are aware that many practices do teaching over and above the year group teaching they do for us so we would be grateful if you would consider completing the attached questionnaire regarding this. This would enable us to update the figures we have and also to try and identify GPs who may be happy to be interviewed further about their various teaching activities. If you do express an interest in being interviewed, we will send you further information about the interview part of the research project and you are under no obligation to participate further.

By completing this survey, it is implied that you are consenting for your statistical data to be used as part of the broader research project (Joint undergraduate and postgraduate teaching in general practice: a case study of the continuum of medical education in practice).

This survey should take less than 5 minutes to complete.

▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Gender :

Appendix IV: Interview schedule

Interview schedule
NB: 9 overarching open questions based on CHAT framework with possible follow up questions noted below each (depends on response given if needed)

1. Tell me about the history of teaching in your practice.

☐ Why did you become involved in teaching?

☐ Why did you choose UG/PG first?

☐ When did you start doing both? What triggered that?

☐ What did you need to go and do or change to make this happen?

2. What resources are there to help you with your teaching?

☐ Internal?

☐ External? E.g. NES, medical school

☐ What do you need to support you in your teaching role?

☐ Has this need been met? If so, how? If not, what do you need?

☐ How do you decide which information and resources are useful?

3. Can you describe the organisation of teaching in your practice?

☐ Has it always been this way?

☐ If not, what has changed and why?

☐ How do you share information about students and trainees within the practice?

☐ How do you share information about teaching and training within the practice?

☐ What type of information do you share?

☐ Have you put any systems in place to support teaching and learning in your practice? Do these systems connect to anything else?

4. How do you see UG and PG teaching linking?

(trying to tease out of they see as 2 separate things or do they recognise a continuum?)

☐ Do you feel there is a continuum of learning in your practice? Why do you say this (yes or no)? How does this manifest?

- ☐ What are the similarities?

- ☐ What are the differences? E.g. different aims?

- ☐ Does the way teaching is organised influence this? (i.e. help or hinder split)

- ☐ Are there links between the different levels of learners?

5. **What tools are available to support you in your role as a teacher or trainer?**

- ☐ How do they support what you do?

- ☐ Do they hinder what you do in any way?

- ☐ Do you feel you have sufficient skills to use the available tools effectively? E.g. teaching tools, assessment tools

6. **What rules guide what you do in relation to teaching?**

- ☐ Students

- ☐ Trainees

- ☐ Are these written down or other forms of rules?

- ☐ How do these promote or constrain what you do in relation to teaching?

- ☐ How have external organisational structures/ rules influenced what you do? E.g. NES, University

7. **What are the strengths of teaching in your practice?**

- ☐ Are you playing to your strengths as much as you could?

- ☐ What potential is there for growth or development?

- ☐ What would need to happen for that potential to be tapped?

8. **What is not working as well as it might in relation to teaching in your practice?**

- ☐ What about unanticipated events related to teaching?

- ☐ When has it been more difficult?

- ☐ What tensions have there been related to teaching?

☐   How did you address this?

☐   What have been the consequences of this?

☐   Was their learning from this? Was their innovation from this?

☐   Where is the vulnerability in your practice in relation to teaching?

☐   Is there anything about teaching that you think you or your practice may take for granted? E.g. assumptions about how things are done

9. How do you see the future of teaching and training in this practice?

☐   Are there any other possible changes which may impact on your existing teaching and training?

Appendix V: Participant Information Leaflet

University of Glasgow | College of Medical, Veterinary & Life Sciences

Study title: Joint undergraduate and postgraduate teaching in general practice: a case study of the continuum of medical education in practice

Invitation paragraph
You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the study?
Medical education is, in theory, designed to be a continuum starting from your first day of medical school and ending the day you retire. Policy documents and journal articles frequently refer to this continuum with the suggestion that there are seamless links between the various stages across a doctor's career. Despite this, there is very little research looking at how this continuum functions on a practical level and whether it is as seamless as suggested.
 By studying GP practices that teach undergraduates and train postgraduates (FY2 and STs) we hope to gain a better understanding of how the continuum of medical education functions in the reality of GP practices. If we can understand issues such as how this works for you, what the challenges are and how you overcome these, then we can share this knowledge with other practices and also inform teaching developments going forward.
It is anticipated that this study would start in January 2017 and be complete by December 2017.

Why have I been chosen?
We think that practices that teach both undergraduate medical students and postgraduate trainees (either FY2 or STs) are ideally placed to help us understand how this issue affects GPs and their practices. Your practice has been identified as a practice that teaches both undergraduates and postgraduates.

 We want to speak to a range of GPs and practices (up to 15 GPs and at least 5 practices) as we recognise that there will be variation in how practices choose to organise and deliver this teaching.

Do I have to take part?
It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part, you are still free to withdraw at any time and without giving a reason.

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Your decision not to participate will not affect your role as a GP tutor in any way.

What will happen to me if I take part?
A single interview will be arranged at a location of your choice (e.g. your practice or at the University). It would last no longer than one hour. The interview would be recorded and transcribed and analysed at a later date. Your interview data would be securely stored in line with the University's Data Protection Policy and any published data would not be identifiable to you or your practice.

You will be given a copy of the information sheet and a signed consent form to keep.

What do I have to do?
The only requirement of you is that you agree to be interviewed.

What are the possible disadvantages and risks of taking part?
There are no perceived disadvantages or risks.

What are the possible benefits of taking part?
You will receive no direct benefit from taking part in this study. The information that is collected during this study will give us a better understanding of the continuum of medical education in the context of GP practices.

Will my taking part in this study be kept confidential?
All information which is collected about you, or responses that you provide, during the course of the research will be kept strictly confidential. You will be identified by an ID number, and any information about you will have your name and address removed so that you cannot be recognised from it. Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies, including the Police.

What will happen to the results of the research study?
The results of the study will be published as part of Dr X's thesis for her Doctorate in Health Professions Education (proposed completion date December 17)
It is also anticipated that this work would also be published in medical education journals and presented at relevant conferences.

Participants will not be identified in any publication.

Who is organising and funding the research?
This research is being organised by the University of Glasgow. It is being internally funded.

Who has reviewed the study?
This project has been reviewed by the University of Glasgow College of Medical, Veterinary and Life Sciences Ethics Committee.

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Contact for Further Information

Dr X, Senior Clinical University Teacher

XXXX@glasgow.ac.uk Tel:0141 xxx xxxx

Thank you for your participation in this study!

Appendix VI: Sample individual activity system map
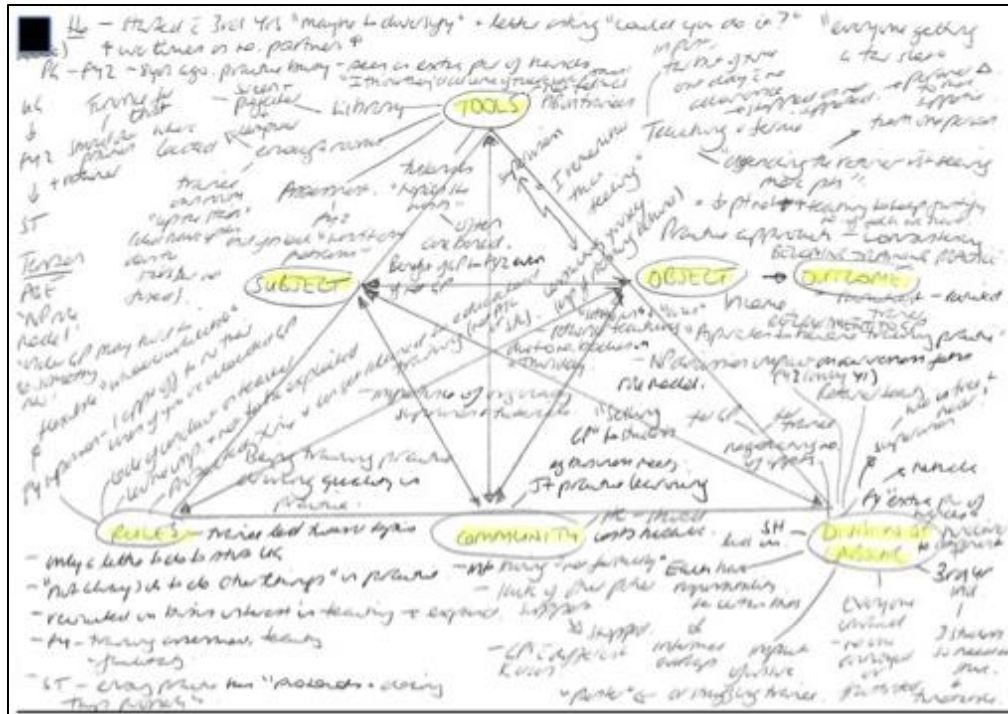
Appendix VII: Thesis themes mindmap
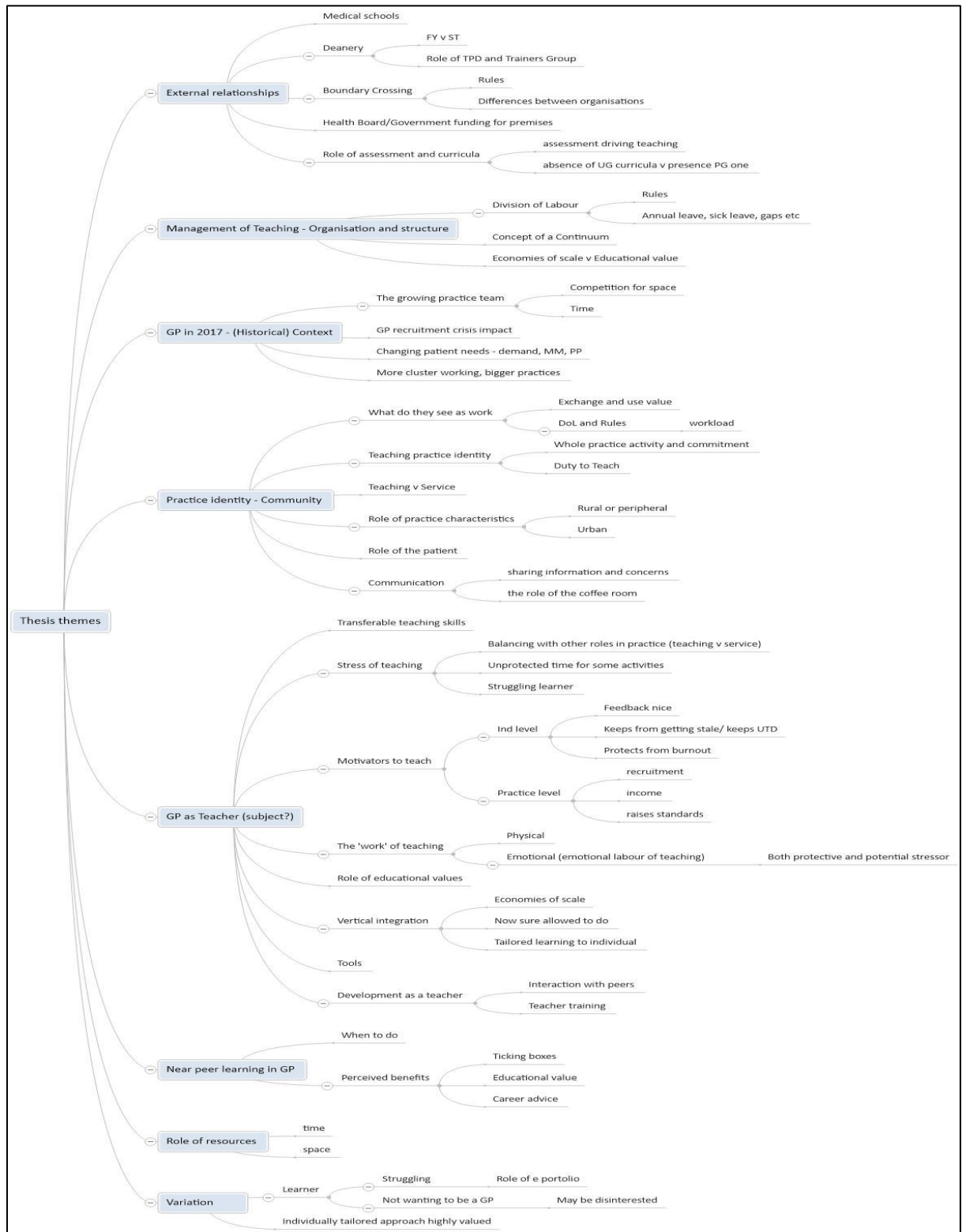
Appendix VIII: Ethical approval letter

University of Glasgow | College of Medical, Veterinary & Life Sciences

5th December 2016

Dear Dr Pope

MVLS College Ethics Committee

Project Title: Joint undergraduate and postgraduate teaching in general practice: a case study of the continuum of medical education in practice

Project No: 200140075

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- Project end date: 31 December 2017
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: (http://www.gla.ac.uk/media/media_227599_en.pdf)
- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.

Yours sincerely

Dorothy McKeegan

Dr Dorothy McKeegan
College Ethics Officer

Dr Dorothy McKeegan

Senior Lecturer

R303 Level 3
Institute of Biodiversity Animal Health and Comparative Medicine
Jarrett Building
Glasgow G61 1QH Tel: 0141 330 5712
E-mail: Dorothy.McKeegan@glasgow.ac.uk

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Appendix IX: Consent Form

University of Glasgow | College of Medical, Veterinary & Life Sciences

Centre Number:
Project Number:
Subject Identification Number for this trial:

CONSENT FORM

Title of Project: Joint undergraduate and postgraduate teaching in general practice: a case study of the continuum of medical education in practice

Name of Researcher(s): Dr Lindsey Pope, Dr Susan Jamieson and Professor Jill Morrison

Please initial box

I confirm that I have read and understand the information sheet dated _____ (version _____) for the above study and have had the opportunity to ask questions. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights being affected. ☐

I agree to take part in the above study. ☐

I agree to my interview being audio-recorded. ☐

_____   _____   _____
Name of subject   Date   Signature

_____   _____   _____
Name of Person taking consent   Date   Signature
(if different from researcher)

_____   _____   _____
Researcher   Date   Signature

(1 copy for subject; 1 copy for researcher)

College of MVLS
Ethics Committee

v1.2 16/11/16

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Appendix X: Master list of clinical conditions (sample excerpt)

UNIVERSITY OF GLASGOW
GENERAL PRACTICE AND PRIMARY CARE

Master list of clinical presentations for GP attachment

Presentations you are LIKELY and UNLIKELY to see during your attachment

ABDOMINAL MASS			
LIKELY	SEEN	UNLIKELY	SEEN
Pregnancy	o	Full bladder	o
		Hepatomegaly	o
		Inflammatory mass	o
		Intra abdominal aneurysm	o
		Ovarian tumour	o
		Splenomegaly	o
		Abdominal tumour	o
		Uterine fibroids	o

ABDOMINAL PAIN (GENERALISED)			
LIKELY	SEEN	UNLIKELY	SEEN
Pregnancy	o	Acute pancreatitis	o
		Intestinal obstruction	o
		Mesenteric infarction	o
		Psychogenic	o
		Recurrent abdominal pain of childhood	o
		Ruptured aortic aneurysm	o
		Viscus perforation	o

ABDOMINAL PAIN (LOWER)			
LIKELY	SEEN	UNLIKELY	SEEN
Irritable bowel syndrome	o	Appendicitis	o
		Acute urinary retention	o
		Acute painful inflammatory disease	o
		Chronic pelvic pain	o
		Diverticular disease	o
		Ovarian cysts	o
		Pain of gynaecological origin	o

ABDOMINAL PAIN (UPPER)			
LIKELY	SEEN	UNLIKELY	SEEN
Peptic ulcer	o	Biliary disease	o
		Pancreatitis	o

ABDOMINAL SWELLING			
LIKELY	SEEN	UNLIKELY	SEEN
Constipation	o	Ascitic fluid	o
Fat	o		
Foetus	o		

ALBUMINURIA			
LIKELY	SEEN	UNLIKELY	SEEN
Microalbuminuria	o	Microalbuminuria	o
		Nephrotic syndrome	o
		Pre eclampsia	o

ANKLE SWELLING			
LIKELY	SEEN	UNLIKELY	SEEN
Cellulitis	o	DVT	o
Congestive Cardiac Failure	o	Hypoalbuminaemia	o
Pregnancy	o	Lymphoedema	o
Varicose veins	o		

Master list of clinical presentations for GP attachment *Last updated* 17/07/2008   *Page 1 of 13*

Appendix XI: Learning objectives form

RECORD OF LEARNING OBJECTIVES FOR GENERAL PRACTICE ATTACHMENT

STUDENT NAME		SUPERVISOR NAME		START DATE	....../....../......

LEARNING OBJECTIVE Record in all domains: knowledge, skills, attitudes		STRATEGY FOR MEETING OBJECTIVE	HOW WELL MET?
*Domain (K/S/A)	No.		**Scale 1–5

*   Domain: RECORD K=Knowledge S=Skills A=Attitude

    No.: NUMBER YOUR OBJECTIVES

**   HOW WELL DID YOU MEET YOUR OBJECTIVE? 5=Very satisfactory 4=Satisfactory 3=Neutral 2=Unsatisfactory 1=Very unsatisfactory 0=Not met

PLEASE CONTINUE ON ADDITIONAL COPIES

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Glossary

Appointment-neutral – the number of GP appointments lost by a GP teaching are fully made up by those gained from the learner seeing patients

Deep end practice – one of the 100 most deprived GP practices in Scotland

Educational Supervisor – a GP who teaches undergraduates (UG) or postgraduates (PG). Also known as a GP tutor (UG) or GP trainer (PG)

Foundation Doctor – doctor in first two years of training post-graduation from medical school, either FY1 (year 1) or FY2 (year 2)

GMC – the independent professional regulator of the medical profession

GPST – a trainee GP, also referred to as GP registrar

HEE – the education and training body for NHS England

King's Fund – an independent charity working to improve health and care in England

Learner-teacher – a learner who teaches either peers or near peers

MRCGP exam – exit examination for GP training, comprising of the CSA (clinical skills assessment), the AKT (applied knowledge test) and WPBA (workplace based assessment)

MSC (Medical Schools Council) – the representative body for UK medical schools

Near peer teaching - teaching of junior students by students one or more years senior

NES – the education and training body for NHS Scotland

Promoting Excellence – standards for medical education and training from 01/01/2016, produced by the GMC

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RCGP (Royal College of General Practitioners) – the professional body for GPs in the UK

QOF - The Quality and Outcomes Framework (QOF) is the annual reward and incentive programme detailing GP practice achievement results

Tomorrow's Doctors – outcomes and standards for undergraduate medical education produced by the GMC

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