

In-service teachers as relational and transformative agents: a study of primary school teachers' professional learning during a Change Laboratory formative intervention

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This thesis is submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

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In-service teachers as relational and transformative agents: a study of primary school teachers' professional learning during a Change Laboratory formative intervention

This thesis results entirely from my own work and has not been offered previously for any other degree or diploma.

I declare that the word-length of this thesis (77244 words) which exceeds the standard maximum for the programme of study, conforms to stipulations granted and approved on behalf of the Senate of Lancaster University..

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Abstract

Generating change in teachers' professional learning is central to the development of the profession: teachers' agency during professional learning, their attitudes to - and their perceptions of - organisational change all influence the learning process. This thesis reports a research-intervention with a group of early career in-service primary school teachers and records the trajectory of change implementation in a school setting. The study's iterative approach to exploring different teaching methods develops individual and collective agency, a relationship which is underexamined in educational practice literature.

The study employed a Change Laboratory methodology where the insider researcher worked collaboratively with teachers over a series of eight sessions in one school in Central England to reimagine practice for implementing reading comprehension lessons. The process began by examining ways of encouraging reading; teacher input narrowed the focus to developing children's comprehension skills and by the end of the research-intervention, teachers had produced a revised whole-school reading comprehension pedagogy.

Data are interpreted through the lenses of transformative agency, focussing on a collective drive for system change, and relational agency, focussing on individual collaborations during change processes: individual and collective

agency are thus mutually reinforced through collective reconceptualisations of practice. When teachers collaborated to produce an understanding of what mattered in reading comprehension pedagogy, they were able to change practices collectively, prompted by agentic individuals. When strong individuals, drawing on existing professional knowledge, challenged change, their resistance was countered by the agency and expertise of colleagues who collectively negotiated alternatives.

This research contributes to the literature on developing agency in teachers' professional learning and finds that where individuals who are receptive to change take intentional and relational actions, change can be generated collectively. Teachers' professional learning remains a challenging and contested process, with change difficult to sustain if motives are misaligned and communication is unreflective.

Key words: transformative agency; relational agency; formative interventions; Change Laboratory; professional learning; teachers; insider research.

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1. Chapter One Introduction

1.1 Introduction

Professional learning is important to the teaching profession in order to retain staff and support early-career development (Department for Education 2019). By professional learning I mean how teachers develop their understanding of - and knowledge about - their professional practice post-qualification, as opposed to the initial training of pre-service teachers. This might include specific pedagogical training but also how to evaluate and consolidate experience to find workable solutions for common workplace problems, which result in durable changes to practice.

Traditional professional development has been regarded as passive (Bubb and Earley 2013; Darling-Hammond 2016; Day and Gu 2007; Frost and Durrant 2002; Opfer and Pedder 2010b), with prescribed professional development days often driven by national priorities (Bates, Gough, and Stammers 1999). In-service teachers' learning processes are often neglected (see review by Vermunt and Endedijk 2011), in favour of the pre-service teacher (e.g. Douglas 2012; Endedijk and Vermunt 2013; Fox, Wilson and Deaney 2011). However, a recent turn in pre-service training from higher education courses to increasingly school-based experience emphasising the link between theory and practice (Darling-Hammond 2006), fostered a turn in in-service training towards sustainable, longer-term collaborative programmes between schools and universities (Department for Education, 2016). By sustainable, I mean programmes which potentially have a greater impact; for example, iterative patterns where middle leaders in school attend instruction,

implement small-scale changes in school and evaluate impact, thus developing skills which can be applied in different contexts (see Department for Education, 2014). However, school-based professional development still has challenges: demands on teachers' time may reduce engagement and teachers may not be accustomed to taking independent action and working collaboratively (Pedder and Opfer 2013).

Teacher professional or workplace learning is a relatively new and evolving research field which centres on teacher collaboration and inquiry (Cordingley 2015; Engeström 2008b; Kennedy 2014). Focussing on the role of change, i.e. teachers' intentionality for, readiness to - and sustainability of change- (e.g. Mayer, Woulfin, and Warhol 2015; Moroz and Waugh 2000; Rafferty, Jimmieson, and Armenakis 2013; Vennebo and Ottesen 2015; Zayim and Kondakci 2015) provides greater understanding of professional learning processes. One strand of the literature highlights *individual* teacher agency (e.g. Bodman, Taylor and Morris 2012; Charteris and Thomas 2017; Oolbekkink-Marchand et al. 2017), which is perceived to be important for indicating a teacher's willingness and capacity to access or maintain involvement in professional learning. A second strand of the literature highlights *collective* agency (e.g. Butler, Schnellert and MacNeil 2015; Hökkä and Vähäsantanen 2014; Pyhältö, Pietarinen and Soini 2014), which is perceived to be important for indicating the benefits of collaboration for wider pedagogical discussions and developing the ability to influence organisational issues. Set alongside a literature for teachers' pedagogical beliefs, the complexity of beliefs and their relationship with practice and with change is revealed (e.g. Lotter et al. 2016; Polly et al. 2017; Wilkinson et al. 2017;

Zehetmeier and Krainer 2013). Yet the relationship *between* individual and collective agency appears poorly understood, with studies focussing on *either* individual *or* collective agency, which means that opportunities to consider the relationship between the two forms of agency are missed. Rather than maintaining a binary view of agency, this study sets out to explore how teachers' collective *and* individual agency intersect in the professional learning process, in order to have richer understandings of the complexity of teacher agency for professional learning.

In this thesis I report on a professional learning research-intervention focussed on teacher agency for developing new pedagogies, teachers' relational actions during the process of changing their regular practices and whether that change is sustainable. The study focussed on the bounded system of one primary school in central England, where I was employed in a non-teaching capacity. Using an established developmental methodology (Engeström 2001, 2011; Engeström et al. 1996; Engeström, Engeström and Suntio 2002; Engeström, Rantavuori and Kerosuo 2013; Lipponen and Kumpulainen 2011), I designed a six-month formative intervention, known as a Change Laboratory, into practices for teaching reading comprehension, predicated on collaboration and enquiry. A series of workshop sessions held in school allowed me, as researcher-interventionist, to stimulate teachers' professional learning through the analysis of practices and artefacts.

My analysis focusses on the nature of teachers' agency during the professional learning process, by investigating the relationships between individual and collective agency. My analysis considers how adaptive

behaviours influence change, along with barriers to change implementation such as trust, receptiveness to - and readiness for- change. I also analyse whether individuals want to preserve or transform practice, and whether this activity develops collectively into sustainable organisational change.

My core argument is that when teachers collaborate, they change collective practices if prompted by agentic individuals; in addition, challenges to change by strong individuals may nevertheless be opposed by the agency and expertise of other teachers who negotiate collectively recognised alternatives. However, change may not endure if not supported by aligned motives and reflective communication.

1.2 Policy context

The need to update teachers' knowledge has long been internationally understood (CERI 1998; OECD 2005), and it has been widely recognised that career-long professional learning improves educational outcomes (see review by Menter et al 2010). Following a turn towards neo-liberalism, teacher education has moved from being largely university-based to school-based with diverse localised provision (Carter 2015; Furlong 2012), though university-school partnerships remain (Moon 2016). Recent neo-liberal reconceptualisations of teacher *training* as a craft, only to be learned in the school setting (Gove 2010), disparaged the agentic dimension inherent in university-based teacher *education*. My study aims to redress the balance by harnessing both individual and collective agency within professional learning, to develop *education* in a wider sense.

Professional learning research appears to have developed disparate national characteristics. Inquiry-oriented professional learning has a long history and continues to date in North America (e.g. Cherkowski and Schnellert 2017; Cochran-Smith and Lytle 1999), while Australia and New Zealand's governments have practitioner-inquiry research policies which encourage collaboration (Charteris and Smith 2017; Groundwater-Smith and Mockler 2009). Teaching in Finland is an autonomous masters-level profession (Eteläpelto, Vähäsantanen and Hökkä 2015; Niemi 2015) and reflects the growing European interest in *teacher* learning which supports adaptation to educational change (e.g. Vermunt and Endedijk 2011). Scottish policy involves teachers in curriculum development, whereas teachers in England have a relatively restricted National Curriculum (Priestley, Edwards and Priestley 2012). Effective professional learning requires investment (Brighouse 2008) and acknowledgement of the situated nature of teachers' learning in the school environment (Avalos 2011), which is still relatively uncommon in England.

Located in the teacher education sector, my research sets out to investigate the complexities of teacher learning in educational settings and how time and space might be provided for workplace teacher learning. It is particularly relevant as the impact of low teacher retention has been felt across the sector, with high early-career drop-out levels over recent years (Department for Education 2019). Developing school-based partnerships between teacher educators, teachers and pre-service teachers has been one way to incorporate the criticality associated with higher education into professional learning concepts (see White and Murray 2016). My professional learning

study addresses the retention dilemma by empowering teachers through a collaborative learning setting, (cf. Butler, Schnellert and MacNeil 2015; Dougherty Stahl 2015; Liu, Miller and Jahng 2016; Philpott and Oates 2017), which contrasts with the instrumental and performative nature of professional development currently offered to teachers (see discussion in Charteris and Smith 2017).

1.3 Personal motivation and position as Insider Researcher-Interventionist

Having entered teaching as a career-changer, I have always believed that learning continues throughout your professional life. As a *teacher* I wanted to develop my practice; now as a *teacher-educator* I can enrich both my practice and other teachers'. As a teacher-educator, I studied part-time for my masters, carrying out a phenomenological study into in-service teachers' self-efficacy (Pattison 2014a), before commencing a PhD. Going into schools to assess pre-service teachers, I work professionally with many excellent in-service teachers who, like my previous professional self, lack opportunities for improving their practice. Sabbaticals are unusual and stand-alone professional development events tend not to provide enough continuity to develop innovations. To make changes teachers are mostly reliant on their individual agency and have little opportunity to encounter collective forms of agency, as few schools actively encourage collaborative working (cf. Lofthouse and Thomas 2017).

As I consider that research should 'explore and unpick people's multiple perspectives in natural, field settings' (Gray 2009: 27), my perspective is interpretivist and constructivist. Like much educational research, my starting

point is a professional problem - how to develop qualified teachers' learning in the workplace- hence it is practice-based empirical research (Punch and Oancea 2014). During my studies for a doctorate in educational research at Lancaster I have carried out investigations concerning pre-service teachers' dispositions for learning and my findings suggest that attitudes were more indicative of outcomes than background or teacher training route (Pattison 2014b, unpublished). I am interested to see if findings on attitudes might be replicated amongst in-service teachers, but this time focussing on the agency of teachers working as a team or collective within a school.

As a non-teaching member of senior leadership at the study site at the time of the research, my day-to-day role included supporting teacher professional development. Having previously experienced poorly designed professional development, I wanted to apply my professional expertise to designing professional *learning* which focussed on classroom practice and allowed in-service teachers to develop their own learning and agency through collaboration (cf. Fullan 1996, 2016b; Fullan and Hargreaves 2012, 2014).

My position within the organisation brought advantages: underlying professional knowledge; familiarity or rapport leading to more natural interactions and ease of access; but also disadvantages: a tendency to subjectivity, with practices becoming normalised; the potential for bias (see Chavez 2008; Greene 2014; Mercer 2007). I would agree with Drake (2010) that my motivation is likely to influence how I approach data and what I might derive from it; a focus on personal reflexivity will therefore be important as a counterpoint. It is not my intention to deny my authorial voice but to let it defer

to the practitioners' whenever possible. Like Swart et al. (2018), I intend to strive for balance between inside and outside positions.

I was mindful that my position in senior leadership might lead teaching staff to feel I had certain expectations of them (cf. Mercer 2007; Merriam et al. 2001) and I wanted to reassure them this was not the case, so a measure of ethical reflexivity was also incumbent on me to ensure that the study was not seen as a performative exercise (Fox and Allan 2014). Whilst the issue of power in the researcher-participant relationship cannot be denied, especially as an insider (Merriam et al. 2001; Greene 2014), clear disclosure mitigated its impact, so that the teachers understood my role and exactly what I was doing (cf. Greene 2014).

I designed this intervention as an attempt to change the 'culture of learning' from a solitary pursuit (Fullan 2016a:543), potentially tied to performative demands (see Hargreaves 2000), to a collective and continued engagement with knowledge (cf. Eraut 1994, 2000). I wanted to help a group of teachers realise that they could make changes themselves to their practice through their own enquiries rather than relying on imposed training packages, and that ongoing learning could be achieved in the workplace by changing their practices.

1.4 Research context

My research topic is the nature of agency in professional learning, which arose out of my own involvement in both pre-and in-service teacher learning

and how I might encourage the teachers to take a more active role in their own learning.

The role of individual agency in teacher learning is strongly represented in the literature (e.g. Bodman, Taylor, and Morris 2012; Liu, Miller and Jahng 2016; Oolbekkink-Marchand et al. 2017; Sannino 2010). There is increasing research into collaboration and collective agency in professional learning particularly in America, Australia/ New Zealand and Europe (e.g. Charteris and Smardon 2015; Cherkowski and Schnellert 2017; Hökkä and Vähäsantanen 2014; Pyhältö, Pietarinen and Soini 2014). This dichotomy can be accounted for by earlier conceptions of teaching as an individual culture, with a current more collaborative turn, where a focus on designs for collaborative professional learning has responded to earlier interventions' variable quality (see Hargreaves and O'Connor 2017). However, individual and collective teacher agency are rarely explored side by side; my intention is to contribute to these two strands of literature, by examining the relational aspects which bring individual and collective agency together to develop professional learning.

Perceptions of organisational change in schools are well-researched. Previous studies into receptivity or resistance to change have focussed on system-wide implementations (e.g. Moroz and Waugh 2000; Zimmerman 2006) or larger quantitative studies (e.g. Rafferty, Jimmieson, and Armenakis 2013; Zayim and Kondakci 2015), or on how external agents (for example coaches) bring about change (cf. Mayer, Woulfin, and Warhol 2015). Whilst agency is already considered in the readiness to change literature, my study addresses

resistance and receptivity to change at a local level. I intend to expand the field by considering small-scale collective attitudes to change, looking at intentionality, adaptivity and the implementation of change processes when professionals enact their own changes within a single setting.

Within the scholarship, professional learning is seen as related to teacher beliefs and motivations for learning (e.g. Imants, Wubbels and Vermunt 2013, Vermunt and Endedijk 2011). Whilst there is established research about the deep-seated nature of teachers' beliefs (e.g. Pajares 1992), research into reading comprehension pedagogy beliefs is under-represented (e.g. Concannon-Gibney and Murphy 2012; Hairrell et al. 2011; Silver, Kogut and Huynh 2019), with a greater focus on instruction and strategy implementation (e.g. Deeney and Shim 2016; Solheim, Rege and McTigue 2017) and replicative knowledge production (Bodman Taylor and Morris 2012). I intend to address this omission by investigating whether collaboration can change teachers' pedagogical beliefs for reading comprehension and engage in knowledge production which is more interpretive and conceptual. Previous literature on the congruence and sustainability of beliefs for being an effective teacher tends to focus on individual capacity (e.g. Lotter et al 2016, Polly et al. 2014, 2017), this is a shortcoming I address by examining the effects of collaboration on belief sustainability.

1.5 Practice context

This small-scale study is situated in a primary school in central England with nine teachers and a cohort of c.250 pupils. Given the pseudonym Highway School, it is in a deprived area where children may have limited opportunities

to develop their reading skills outside school. Like the ‘no child left behind’ agenda in the United States, the Education Act 2004 in England argued that ‘every child matters’ and the current National Curriculum continues these requirements:

Pupils should be taught to read fluently, understand extended prose (both fiction and non-fiction) and be encouraged to read for pleasure. Schools should do everything to promote wider reading. They should provide library facilities and set ambitious expectations for reading at home. (Department for Education 2013:10)

The school’s senior leadership are focussed on implementing national curriculum requirements for children to read fluently but are experiencing problems in developing understanding and promoting wider reading.



Figure 1-1 Highway School Library before study began

Whilst children explore different texts in the school library (see figure 1.1), the library is dated, and planned renovations are part of a strategy to encourage reading for pleasure. However senior leadership realise in-depth intervention is required, as their staff are mostly inexperienced early-career teachers who lack confidence in their own practice. They are reliant on skills acquired in

their initial teacher training and tend to follow prescribed routines of school policy, for example:

Guided Reading

Teachers organise pupils into small ability groups according to their [reading] stage and teacher assessment. Every group reads on the same day with an adult in a guided reading session. Record keeping forms are provided and a guided reading file is maintained. Each class has its own supply of guided reading books but there is also a selection of genres of texts at all [reading] stages kept in our library to meet the needs of differing ability groups. (Highway reading policy 2017)

When I arrived at the school in September, current professional development was focussed on peer observation involving a Lesson Study approach (e.g. Dudley 2013, Özdemir 2019). This was not proving practical and teachers were not invested in the process. As professional development was part of my job description, I approached the head teacher with a formative intervention concept. The aim was to expand teachers' knowledge of how to teach reading comprehension skills and develop an open and engaging pedagogy. The head teacher supported the plan. My role was to act as researcher-interventionist and run a professional learning group for two terms to produce sustainable practice changes in school.

By giving teachers opportunity to explore and question current practice and reconceptualise their own teaching, this study intends to develop teacher agency and collaborate with teachers to find solutions to localised problems (see Sannino, Engeström, and Lemos 2016); in short to enable them to collaborate in a way which is 'deep and demanding, yet trusting and respectful' (Hargreaves 2019:617).

1.6 Research questions and approach

As the aim of my research was developmental or formative, I chose a research-intervention approach known as a Change Laboratory formative intervention which was dynamic and collective, promoting both agency and learning (Engeström 2011; Engeström, Sannino and Virkkunen 2014).

Formative refers to the intervention's focus on an unfolding contradictory object or problem, following an expanding, cyclical learning process which is eventually driven by practitioners, thus developing the object of activity (reading comprehension teaching) and practitioners' knowledge. I chose to employ a formative intervention owing to claims in the literature that it can promote 'critical design agency among all the parties' (Engeström 2007b:370), and that it is well-matched to educational settings where durable changes to professional practice are sought (Engeström, Engeström and Kärkkäinen 1995; Engeström, Engeström and Suntio 2002; Yamagata-Lynch and Haudenschild 2009). Formative interventions generate new concepts whilst changing practitioners' agency, as the researcher-interventionist seeks to provoke a process which eventually becomes practitioner-owned (Engeström 2011).

Change Laboratories, frequently employed in Europe, are practice-driven and collaborative. In this study, teachers investigate activities related to teaching reading comprehension, while I, as researcher-interventionist, work with them to develop 'new artefacts and forms of practice' (Engeström 2005:36). The current study will build on this methodological body of work, while adding to the range of contexts in which the approach has been documented, as an

early-career teacher learning context is currently underrepresented in Change Laboratory literature.

My research question is:

How can a Change Laboratory formative intervention stimulate transformative and relational agency for professional learning amongst in-service primary school teachers to develop a reading comprehension pedagogy?

Transformative agency refers here to a learning and development process which develops *collective* agency amongst professionals and transforms work practices. Current applications are mostly European (e.g. Haapasaari, Engeström and Kerosuo 2016). Whereas relational agency, which explores *individual* perspectives in a process of working with others to expand an object of activity and align one's own responses, is more usually applied to English contexts (e.g. Edwards 2007, 2011). These differing aspects of agency are discussed in more detail in the theoretical chapter.

I consider these complimentary agentic aspects by focussing on how relational agency unfolds at moments within the Change Laboratory process when the transformative agency framework is revealed. I ask particularly how relational agency unfolds as participants:

- 1.1 Take actions to resist the direction of the change process?
- 1.2 Suggest tasks or objects of discussion?
- 1.3 Explicate new potential in the activity under discussion?

-
- 1.4 Envision new models for the activity under discussion?
 - 1.5 Commit to concrete actions that support change of the activity?
 - 1.6 Report taking consequential actions to change the activity?

The juxtaposition of the collective nature of transformative agency with the individual character of relational agency is considered in more detail in Chapters Five to Seven.

1.7 Thesis outline

Chapter Two analyses empirical findings in the literature to establish how teachers' agency affects professional development and learning, the importance of teachers' perceptions of organisational change and the influence of teachers' pedagogical beliefs. It identifies gaps in the literature concerning the nature of collective and individual teacher agency.

Chapter Three delineates the theoretical lens underpinning the study and conceptualises agency and change. I take a social constructivist approach considering how aspects of the workplace are connected and what our meaning-making role is, within the structures and systems that we create as we learn. The study is informed by dialectics which examines 'the incompatible development of different elements within the same relation' (Ollman 2003:17). Links are made between Vygotsky's social constructivist philosophy (1978) and the theoretical work of Engeström (2001, 2005, 2007a, 2014), focussing on the principles of double stimulation and expansive learning in workplace settings. The theoretical framework is completed by an assessment of transformative agency as a collective concept, and relational

agency as an individual concept (Edwards 2015, 2017; Edwards and Ellis 2011; Haapasaari, Engeström and Kerosuo 2016; Haapasaari and Kerosuo 2015).

Chapter Four sets out the study's methodology, explaining why I chose an expansive methodology such as an intervention, specifically in the instantiation of a Change Laboratory. I provide a detailed discussion of the research design and draw up an indicative plan for its implementation; the plan contextualises the *intended* design of eight sessions and examines my role as an insider researcher-interventionist. The method of double stimulation tasks is explained, along with my choice of Qualitative Text Analysis as a data analysis method. I reflect on research quality and the study's ethical implications, especially given my insider status.

Chapter Five documents the intervention as it *actually* unfolded. This approach reflects the Change Laboratory's developmental nature: practitioners' roles in creating their own object of activity are echoed in the evolving research design, demonstrating that the design and the instruments created to stimulate discussion and analysis cannot be fully pre-determined. Artefacts and data are presented sequentially and illustrated by aspects of transformative agency revealed during sessions, underlining the process element central to formative interventions.

Chapter Six returns to the research questions; I analyse the data regarding intersections between the collective aspects of transformative agency and the individual concepts of relational agency. The juxtaposition of these two sets of

agentic concepts suggests that relational elements mediate the influence of aspects of transformative agency leading to changes in the object of activity.

Chapter Seven discusses the intervention findings in relation to the literature. The findings suggest that in-service teachers in this setting were open to change in their own practice for collective benefit, but that changes in collective beliefs were less likely. The chapter discusses contributions made to the literature, for instance in respect to change not being sustainable if relational support was not sought, or agentic communication was underdeveloped, or teachers' individual readiness for change was not present.

Chapter Eight concludes with an analysis of my contribution to the literature and an evaluation of a collective formative intervention's potential to develop in-service teachers' professional learning and corresponding teacher agency. Finally, I consider the study's limitations and suggest future research in the teacher professional learning field, that might productively build on this work.

2. Chapter Two Literature review

2.1 Introduction

The preceding chapter set out the focus of my investigation, namely a professional learning study in a primary school setting. Developing a pedagogy for reading comprehension for children between the ages of five and eleven represents its substantive element. However, as Chapter One indicates, my interest lies in the development of teacher professional learning: whether teachers act agentially in the process, their perceptions of organisational change and how such perceptions affect changes to practice during professional learning.

This study aims to contribute to the literature on teacher agency and professional learning: whether developing, or stimulating, teachers' transformative agency in a professional learning project can bring about durable changes and whether individual relational agents might stimulate the development of transformative agency as a collective process. As such I intend to produce a literature review with 'an integrated set of theoretical concepts and empirical findings' (Maxwell 2006:30). The theoretical aspects of different forms of agency will be examined in more detail in Chapter Three, however this chapter will review established literature in the following fields before demonstrating how my study may make its own contribution:

- the deployment of agency in relation to teacher professional development or learning
- teachers' perceptions of (organisational) change

-
- teachers' pedagogical beliefs.

Firstly, as this study sits within a framework of transformative/professional inquiry-related professional development which has capacity for professional autonomy and associated agency (Kennedy 2005, 2014), I begin the review by establishing to what extent teachers' agency for professional development and learning are portrayed in the literature. I would like to know if teachers are engaged and active in their own learning. Teacher professional development is a well-researched field (Avalos 2011; Brighthouse 1995, 2008; Cordingley 2015a,b; Czerniawski 2013; Day and Gu 2007; de Vries, Jansen, and van de Grift 2013; Edwards and Ellis 2011; Fullan 1996; Guskey 2002; Opfer and Pedder 2010a, b, 2011b), whereas teacher professional or workplace learning is a more recent, limited field (e.g. Imants, Wubbels, and Vermunt 2013; Pyhältö, Pietarinen, and Soini 2015; Soini, Pietarinen, and Pyhältö 2016). If professional development studies mostly examine teachers' *access to* development, I prefer to examine their *involvement in* professional development. I aim to discover if agency is more likely to be linked to professional learning than professional development and whether the literature reveals studies in collaborative, as well as individual agency. My study seeks to contribute to the literature on agency in professional learning.

Secondly, I examine teachers' perceptions of organisational change, as teachers' attitudes to the school may influence the study. I show how strands of literature related to receptivity (Collins and Waugh 1998; Moroz and Waugh 2000; Waugh 2000), and readiness to change (Kondakci et al. 2017; Zayim and Kondakci 2015) may prove a fruitful basis for my own study, as they privilege agency, rather a potentially passive resistance (Piderit 2000;

Zimmerman 2006). The organisational change literature appears to focus mostly on large-scale, multi-site project implementations of government policy, albeit in locations as varied as North America, Australia and New Zealand. This project focuses on teacher-led change at the meso level of a single setting which appears currently under-represented.

Thirdly, I examine the relationship between teacher beliefs and practice, noting their deep-seatedness and their generic characteristics (Fives and Buehl 2014; Pajares 1992); the difficulties of sustaining belief change (Polly et al. 2017; Wilkinson et al. 2107) before considering beliefs related to the teaching of reading comprehension. I note the nature of instruction and the strategies teachers employ before noting practice limitations. The literature observes a 'research-to-practice' gap which I argue could be reduced by the creation of professional learning tailored to the self-identified needs of teachers, thus returning to my interest in developing teachers' collaborative agency.

Finally, I consider the implications for the study, as I show how my study may add to a growing body of literature concerning teacher-led professional learning.

Beforehand, I describe the search strategy and analysis process for the full review, demonstrating approaches which are comprehensive (Boote and Beile 2005), serve as a foundation to my research (Boote and Beile 2005; Hart 1998), yet are tempered by the need to produce a review of literature which is relevant to my project (Boell and Cecez-Kecmanovic 2010; Hart 1998;

Maxwell 2006). Then for each area in turn, I provide a brief contextualisation of the literature followed by a detailed review.

2.2 Search protocols

In this section I set out my approach to searching the literature before considering the literature for each of the three identified areas in turn. I conducted initial searches through the SCOPUS data base: I used search strings informed by the research questions and previous studies to search Title, abstract and keywords (search terms for each area will be considered in the following sections). The searches resulted in papers drawn from peer-reviewed journals, academic texts and conference proceedings, whose abstracts were exported into a spreadsheet, one for each area.

I chose to focus on English language papers in the period 1998-2018 as from the late 1990s the United States, England and Europe focused anew on teacher professional development (see reviews by Bates, Gough, and Stammers 1999; Cochran-Smith and Lytle 1999; Darling-Hammond 2016). This period also heralded extensive curriculum reforms in North America and England and teachers' responses to changes in education became an area of greater research interest (Brighouse 2008; Day and Gu 2007; Fullan 2000; Guskey 2002; Hargreaves and Goodson 2006). More broadly, the need to update teachers' knowledge by extending professional learning was acknowledged in the Organisation for Economic Co-operation and Development's 1998 education policy analysis (CERI, 1998).

I reviewed all the abstracts resulting from the search, I then categorised abstracts according to whether they had a strong, moderate or weak match to the criteria set for each area; papers not available in English were discounted. Papers with a strong or moderate match were downloaded and placed in a folder corresponding to each area. These papers were supplemented by seminal papers or government publications already known to me, which I included in the contextualisation, as well as papers brought to light by following citation trails. Chapman, Morgan and Gartlehner (2010) argue that a snowballing approach may minimise retrieval bias, which could be created by using search engines. Both backward and forward snowballing were used to support initial database searches, the mix of iterative searches and snowballing being supported by Greenhalgh and Peacock (2005) and Lavallée, Robillard and Mirsalari (2014). Each paper was read, and a synopsis composed; some papers were rejected at this stage. I used the synopses to draw up an overview of the strand and write up the review.

2.3 Area One: Agency in teacher professional learning and development

My analysis examines different forms of professional learning/development which may or may not support teacher agency. It acknowledges that there has been a shift in the professional learning/development landscape to sustainable, collaborative programmes rather than single events (Department for Education 2016), although the transition, and its sustainability, is not without difficulties (Avalos 2011). It investigates whether the recognised role of individual or collective teacher agency in developing professional

learning/development is actively explored in the reviewed literature (e.g. Baumfield 2015; Biesta, Priestley, and Robinson 2015).

2.3.1 Area One searches

I took Postholm's 2012 search for professional development articles in the period 2009-2011 as a point of departure: she employed the search strings "teacher learning", "teacher development" and "teacher professional development" (2012:408) with 638 results. I added "agency" to streamline the search and I developed four search strings using synonyms for professional development (table 2.1 below). Papers occurring in more than one search (duplicates) indicated saturation point for Area One. As my focus was on practising teachers in their working environment, my criteria included in-service teachers, be they newly or recently qualified, but not pre-service teachers. Professional learning/development included accredited or non-accredited courses, in schools or off-site, face-to-face or on-line. I included papers on policy or professional learning/development course implementation, but not policy or course evaluations, as they had no agentic focus. As teacher agency was central, pupil agency studies were not included.

Search term	“Agency” AND “Teacher professional development”	“Teacher agency” AND “in-service professional development”	“Teacher agency” AND “professional learning”	“Teacher agency” AND “workplace learning”
Results	37	23	28	10
Exclusions: pre-service teachers; policy/course evaluations; pupil agency; Agency (as named organisation);	15	16	3	5
Selected	22	7	25	5
Less Duplicates	17			
Total	42			

Table 2-1 Area One search overview

I grouped the searches from the four strings into three strands of literature. Firstly, papers related to teacher agency as an outcome of professional learning/development design. Secondly, I moved to processes, examining a strand of empirical research related to individual agency. Thirdly, I stayed with process and examined collective agency professional learning/development. Strand one thus reflects a common focus of professional learning/development on outcomes, before moving on to the process elements of professional learning/development in strands two and three. This focus on the *how* and *why* of professional learning, rather than the *what* of

professional development reflects the focus on process in the intended project.

2.3.2 Designing professional learning/development for teacher agency

There has been mixed acceptance of- and interest in- teacher agency within professional learning/development design. In earlier professional development, reviews are largely confined to access to, as well as the benefits and effectiveness of, professional development rather than examining the agency of teachers taking up development (Cordingley et al. 2007; Opfer and Pedder 2010a, b). Traditional passive training models are also noted (Frost and Durrant 2002; Kennedy 2005; Opfer and Pedder 2010b). Where agency is acknowledged it might be as an outside agent of change, i.e. as the provider of professional learning, rather than teachers themselves as agents (Cordingley et al. 2003). Studies of professional learning/development also focus on agency in building and maintaining teacher identity (Day and Gu 2007; Hsieh 2015).

Professional learning/development agency research has an international *distribution*. In North America, teacher agency in professional learning/development has been championed through a teacher research movement (Cochran-Smith and Lytle 1999), whereas research in New Zealand has been characterised by a growth of learning communities and practitioner inquiry (Butler, Schnellert, and MacNeil 2015; Charteris and Smardon 2015; Charteris and Smith 2017; Charteris and Thomas 2017; Riveros, Newton, and Burgess 2012). In contrast, the Finnish model foregrounds teacher agency, advocating career-long development, which

builds cooperative structures to support professional development in schools (Eteläpelto et al. 2013; Niemi 2015; Pyhältö, Pietarinen, and Soini 2015).

Other European studies also examine agency in professional learning settings: this appears to be a developing field (Carse 2015; Holmqvist and Olander 2017; Oolbakkink-Marchand et al. 2017; Philpott and Oates 2017; Vennebo and Ottesen 2015). The call to develop teacher agency through professional learning in school settings continues to spread (Lai, Li, and Gong 2016; Philpott and Oates 2017; Subitha 2018).

Any professional learning/development design has *tensions*. Wood (2007) notes the difficulty of constructing learning communities to promote teacher agency and of teachers developing responsibility for - and commitment to - finding their own solutions to professional challenges. Many of the learning community projects involve participants being coached (Charteris and Smardon 2015; Riveros, Newton, and Burgess 2012; Wood 2007). However, performative notions of feedback may cause teachers to feel that their agency is undermined, and teacher engagement is arguably required to sustain professional development (Charteris and Smardon 2015; Wood 2007).

Charteris and Smardon make an interesting point that in anglophone countries teachers' agency is related to how they 'interpret curriculum' (2015:120), thus indicating a restriction to agency that may not be present elsewhere. They argue nonetheless that the situated context of the professional learning in their design allows teachers 'to take up agentic positions' (ibid: 121). Smardon and Charteris' paper is largely concerned with individual manifestations of agency as reported at interview; as they acknowledge, the collaborative distribution of agency would be a worthwhile research area.

A different perspective surfaces in an identity coaching programme designed to develop *identity-agency* (Hökkä, Vähäsantanen, and Mahlakaarto 2017). Here a series of workshops encourages teacher educators to discuss work-related problems, thus moving from isolated individuals to becoming ‘empowered in terms of their collective professional identity and agency’, which is described as a ‘transformative pathway’ (2017:44). Hökkä, Vähäsantanen, and Mahlakaarto argue that a ‘*shared understanding of collective identity directs collective agency*’ (ibid: italics in original) and note that trust, whereby individual identities are shared before building a collective one, is part of the programme. This study does not follow the teacher educators into the workplaces to see whether the collective agency is applied to workplace problems, nor follow the role of the trainer in the process. This seems to indicate that professional learning designs which provide opportunities to foster a collective identity and potentially greater agency though a long-term project in the workplace would add to the field.

Professional learning may take place in communities as above or in other forms. As *Teaching Rounds*, they are becoming more common (Gore et al. 2015; Philpott and Oates 2017). However, where they are imposed by senior leadership or government policy, there are doubts “rounds” can be considered agentic processes (Ellis et al. 2015; Philpott and Oates 2017). Indeed, the existence of such hierarchies may prevent access to relational expertise arguably necessary for professional learning (Ellis et al. 2015). Whilst mentoring, a similar relational activity, is acknowledged as a ‘safe’ form of professional learning, some professional learning groups may not appear to promote agency within their design (Nolan and Molla 2017).

Another way to promote teacher agency is through *accredited learning* that provides a voice and the potential to enact change to more recently qualified teachers (Bryan and Blunden 2013; Burns and Pachler 2004; Impedovo 2016). Whilst top-down professional development approaches tend to be rejected with teachers less likely to commit to the project (Avila et al. 2011; Charteris 2016), this is not to say professional development should be discarded (Palmer et al. 2016). King finds time-bound, intensive professional development more engaging and proposes it facilitates teacher agency, as it gives teachers ‘the power to bring change despite the structures within which they operate’ (2016:590). Such findings suggest that organisational change requires further investigation.

King’s *transformative* professional development model can be read alongside professional learning, as she focuses on teachers *within* the system(s) in school, rather than the individual teacher, defining professional learning as ‘a process of learning leading to a growth of teacher expertise’ (2016:574). King identifies three consistent professional learning features: support, initiative design and impact, plus teacher agency. A similar feature of effective professional learning might be teachers’ ‘responsiveness’ (Buxton et al. 2015:501). Support requires ‘organisational capacity for change’ (King 2016: 583), to which I return in area two of the review.

In-school professional development initiatives such as studies of teachers’ reading comprehension practices in Ireland call for more opportunities for teacher development (Concannon-Gibney and Murphy. 2012a, b).

Concannon-Gibney and Murphy’s study focuses on discussion groups and

whole-school planning where staff already have a 'sense of collegiality and collaboration', which cannot be assumed in all cases (2012b:135). The researchers share an unspecified theoretical framework and professional literature; this intervention does not however build the object of activity with the participants as I plan to do. There appears to be less structure and the teachers' roles in the research are not articulated. Interestingly, Concannon-Gibney and Murphy's evaluation advocates an extended time frame with shorter sessions and a final project review, which bears consideration. Observations are also proposed to verify findings, although they note that observations are not 'popular' with teachers and therefore may prove problematic (Concannon-Gibney and Murphy 2012b:144).

Recent research interest may be focusing more on professional learning. If not specifically characterised as agentic, professional learning is associated with 'risk-taking, collaboration and networking' (Pedder and Opfer 2011:742). Where professional development becomes professional learning, it becomes a 'lever for improving classroom practice' (Avila et al. 2011:30) and the teachers' role in driving and designing development is clearer. Although professional learning may promote autonomy, it may not be enacted as anticipated: instead of representing opportunity, teachers may in fact be isolated (see Imants, Wubbels, and Vermunt 2013).

Where professional learning is associated with *workplace learning*, it is practical and collegial. It reflects 'change in teaching practices in classrooms and schools that are mediated through individual teacher learning and problem-solving practices in the school' (Imants, Wubbels, and Vermunt

2013:328). Learning in the workplace can be both formal and informal and not always as intended by the researcher. Like Billet (2004), I make no distinction between the value of the two and would agree that collaboration is key: '[p]articipation and learning need to be seen as the interdependent processes in which individuals exercise their agency' (ibid:317). Where workplace learning is most successful, teachers demonstrate 'learner agency' creating their own opportunities in the work setting (Chen et al. 2016:580)

A few European studies *foregrounding agency in professional learning design* stand out. Whilst teachers may be important agents for change, actual changes to practice can be rare (Bakkenes, Vermunt, and Wubbels 2010). Bakkenes, Vermunt, and Wubbels recognise that teacher learning is essential for change and call for intervention models to explore this.

There are some professional learning designs which respond to this call through an examination of *professional agency* (Holmqvist and Olander 2017; Pietarinen, Pyhältö, and Soini 2016; Pyhältö, Pietarinen, and Soini 2015; Toom, Pyhältö, and Rust 2015). Holmqvist and Olander's 2017 design-based learning takes the agency of participants into consideration and focuses on pedagogy by following an iterative process to bring about changes to science lessons. Researchers explicitly provide the theoretical background to the study (variation theory) which leads to a gradual change in teachers' methods. Data is analysed for 'steps in concept formation, expressions of agency, and discursive manifestations of contradictions' and as such individually, rather than collaborative or relational interpretations of activity (Holmqvist and Olander 2017:846). The paper does note a 'growing collective responsibility',

which suggests such designs can foster professional learning which promotes joint effort (ibid:853).

Pyhältö, Pietarinen and Soini's (2014) intervention examines teachers' perceptions of - and their role in facilitating - change. Results focus on active or passive nature of teachers' self-perceptions and the project facilitators find that over two years of development work teachers' perceptions become more holistic, whether they see themselves as active professional agents or not. Nonetheless they note 'active resistance and criticism' (2014:320) of the development process. If Pyhältö, Pietarinen and Soini identify the 'perceived fit between teachers and their working environment' (ibid) as a potential hindrance to professional learning, then I suggest examining learning in an activity system mediated through relational agency, as I plan, may reduce the resistance seen here and accommodate complexity.

I intend to adopt a professional learning approach which encompasses agency within my project, though this may not be without problems. This is an effortful process for teachers (Toom, Pyhältö, and Rust 2015). Challenging their own presumption that professional learning has 'a predictable path', Buxton et al note teachers' different tolerance levels for obstacles to implementation, leading to different engagement and enactment levels (2015:491). They argue that if teachers are agentially engaged, there may not be a linear implementation of new practices. This sits alongside Reilly's (2009) contention that professional learning is rhizomatic in the sense that it might occur at any point, as it is a collaborative iterative process.

2.3.3 Teachers' individual agency in professional learning/development settings

The literature proffers quite basic definitions of agency: individual decision-making (Bodman, Taylor, and Morris 2012), or the 'capacity to take action' (Charteris and Thomas 2017:162) or more closely 'the capacity to initiate purposeful action that implies will, autonomy, freedom and choice' (Oolbekkink-Marchand et al. 2017:38). King and Nomikou's definition of agency as 'a fluid expression shaped by the individual and the wider temporal structures in which that individual exists' (2015:89) suggests that agency is not so easily framed (see section 3.2 for a fuller conceptualisation of agency).

They regard 'individual agency and social structures as being mutually constitutive' (King and Nomikou 2017), thus considering the individual's environment, rather than the individual him-or her-self. This chimes with Maclellan's argument that 'the 'relational' self reflects interpersonal attachments with others' (2016:82), which are beneficial to the individual self.

Different types of knowledge may *enable agency*: Bodman Taylor and Morris note that most professional learning addresses 'replicative and applicative knowledge' whereas 'associative and interpretative' knowledge would be more likely to enable teacher agency (2012:15). Similarly, decontextualised knowledge in professional development becomes less accessible to the memory (cf. Eraut 2004). This suggests that, designing an embedded school study which supports associative and interactive knowledge might stimulate agency, a view supported by Rivera Maulucci, Brotman, and Fain's study (2015) which notes a move from structurally *reproductive* to structurally *transformative* agency during a 14-week programme. Although the nature of

knowledge may be problematic: Liu, Miller and Jahng argue that university-based professional development 'denies the agency of teachers as knowledge creators' (2016: 424). Just as Bodman, Taylor and Morris (2012) note that training in systematic phonics (replicative knowledge) has limited teachers' ability to think about the pedagogy of reading and to examine practice conceptually. In addition, knowledge boundaries may mean teachers cannot 'unlearn former practices' (Newnham 2018:139), which may indicate low agentic behaviour.

Whilst *strong individual agency* might be a strength amongst teachers, it may also lead teachers to resist innovation (Day, 2020; Ketelaar et al. 2012; Sannino 2010). Strongly agentic teachers may also resist collaboration but where ownership of professional development opportunity is high, then agency is positive and collaboration greater (Ketelaar et al. 2012).

Individual choice is important in selecting professional learning initiatives in which to engage (Billett 2004; Tao and Gao 2017). Tao and Gao note the divergence of choices within the same setting in relation to professional learning research projects, which suggests that agentic choices are driven by differing professional identities and positioning within an organisation. Thus, the professional trajectory of the individual teacher becomes important in determining the agentic choices to be made and they argue that 'identity commitment plays a pivotal role in the enactment of teacher agency for continuing professional development' (Tao and Gao 2017: 354). Teachers' connections to the activity are important (cf. Ketelaar et al. 2012).

2.3.4 Teachers' collective agency in professional learning/development

The literature refers to generic *collaborations* - for instance in teacher teams (see Doppenberg, Bakx and Brok 2012; Cherkowski and Schnellert 2017; Palmer et al. 2016) or teacher-led collaborative professional learning or development (Cloonan, Hutchison, and Paatsch 2014; Goodnough 2016) where there are 'shared goals', 'collaborative teaching and learning environments', 'risk taking' and 'opportunities for continuing professional development' (Cloonan, Hutchison, and Paatsch 2014:583). Once again trust is necessary to bring about change, as well as the actions of one committed individual to set the project in motion.

This group sit alongside the larger interest in professional teacher learning communities (TLCs) (Butler, Schnellert and MacNeil 2015; Dougherty Stahl 2015; Liu, Miller and Jahng 2016; Philpott and Oates 2017; Tan and Caleon 2016; Teague and Anfara 2012; Wood 2007). There are references to the agentic benefits of TLCs citing self-efficacy (Wood 2007); 'transformative learning and progressive growth' (Liu, Miller, and Jahng 2016:421) and the value of teachers directing their own professional learning (Cherkowski and Schnellert 2017).

Butler, Schnellert and MacNeill examine *collaborative inquiry* at the systems level and is one of the few papers to examine inquiry as 'socially-mediated', i.e. how teachers work with colleagues in the setting (2015:4). They find that gains in self-efficacy can be linked to engagement in collaborative inquiry, they note however that these perceptions seem dependent on the efforts of school leadership to distribute agency across the system, cited as 'enabling

conditions'(ibid:22), although they find some instances of agency developing independently. They report little resistance to the changes implemented. Other gains reported from agentic professional development are more collegial conversations (Cherkowski and Schnellert 2017; Horn and Little 2010; King and Nomikou 2017), greater collective agency (Butler, Schnellert, and MacNeil 2015), more feedback on performance, more focus on student work samples, more discussions about pedagogical dilemmas (Wood 2007:716) and a renewed sense of purpose (King and Nomikou 2017). Charteris and Thomas note inquiry's potentially reductive nature: 'teacher learning is more than a technician activity with a focus on school managerialism and schooling efficiency' (2017:166). Similarly, Bieler and Burns Thomas (2009) suggest that if programmes are too prescriptive, inquiry becomes as rigid as traditional professional development which they term 'false inquiry' (Bieler and Burns Thomas 2009:1033), suggesting that inexperienced teachers may feel silenced by such programmes.

A number of *constraining factors in collaboration* are revealed such as teachers having insufficient knowledge or experience (Rivera Maulucci, Brotman, and Fain 2015); change implying inadequacy (Reeves and Anson 2014); normalising problems rather than challenging them (Horn and Little 2010); teachers feeling isolated (Carse 2015); being reluctant to be observed (Wood 2007) or videoed (Holmqvist and Olander 2017); resisting change (Wood 2007, Frost and Durrant 2002); being reluctant to experiment (King and Nomikou 2017); prevalence of accountability measures (Carse 2015); short-lived changes (Wood 2007); being reluctant to engage with tasks between

meetings or ‘move forward as a team beyond the discussion stage’(Cherkowski and Schnellert 2017:12).

Enabling factors are revealed as long-term professional development autonomy, space for change process and praxis (Carse 2015; Latta and Kim 2009), time (Carse 2015; Goodnough 2016; King and Stevenson 2017) and teachers creating artefacts which influence actions (Reeves and Anson 2014). However, normalising which is listed under constraining factors above can become enabling when the agency of teachers is harnessed by ‘(a) normalising a problem of practice, (b) further specifying the problem, (c) revising the account of the problem (its nature and possible causes), and (d) generalizing to principles of teaching’ (Horn and Little 2010:193).

Individual choice mentioned in the previous section should not be conflated with autonomy. Where teacher autonomy is encouraged, for example in Finland, *professional agency* is defined collectively as ‘teachers’ power to influence their identities, work, community and organizational issues, within the prevailing sociocultural conditions’ (Hökkä and Vähäsantanen 2014:134), indicating a relational perspective. As such professional agency is strongly related to professional identity and workplace learning (Vähäsantanen 2015; Vähäsantanen et al. 2017). Hökkä and Vähäsantanen find that strong professional agency may still be enacted to protect individuals’ working patterns, which impedes organisational learning. Pyhältö, Pietarinen and Soini’s interpretation of teachers’ professional agency is also noteworthy :

'the intentional and responsible management of new learning, both at an individual and community level. This concept includes using others intentionally as a resource for learning and, equally, serving as a support for them (Edwards 2005). Accordingly, teachers' professional agency is not a fixed disposition of an individual teacher, but is highly relational and thus embedded in professional interactions'(2014:306)

as it places their interpretation firmly alongside the questions expressed in this thesis. Professional agency can also be shaped by power relations within schools (see Lai, Li, and Gong 2016); although this aspect was not highlighted elsewhere.

A concept of professional agency which highlights the *co-existence of individual and relational aspects* within collective agency can be extrapolated to a relational sense of expertise: 'teachers should be agentially positioned as professional decision makers and collegial experts in the contexts of their own learning communities' (Charteris and Smardon 2015:115). Here the workplace setting and context influence actions, foreshadowing the anticipated outcomes in the Change Laboratory study.

Trust 'as a co-constructed relational resource' (2015:21) may also be a factor in the acceptance- or otherwise- of relational expertise or agency by the group. Indeed, Charteris and Smardon note the role of discursive positioning in framing the *distribution of agency* across a group and this is a factor worth considering in my research design, especially if '[a]gency in teacher learning contexts centres on the affordance of intellectual space to think' (2015:121). Similar thoughts about physical space are found elsewhere (Oolbekkink-Marchand et al. 2017), who note that bounded agency occurs where the school context and associated space is actively interpreted, and that contested agency occurs where personal beliefs bring teachers into conflict

with established boundaries. This study should provide a forum for contestation to take place.

2.3.5 Summary of area one: discerning agency in professional learning or professional development?

This search has revealed the complex nature of agency in professional learning and development. Studies are more likely to focus on individual agency with orientations towards choice, strength, identity and knowledge building. Professional learning is more likely to be associated with transformative models which conceptualise agency as a collaborative and collective process with shared, though not always well-defined, goals. The literature has a more limited focus on professional agency per se.

Teacher-led professional learning appears less common. Whilst there is a growing body of work recognising the relational aspect to collaboration, there is little direct empirical investigation. The literature notes tensions relating to trust, challenges to ability but no resolution to these difficulties. By focussing on teachers' agency in developing their professional learning in a framework which allows contestation, greater insight into collective and professional teacher agency could be achieved through a collaborative study.

2.4 Area Two: Teachers' perceptions of organisational change

Most of the literature on organisational change in schools refers to major reforms or established interventions (see Hargreaves and Goodson 2006). I hoped the literature would reveal a body of work where change could be

affected in 'materials, pedagogy and beliefs' (Fullan 2016b:34) on a smaller scale, looking at localised change which potentially alters teachers' everyday practice. Studies related to attitudes to change in schools may suggest whether behaviours change before beliefs, as Fullan contends, and whether intervention may serve to bring about changes in professional learning. The notion of beliefs (discussed in section 2.5) sits alongside adaptation to change, explicitly through those teachers who are 'thoughtfully adaptive' (Fairbanks et al. 2010) and those who might encourage adaptive and proactive behaviours to bring about change (Ghitulescu 2012). Whilst younger teachers might be more flexible and adaptable as Hargreaves (2005) suggests, they may not have the resilience of more experienced colleagues. These twin notions of adaptation and attitude may be relevant to a study of change which includes change to pedagogy.

2.4.1 Area Two searches

My original search was for "teacher" AND "school" AND "organisational change" but the resulting 163 responses proved too broad a field. I refined my searches as per table 2.2 below, which gave reasonable coverage, and included papers related to in-service teachers in settings across Europe, Australia/New Zealand and North America as well as Asia. Change related to a range of pedagogies, although there were exclusions as "school" or "organisational change" was still a broad concept with "school "generating much research into health and "organisation" into mergers/restructuring. I employed the searching and analysis strategies discussed above (section 2.2), using snowballing to follow relevant trails.

This area reveals two strands of literature: firstly, concerning manifestations of teacher perceptions through receptivity, resistance and readiness for change and secondly the relational aspects of change implementation, linking to leadership and sustainability.

Search term	“Teacher” AND “perception” AND “school change”	“Teacher” AND “perspective” AND “organisational change”	“Teacher” AND “attitude” AND “organisational change”
Results	29	33	26
Exclusions: pupil focus; universities; race; inclusion; stress, health; school mergers/restructuring; Quality Assurance; Pre-1998	20	23	20
Selected	9	10	6
Total	25		

Table 2-2 Area Two search overview

2.4.2 Teachers’ perceptions of change

Changes in schools are not straightforward: the inherent tensions between new change initiatives and established pedagogical routines may explain resistance to change and tendencies to revert to previous practice (e.g. Shachar, Gavin, and Shlomo 2010). Teachers may need personal and concrete experience of variations between practices before change can be made (Tse 2012). Teacher *resistance* to change may be overt (Zimmerman 2006) or may simply be represented by ambivalence to change (cf. Piderit

2000). Zimmerman's short review of teacher resistance literature, whilst representing a dualist perspective of leadership implementing change on one side and teachers resisting change on the other, nonetheless acknowledges a shift in leadership perspectives which accommodates teacher self-efficacy in the change process, though the surrounding activity system is neglected.

Receptivity to change suggests teachers are influenced by fears, perceptions, beliefs and attitudes and argues that general beliefs influence whether teachers think fears about implementation may be overcome (Collins and Waugh 1998; Moroz and Waugh 2000; Waugh 2000). Their findings suggest that younger teachers view change more negatively than older ones and that practicality of change is key to adoption, whereas school type and location are not influential. It remains to be seen whether the attitudes displayed in older, albeit large-scale research hold good today. Moroz and Waugh (2000) note the intentionality of these behaviours, yet strong individual agency may be 'an obstacle for organizational development in that it limits collaborative practices, impedes cultural change, and hampers organizational learning' (Hökkä and Eteläpelto 2014:47).

Whilst receptivity is sometimes presented as an agentic construct, *readiness for change* is overtly so (Kondakci et al. 2017; Rafferty, Jimmieson, and Armenakis 2013; Zayim and Kondakci 2015). Research into teacher readiness for change mostly concerns individuals, for instance Doppenberg, Bakx, and Brok's (2012) study suggests primary teachers exhibit little interest in change models. However, the concept of organisational readiness for change might also be considered (Holt et al. 2007; Weiner 2009). Weiner suggests that high

readiness is more likely to lead to greater persistence and cooperative behaviour amongst members, likewise Holt et al.'s major survey finds that employees' beliefs in their own capacity to implement change and in the benefits change brings, are as influential as their beliefs in the appropriateness of change and leadership's ability to deliver change.

Returning to teachers' perspectives of readiness to change, Kondakci and Zayim (2015) and Kondakci et al.'s (2017) large-scale quantitative studies focus on Turkish teachers. They report that the school setting does not support change '[d]espite positive intentions and beliefs about change' (2017:193). Kondakci and Zayim examine the role of *trust* and reveal a spectrum of responses 'from aggressive resistance to passive resistance, apathy, support, involvement and commitment' (2015:611). They contend that decreased trust may lead to greater resistance, as it 'undermines cognitive, emotional and intentional readiness' (ibid:620). Even though compliance cultures in primary schools may account for reported positive outlooks, the relational aspects of trust might feature in the current study.

The Turkish findings above should be considered alongside an Australian multilevel review of change readiness (Rafferty, Jimmieson, and Armenakis 2013). They argue that:

'a *work group's* change readiness and an *organization's* change readiness are influenced by (1) shared cognitive beliefs among work group or organizational members (a) that change is needed, (b) that the work group or organization has the capability to successfully undertake change, (c) that change will have positive outcomes for the work group or organization and by (2) the occurrence of current and future-oriented positive group or organizational emotional responses to an organizational change'(Rafferty, Jimmieson, and Armenakis 2013:116).

This study notes a 'referent shift' when a group develops a shared response to organisational change (ibid:120). My study may produce a climate where a positive attitude to change promotes discussion in a safe space. Rafferty, Jimmieson and Armenakis also suggest that low readiness for change may not be disadvantageous, as weaknesses in the system may be identified through resistance, which links to the theoretical premises to be discussed in Chapter 3.

2.4.3 Relations between teachers and leaders concerning change

I include here the relational aspects of teachers and leaders enacting change in schools and emphasise the *intentionality of change* (Cooper et al. 2016; Vennebo and Ottesen 2015). Relations between teachers and leaders can be variable: do teachers not wish to participate in decision-making as much as their leadership expects? And is such 'mutual misunderstanding' (Wubbels 2015:203) common? Interestingly, Jacobsen and Buch's (2016) study notes the paradox of leadership that have previously been teachers themselves and how they manage change by endeavouring to maintain equality, when in fact teachers might appreciate more intervention. Without such reluctance, teachers' attitudes to change may be influenced by effective instructional leadership (see Kursunoglu and Tanriogen 2009).

The *legitimacy of teachers' perspectives* is considered by their peers, as this facilitates change (Vennebo and Ottesen 2015). Vennebo and Ottesen's project *team* appears to include a senior leader and teachers with leadership responsibilities so may not face the leader versus teacher paradox mentioned above. Nor may they have to negotiate the tensions between power and trust

(see Helstad and Møller 2013), where teachers may respond to change by being reluctant to take on new practices. Vennebo and Ottesen conclude that where different perspectives are contested, they represent relational processes, in line with Edwards' work (2005, 2010) and it may take (considerable) time to 'mould' perspectives into collaborations (Vennebo and Ottesen 2015:212).

2.4.4 How change is implemented

Common approaches to implementing change in schools involve introducing teacher-leaders (Cooper et al. 2016) or coaches to work alongside communities of practice (Mayer et al. 2013; Mayer, Woulfin, and Warhol 2015). This suggests the use of an outside stimulus, like the researcher-interventionist to be considered in Chapter 3, although I, as a researcher-interventionist would not model practice as coaches would (Mayer et al. 2013), but would instead encourage teachers to question practice. *Coaching* is common in large-scale reform implementations, as coaching infers the imparting of skills or strategies (Kennedy 2005). However, while it can be useful for embedding practice (see Pedder, James, and MacBeath 2005), its instructional nature does not sit well with the collective approach I am considering. Mayer et al. note that trust is important for a coaching model, that it is difficult to develop teachers' agency and as coaches broker change in schools, they therefore act as change agents. Whilst the relational aspects remain under-theorised in 2013, a later paper using the same data (Mayer, Woulfin, and Warhol 2015) focuses on change *processes*, with a sense of a

more agentic teacher cohort, despite teachers' initial reluctance to engage owing to performative pressures.

Teachers' *transformative learning* may be necessary for substantive change (Gallucci 2008). Gallucci investigates the role of an embedded coach in the development of reading comprehension pedagogy. Using sociocultural theories, Gallucci examines the relationships between collective and individual actions in public and private domains to bring about professional learning. The study employs cyclical, transformative elements but the agentic – and relational- aspects remain underdeveloped.

If changes are to be *sustainable*, they may need to be considered in the overall context of organisational learning (cf. Higgins et al. 2012). The Higgins study, as elsewhere (Mayer et al. 2013; Mayer, Woulfin, and Warhol 2015), investigates large-scale change reforms linked to performativity and suggests that teachers' sense of psychological safety to speak out, of opportunities to experiment and of positive leadership attitudes are all necessary to sustain change. Although what constitutes 'experimentation' is not explored, Higgins et al infer that the affective aspect of teachers' professional learning needs consideration and could be explored alongside teacher responsibility for change and teacher experience.

Change can also be implemented through *interventions*, for which there is a small literature of school change using Change Laboratory interventions (See Engeström et al. 1996, methodology discussed in Chapter 4) with just one study revealed in the search (Botha 2017). As in the established literature,

Botha finds that teachers are reluctant collaborators in early sessions. Whilst some relational aspects in the activity system are considered, relational agency itself is under-developed in this paper.

2.4.5 Summary of area two: teachers' perceptions of change

Teacher perception is a rich area of research with both resistance and receptivity being strong influencers of change in education. More agentially, readiness for change can also be a factor in change in a range of settings. The relational aspects of change are beginning to be revealed in the literature, such as trust in the implementers of change and recognition of the legitimacy of perceptions of both teachers and leadership. Intentionality appears to be required for change to progress, though this may be misunderstood on both sides. The literature also reveals the centrality of implementation, with the sustainability of such change being an increasing area of interest, although the stimulation of that change remains underrepresented.

By focussing on collective implementation, I intend to test claims to the roles of resistance, receptiveness and readiness to change in the context of a teacher-led intervention which will provide greater understanding of the sustainability of professional learning amongst in-service teachers.

2.5 Area three: Teachers' pedagogical beliefs

The research conducted for this thesis necessarily takes account of teachers' beliefs as they might be inferred from interactions during the project. My starting point was Pajares' seminal work: he notes the 'potent affective, evaluative, and episodic nature of beliefs' (1992:325) which act as a filter for

new knowledge. He suggests that research should concentrate on ‘the relationship between beliefs, on the one hand, and teacher practices, teacher knowledge, and student outcomes on the other’ (ibid:327) if the role of teacher beliefs in teaching is to be fully understood. For instance, those who believe in more transmissive, rather than facilitative methods, adopt a different attitude to pedagogy (cf. Ahonen et al. 2014) and may not perceive themselves as ‘active collaborative agents in the professional community’ (ibid:189). Whilst younger teachers might be more flexible and adaptable as Hargreaves (2005) suggests, they may not have the resilience of more experienced colleagues. Teachers’ theories of practice rely on coherent sets of beliefs which influence their actions as teachers; if professional learning seeks to change practice then changes must be integrated into beliefs (Timperley, Parr and Bertanees 2009).

The affective nature of beliefs and attitudes to adaptation are highly relevant to this study of changing pedagogy where the debate, whether practices (e.g. Fullan 2002) or beliefs (e.g. Richardson et al 1991) change first, may influence the development of professional learning for reading comprehension.

2.5.1 Area Three Searches

As the substantive focus for the teachers’ professional learning study was developing pedagogy for reading comprehension, I first searched for changing beliefs about reading comprehension pedagogy, but this appears to be a very narrow field: “teacher beliefs” AND “reading comprehension” yielded eight results through SCOPUS; whereas “ elementary teachers” AND “reading comprehension” only yielded 12 results. I therefore changed my approach and

firstly broadened the search to “teacher beliefs” AND “pedagogy” AND “change”, which, whilst producing 72 results, still indicated relatively limited current research related to primary in-service teachers. Secondly, I combined development with the pedagogical area, searching for “professional development” AND “reading comprehension” which yielded a more substantial 87 results.

However, there was a relatively high exclusion rate (see Table 2.2 below), for example nine papers focussed on teaching reading comprehension to second language or bilingual learners, when my project targeted first language reading comprehension. There were also exclusions for the incorrect age phase i.e. secondary or tertiary education.

I employed the same searching and analysis strategies as for the first area (see section 2.2).

Search term	“Teacher beliefs” AND “pedagogy” AND “change”	“Professional development” AND “reading comprehension”
Total	72	87
Exclusions: Pre-service teachers; secondary or tertiary education; English as foreign or second language	46	32
Selected	26	55
Less duplicates	11	
TOTAL	70	

Table 2.3 Area three search overview

My searches revealed three literature strands in this area: generic beliefs about primary-age pedagogy; the congruence and sustainability of beliefs and beliefs about reading comprehension.

2.5.2 Beliefs about generic primary-age pedagogy

'Beliefs provide a framework for pedagogy' (Carrington, Deppeler, and Moss 2010)

According to Ní Chróinín and Sullivan (2014), beliefs about how teaching should be undertaken start with pre-service education develop during the early professional years (Sullivan and Conway 2016) and become *deep-seated* (Pajares 1992), with primary teachers exhibiting little interest in change models (Doppenberg, Bakx, and Brok 2012). Beliefs are *context-dependent* (Ahonen et al. 2014; Palak and Walls 2009) and connected with teaching practices (Handal and Herrington 2003; Lotter et al. 2016; Ní Chróinín and Sullivan 2014). In a performative training environment, this manifests in teachers who are risk averse (Edwards and Protheroe 2003) and inexperienced teachers who value practical but often reified, pedagogy (Ní Chróinín and Sullivan 2014; Sullivan and Conway 2016). Although Ní Chróinín and Sullivan's very small study suggests they may later revise this attitude and adopt less prescriptive approaches. Palak and Walls also note the difficulty of capturing complex beliefs reliably through self-report data, which suggests that the proposed project may benefit from space for interaction and reflection.

Beliefs may be constrained by limited knowledge: Buehl and Fives (2009) note a conflation of different types of knowledge with pedagogy, which might make

the social construction of professional learning problematic. They call for an examination of the '*coherence*' (ibid:401) of belief systems, suggesting that teachers who view teaching knowledge as changeable may be more adaptive and that beliefs in the sources of knowledge (journals, CPD, colleagues etc) may be similarly influential. It should be noted that this large-scale American study is based solely on questionnaire results and there is no observation of practice. Interestingly, they note that conventional ideas of 'naive' perspectives where authority is a source of knowledge, and 'sophisticated' perspectives where experience and reason is a source of knowledge (ibid: 402), may not serve when contextual factors are considered.

Fives and Buehl (2014) develop a more sophisticated conceptualisation of beliefs which exist within a system, rather than as a linear concept. Beliefs then act as a filter which leaves the existing teacher identity intact. If, as Fives and Buehl suggest, most teachers subscribe to the concept of an innate ability to teach, then any professional learning design would need to start from current practice; although Fives and Buehl's concept mapping / reflective journals method would not be my preferred approach as it limits relational aspects. Whilst they allude to Vygotsky's Zone of Proximal Development, Vygotsky's principle of mediation is not mentioned, which I would wish to include in a study of teachers' agency.

Pedagogical beliefs for mathematics (Handal and Herrington 2003, Hunter 2010, Polly et al. 2014, 2017), technologies (Mumtaz 2000, Prestridge 2017, Palak and Walls 2009) and science (Grimberg and Gummer 2013, Lotter et al. 2016) dominate the results. Handal and Herrington suggest that if teachers'

beliefs are not in line with proposed policy then 'hidden agendas' will prevail (2003:65) and beliefs have been shown to present significant *barriers to change* (Dow 2006).

An interesting distinction is made between the shaping and enactment of pedagogical beliefs related to technology teaching (Prestridge 2017), but with potential to be extrapolated. She finds that teachers' pedagogical beliefs align with pre-existing technicist or constructivist approaches, however improved pupil outcomes with new technologies may prompt change. She recognises that 'an extended period of professional engagement' is necessary before change occurs (Prestridge 2017:378); similarly, on-line packages without appropriate professional development are less effective (Luo, Lee and Molina 2017).

2.5.3 The congruence and sustainability of beliefs

The preceding literature suggests that beliefs may be both amenable and resistant to change. Zehetmeier and Krainer suggest considering sustainability as a 'durable continuation' (2013: 142). They identify fostering factors for *sustainability*: content, community and context. This is comparable to Hargreaves' earlier view of sustainable educational change, which advocates a mixture of teacher ages, inter-generational mentoring and a 'conscious collective learning' memory (2005:982). Where professional development programmes are shorter, changes to beliefs are more difficult to substantiate (Polly et al. 2014, 2017), and to sustain, for example when increases in self-efficacy beliefs developed in summer school are not retained (Lotter et al 2016). Perhaps in contrast to Hargreaves, Donnell and Gettinger (2015) find

experience does not seem to be a predictor of positive responses to school reform, whereas teacher beliefs and self-efficacy related to proposed changes are positive indicators, if supported by congruent development approaches (see Lotter et al. 2016).

Large-scale quantitative studies are the most common design in the literature, yet they report limited results in analysing changes in teacher beliefs (Donnell and Gettinger 2015; Polly et al. 2014, 2017). Small-scale, shorter interventions may be worthwhile if they focus on *beliefs and practice* (cf. Lynch 2017).

Lynch's project shares research papers with teachers and reports significant impact on beliefs and sustained change post project but notes that teachers found less justification for changes through academic literature (cf. Fives and Buehl 2014). This contrasts with an enquiry into teacher epistemological beliefs which, despite evidenced changes made to practice, remain unchanged after a design research intervention (Wilkinson et al. 2017).

2.5.4 Reading comprehension: changing pedagogical beliefs

'We define reading comprehension as the process of simultaneously extracting and constructing meaning through interaction and involvement with written language' (Snow, 2002 :11)

Meaning making is not of itself a simple process, it is problematic as reading comprehension can be socially constructed in different ways, it is both 'culturally variable and historically changing' (Gavelek and Bresnahan 2009:154). Given those differences, international surveys such as the Progress in International Reading Literacy Study (PIRLS) may have limited validity. However, van Damme et al.'s analysis (2019) of PIRLS 2006 and 2016 is pertinent here, as it focusses on the professional development of

teachers for reading comprehension grade 4 (average age 9.5 years), a demographic central to my own study. Their findings suggest that internationally less time is spent on reading instruction in 2016 than in 2006, and that teacher professional development is positively correlated with reading comprehension outcomes (ibid:24). Thus, underlining the significance of the present study into effective professional learning for reading comprehension.

The range of recent papers specifically analysing changes in reading comprehension pedagogy beliefs for in-service teachers is limited; research tends to focus on pre-service teachers' reading beliefs (see Risko et al.'s 2008 extensive summary). A major study in the 1990s examines the relationship between teacher practices for reading comprehension and beliefs, arguing that:

The variance in teachers' beliefs is typically described as falling somewhere between the belief that reading is a skill that begins and ends with decoding and the belief that reading is a transactional process between a reader and a text within a social context (Richardson et al 1991:562).

Whilst they find that most practice in the classroom can be predicted from beliefs expressed at interview, they also find contradictions, which suggests beliefs and practices can be mismatched. They argue that the mismatch indicates a process of change, with belief changes preceding practice changes, contrary to Fullan (2000) and Guskey (2002). These disparities recognise the complexity of belief systems, with potentially dialectal relationships between beliefs and practice (Poulson et al. 2001). Teachers may interpret practices poorly because they misunderstand or have received poor professional development. Richardson et al. argue for professional

development which incorporates ‘teachers’ background theories and beliefs’, ‘theoretical frameworks’ and ‘alternative practice’ (1991:579).

2.5.4.1 Where professional learning has influenced beliefs

Some studies set out to investigate how teachers’ conceptions and beliefs for reading comprehension may affect practice using one approach (Seymour and Osana 2003). Seymour and Osana argue it is more effective to analyse beliefs for ‘a specific instructional technique’, here Reciprocal Teaching, than general pedagogical beliefs (ibid:327). They find that teachers’ misinterpretations of principles and procedures of an approach are relevant, that beliefs about procedures have greater growth than those for principles, but this does not necessarily impede implementation. Their findings suggest that teachers can act differently to espoused beliefs and that understanding teachers’ goals would promote greater engagement; they advocate beliefs being regularly ‘elicited and addressed’ during professional learning programmes (ibid:339).

Teachers are often not encouraged to interrogate the epistemology of their beliefs and may just ‘perform appropriate practices’ (see Porath 2016: 880). Some teachers may believe that they do not need to engage with instruction programmes, as they know how to teach reading comprehension (Hilden and Pressley 2007); they do not change beliefs as they feel that assigned reading validates their practice (Gillentine 2006). Beliefs may be simple: all children can read (see Ford and Opitz 2008); indeed, their prior experience as readers may influence teachers’ beliefs in the effectiveness of different strategies (Kissau and Hiller 2013). Whereas it may be more beneficial to consider what

teachers believe may be effective knowledge *for* practice, if we seek to encourage changes *to* practice (cf. Rosaen et al. 2013).

Feiker, Hollenbeck and Kalchman argue that conceptual change requires dissatisfaction with current beliefs and that successful professional learning should incorporate a process of conceptual change, which becomes 'essential for creating enduring cognitive shifts in teachers' beliefs about effective practice' (2013:648). Their research identifies two strands of impediments to conceptual change: firstly idiosyncratic i.e. an individual believes their practice to be correct so does not question it; secondly common i.e. where education policy privileges the assessment of reading comprehension over its teaching (cf. Deeney and Shim 2016) and old practices are regularly replaced by new ones, or top-down professional development does not encourage problematising practice. Feiker, Hollenbeck and Kalchman's argument follows Southerland et al.'s work on pedagogical discontentment, which is 'a teacher's affective response to her evaluation of the effectiveness of her existing (...) teacher practice and goals' (2011:304); similarly disquiet may be more prevalent in collaborative research designs (see Porath 2016).

Discontentment reflects the current situation, whereas self-efficacy is a positive construct of the teacher's ability to alter practice in the future. So whilst we might assume that self-efficacy enables teachers to try new practices (Accardo et al 2017; Clark 2016); Southerland et al (2011) argue that teachers with high self-efficacy may resist change because they are content, just like Day's (2020) highly autonomous teachers. Professional learning which is designed to provoke 'disequilibrium', with opportunities to

reflect on dissatisfaction, is more likely to bring about change and deter a return to previous practice (Feiker, Hollenbeck and Kalchman 2013:650).

2.5.4.2 *Limitations of current practice*

Current reading comprehension pedagogy is driven by 'beliefs about the nature of reading' (Concannon-Gibney and Murphy 2012a:443). Weak in-service training may be a feature (Concannon-Gibney and Murphy 2012b; Wijekumar et al. 2019). Teachers may lack confidence, believe they are unable to use questioning techniques or be concerned about time constraints (Avila et al. 2011; Hairrell et al. 2011; Hilden and Pressley 2007; Silver, Kogut and Huynh 2019). Teachers may find reading comprehension pedagogies employing new technology require a change to belief systems (Dwyer 2016). Teachers may lack time to read journals (Hilden and Pressley 2007), 32% of teachers 'had never read professional literature' (Concannon-Gibney and Murphy 2012a: 444), or simply not be aware of alternatives (Phillips 2012). Teachers may also use on-line resources without verifying if research supports the efficacy of said resources (Ciullo et al. 2019). Similarly, practices may be followed without any evidence of their effectiveness, for example reading aloud in turn (Ciullo et al. 2019). Or teachers engaging in training may find changes easy to put into practice but be less keen to discuss research concepts (Jayanthi et al. 2018).

Lack of confidence in delivering evidence-based approaches may lead to a deficit pedagogical model (Fisher 2008; Wijekumar et al. 2019); for example, not deviating from supplied plans or lacking nuanced understanding of comprehension strategies. Coburn (2001) notes the *normative pressures* that

teachers face concerning reading, how their teaching *should be*, which may well conflict with their own belief systems, leading to a 'process by which teachers adopt, adapt, combine, and ignore messages from the environment' (Coburn 2001:162). Teachers may also feel overwhelmed by the number of reforms, accountability targets and the interventions themselves (Matsumura, Garnier, and Spybrook 2012; Rennie 2011).

Deficit approaches to learning tend to focus on what needs to be 'fixed', however 'developmental models build on and scaffold the existing knowledge bases' (Griffin et al. 2010:384). (These models are based on the work of Vygotsky which I turn to in Chapter Three). Such developmental or responsive models of professional learning find that teachers construct and influence each other's understanding, for instance of vocabulary instruction (Anderson and Gallagher 2019). Where teachers discourse becomes more developmentally focussed, student outcomes improve (Griffin et al. 2010). Collaboration is key - involving 'rigorous examinations of teaching and learning'- and autonomy for teachers and schools so that they can act on the evidence they find (ibid:386). The professional learning teams support a 'change culture' with shared goals developed through 'access to specialist expertise as well as ongoing, systematic and reflective workplace support'(ibid:394). Where teachers are not recommended specific strategies, they make the link between theory and practice, suggesting that researcher and practitioner knowledge is a two-way street' (Kim et al. 2017:461). Indeed, such collaboration may help sustain change (Zakaria, Care and Griffin 2016). There is, however, increasing evidence for a 'research to practice gap' which is *not* being met by professional learning (Accardo and Finnegan 2019; Ciullo

et al 2019; Feiker Hollenbeck and Kalchman 2013; Klingner et al. 2010). The perception is of teachers teaching the curriculum as it stands, rather than acting as change agents to shape it (Kim et al. 2017; Silver, Kogut and Huynh 2019).

2.5.4.3 Strategies for improving reading comprehension instruction

The bulk of the papers in the search report on interventions and randomised controlled trials for different reading comprehension strategies or literacy instruction (Concannon-Gibney and McCarthy 2012; Concannon-Gibney and Murphy 2012a,b; Connor et al. 2014; Deeney and Shim 2016; Kim et al. 2017; Ness 2011; Ness and Kenny 2016; Silver, Kogut and Huynh 2019; Silver and Png 2016; Solheim, Rege and McTigue 2017). Larger trials may tend to focus on on-line reading improvement frameworks (Knezek and Christensen, 2007; Luo, Lee and Molina 2017; Taylor et al. 2005), whereas smaller studies may examine strategies for vocabulary expansion (Gallagher and Anderson 2016). Papers focusing on interventions where professional development supports goal setting, data use and instructional methods report significant gains in student outcomes, but they do not know how teacher participation resulted in teacher change (van Kuijk et al. 2016). Teachers with higher self-efficacy report feeling confident in using a range of strategies after in-service professional learning, especially where supported by taking more than one reading methods course during training (Clark 2016).

These papers tend to focus on outcomes for pupils rather than the effect on teachers' beliefs. There are however several papers which note difficulty in sustaining strategy implementation, which may indicate teachers' entrenched

beliefs (Concannon-Gibney and McCarthy 2012; Connor et al. 2014).

Teachers may feel that implementation leads to compromises which undermine their own agency (Avila et al. 2011), or that test preparation has precedence over strategy implementation (Davis and Vehabovic 2017).

Teachers may spend more time checking comprehension *of* a text than teaching children comprehension strategies which they can *apply to* a text (Ciullo et al. 2019). The most common strategy used is prediction (Klingner et al. 2010). Klingner et al. (2010) find few instances of explanation or thinking aloud and no paraphrasing to support children's understanding, whereas others find little teaching of inference (Ciullo et al. 2019; Connor et al. 2014).

Teachers' background knowledge may be insufficient for non-fiction text teaching (Ness and Kenny 2016), or to support reading comprehension assessment (Mkhwanazi et al. 2014).

There is some evidence of teachers analysing their own practice: in-service teachers acknowledge that they focus more on retrieval, than higher-level questions and pupil independence (Deeney 2016; Silver and Png 2016), but their understanding becomes more 'cognitively complex' as the study progresses (Silver, Kogut and Huynh 2019:562). Similarly, one or two studies note the benefits of video for analysing teachers' practice for reading comprehension (Kucan et al. 2009; Reynolds and Daniel 2017)

2.5.4.4 What professional learning might do for reading comprehension pedagogy

Collaborative professional learning which explicitly acknowledges the role of beliefs and prior theories with the contextualised development of teacher knowledge may be the way forward (Timperley, Parr and Bertanees 2009); for example increasing pedagogical knowledge to develop students' metalanguage around comprehension skills (Rennie 2011; Ferguson et al. 2011). Although Timperley, Parr and Bertanees recognise that a contextualised collaborative approach means that a programme for professional learning cannot necessarily be fully planned but depends on the response of facilitators to the teachers' learning needs. Similarly, approaches which foster 'homegrown' strategies for whole school reading improvement can be effective if they persist with strategies and do not keep changing focus (Taylor et al. 2005:66). Indeed, structural adaptations have been found to enhance reading comprehension outcomes when passive implementation might lead to ambiguous findings (Kim et al. 2017).

There is growing evidence for the efficacy of professional learning which is designed to be sustained, relevant, responsive, personalised (Clark, Schoepf and Hatch 2018; Dwyer 2013; Jayanthi et al. 2018) and 'aligned with teachers' goals' (Anderson and Gallagher 2019:374). Concannon-Gibney and Murphy suggest needs-based professional development may counter individualism, which is 'to the detriment of curricular innovation and development' as may prove the case elsewhere (2012b:140).

Where schools do implement reforms, they have a commitment to collective problem-solving (Taylor et al. 2005). Extended periods of implementation tend to lead to greater fidelity; with increased confidence in practices, teachers change their beliefs about pupil neediness or lack of ability (Collins et al. 2017; Rennie 2011). Silver and Png show that innovation, as it entails 'disequilibrium', may be initially unsettling for teachers but adaptations to practice start in the second year (2016:77). However, the length of an experience does not always determine teachers' perceptions of reading comprehension professional learning (van Keer and Verhaeghe 2005). Van Keer and Verhaeghe find that teachers rate students' progress more highly and perceive workloads to be greater with a new, compact form of a training programme, but assimilate both aspects in an extended form of training.

2.5.5 Summary of area three: teachers' changing pedagogical beliefs

The review reveals the deep-seated, complex and non-linear nature of teachers' beliefs. Teacher pedagogy appears consequential to beliefs which may be a barrier to change; where there is change, change may be difficult to sustain. Teacher beliefs for reading comprehension pedagogies, particularly the reasons for - and processes of - belief change, remain relatively under-researched, especially in England. Whilst there are limitations to current practice, studies noting how dissatisfaction with practice or disequilibrium may lead to change, suggest a way forward to which my theoretical approach and research design will respond.

The literature suggests that adaptive, responsive, needs-based forms of professional learning meet teachers' needs more effectively and are more

likely to influence beliefs, however few studies reference teacher agency in reading comprehension pedagogy, which suggests that the link between agency and change is an aspect to be explored.

2.6 Implications for the study

This review addresses three areas of literature to uncover how the development of teacher professional learning might best be supported through an exploration of the complexity of -and links between- agency and change.

Area One focusses on the scope for teacher agency within professional learning and development. The strength of individual agency (Ketelaar et al. 2012), the types of knowledge which enable agency (Bodman, Taylor, and Morris 2012) and choice (Tao and Gao 2017) all support development. However, collaborative professional learning appears to provide greater scope for improving practice (Butler, Schnellert and MacNeil 2015; Liu, Miller and Jahng 2016; Kennedy 2014). Collaboration supports pedagogical discussions (Wood 2007) and provides purpose (King and Nomikou 2017). Studies focussing on professional agency which foster autonomy offer greater potential to work relationally (Hökkä and Vähäsantanen 2014; Pyhältö, Pietarinen, and Soini 2014). Yet, current research on collective forms of agency neglects the role of the individual agent in the collective process; by exploring the relational agency of individuals in a teacher-led professional learning study I intend to show how the two intersect.

In Area Two this study has the potential to contribute to the literature on change sustainability (e.g. Higgins et al. 2012) and intentionality (e.g.

Vennebo and Ottesen 2015), by seeking to understand how teachers' attitudes are influenced. The readiness to change argument is very persuasive (e.g. Kondakci et al. 2017; Rafferty, Jimmieson, and Armenakis 2013) and influences my intention to design a teacher-led intervention which provides opportunities for individuals to work relationally to bring about change (e.g. Cooper et al. 2016; Mayer, Woulfin, and Warhol 2015).

Area Three reveals the complex relations between context-dependent teacher beliefs and practice (e.g. Ahonen et al. 2014; Lotter et al. 2016) and the growing interest in the sustainability of new - and the durability of old - beliefs (e.g. Polly et al. 2017; Wilkinson et al. 2017; Zehetmeier and Krainer 2013). Pedagogy for reading comprehension is a continuing need in the teaching profession (van Damme et al. 2019). Whilst investigations in the late 1990s and 2000s focus on teachers' beliefs for reading comprehension (e.g. Richardson et al. 1991; Seymour and Osana 2003); more recently teacher instruction and the development of strategy, often through large-scale implementations, predominate (e.g. Deeney and Shim 2016; Kim et al. 2017; Luo, Lee and Molina 2017; Silver, Kogut and Huynh 2019). A range of studies note the limitations of current practice (e.g. Concannon-Gibney and Murphy 2012b; Wijekumar et al. 2019) and a 'research to practice gap' (Accardo and Finnegan 2019; Ciullo et al 2019). Whilst Area Three uncovers few papers associating agency with beliefs; an increasing recognition of responsive or adaptive professional learning which can influence pedagogical beliefs (see Anderson and Gallagher 2019; Jayanthi et al. 2018), prefigures my intention to reconceptualise practice and beliefs in a collaborative, teacher-driven study.

Based on the review, I propose a theoretical approach and research design in the next two chapters which can examine the tensions found in teacher agency's role in generating change during an autonomous exploration of practice.

3. Chapter Three Theoretical framework

3.1 Introduction

My personal motivations for this research, outlined in section 1.3, resonate with theoretical concepts which support the development of teacher agency in common with the extant literature in Chapter Two. My ontological stance is reflected in dialectics, as a way of examining the changes and interactions in the world around us. Activity is complex: dialectics permits the abstraction (pulling out) of an element from an activity and its analysis in relation to other elements within the activity. Dialectics starts with the concrete, 'a chaotic conception of the whole' and proceeds *through* abstraction to the 'simplest conception' which is still concrete, but this time 'as a rich aggregate of many conceptions and relations' or 'a unity of diverse elements' (Marx 1904:161-2). Epistemologically, I take a social constructivist standpoint, so I am chiefly concerned with teachers' learning processes which inform development and change, and how the relationship between individual and collective agency is enacted in work practices, where the interplay between change and agency may be explored. I concluded from Chapter 2 that collaborative teacher-led professional learning is underdeveloped, so I have chosen a framework rooted in activity theory and specific agentic concepts to focus on in-service teachers' collective agency and the stimulation of educational change.

Firstly, I evaluate different conceptualisations of agency and change, examine the relationship between the two and then select a framework for this study which marries the theoretical approaches which follow with my putative

conceptualisations of agency and change in the field of teacher professional learning.

Secondly, I explore the concept of activity systems which I will use to provide a framework for examining workplace learning in an interconnected manner (Engeström 2000, 2005, 2008, 2009) and as 'a way of modelling organisational change' (Bakhurst, 2009). I focus on relationships within the system, the distinction between activity and actions, object mediation and the principles of object-orientation and contradictions. I note how these principles can be applied to my professional learning study, as activity systems will be used to examine how teachers engage with perceived practice problems.

Thirdly, I discuss how the Vygotskyian principle of double stimulation, already incorporated into Engeström's theory, will be applied in my study and how stimulation serves to provoke problem-solving in a professional setting.

Fourthly, I discuss the concept of expansive learning: a theory established in Finland to develop group working practices in the context of organisational change. The concept has been applied in formative interventions known as Change Laboratories, often in factory settings but also in libraries and schools (Engeström 2001, 2007, 2014; Engestrom, Rantavuori and Kerosuo 2013; Engeström, Virkkunen, Helle, Pihlaja and Poikela 1996). Expansive learning concerns the transformation of practitioners' understanding of their practice through collective learning. It is congruent with a school-based study: I shall use expansive learning as a basis for an effective professional learning model, conceptualised as a series of steps where practitioners question the object of

the activity, contextualise activity in its historical development and seek new solutions and models for a developed object.

Fifthly, I discuss transformative agency, whose manifestations have been used in previous European studies to interpret practitioners' actions in the activity system (Haapasaari, Engeström and Kerosuo 2016; Haapasaari and Kerosuo 2015; Sannino 2015; Sannino and Engeström 2017; Sannino, Engeström and Lemos 2016; Virkkunen 2006). Transformative agency occurs when practitioners collectively conceptualise workplace problems: by working collaboratively, practitioners enable a collective transformation of the activity as they interact with one another. By considering transformative agency manifestations in this study, I will investigate how practitioners change their practice.

Finally, I further the agentic dimension through recourse to relational, as well as, transformative activity. Relational agency, conceptualised in England, differs from transformative agency in its vantage point: although both focus on problem-solving, relational agency emphasises the individual's role, who shares his or her expertise with professional colleagues to generate change. The concepts of relational agency, relational expertise and common knowledge are tools for exploring the subjects' role in expansion (Edwards 2005, 2009; Hopwood and Edwards 2017). Edwards' exploration of agency has contextual relevance given her expertise in teachers' professional learning (Edwards 2011, 2015; Edwards and Ellis 2011). I shall use relational agency concepts to investigate how individuals act within the activity system to generate change in a school setting.

My study appears to be the first time that aspects of transformative and relational agency have been considered together in this way; a combined framework has the capacity to enrich understandings of teachers' collective agency and is a potential contribution to knowledge in this field.

3.2 Conceptualising agency and change

In this section I consider how the twin concepts of agency and change underpin my approach, discussing the merits of different conceptualisations before selecting a framework for my own study.

Regarding agency, my literature review started from an intention to see how much teacher agency featured in papers concerning teacher professional development and learning. In section 2.3.3 I noted definitions of teacher agency revealed during the review which were mostly concerned with generalisations such as 'capacity to take action', and with reference to 'choice', 'goals', 'intentional' and 'autonomy' (Charteris and Thomas 2017; Holmqvist and Olander 2017; King 2016; Maclellan 2016).

In section 3.2.1 I acknowledge the contested nature of conceptualisations of agency. I start in section 3.2.1.1 by considering broader, seminal definitions of agency before turning in section 3.2.1.2 to narrower definitions being used in the reviewed literature. I consider a range of definitions from autonomy to transformative agency which I illustrate in table 3.1. This analysis enables me to be clearer about where my own conceptualisation of agency might lie.

In the literature review, I looked at perceptions of organisational change. Vennebo and Ottesen's 2015 paper serves as a useful starting point not least as their theoretical framework of activity theory is the same as mine. They argue that much change and innovation in education is based on linear change models such as Fullan's (1985,1996) 'problem solving' or Lewin's 3-step model of 'unfreezing, moving and refreezing' which influenced Somekh's (2006) action research models. Fullan's early model may be regarded as linear where change is characterised as a process in which the stages of initiation, adoption, implementation, and institutionalisation are completed. This leads in the literature to an analysis of change using concepts derived from that linearity such as implementation and readiness and receptivity for change (e.g. Kondakci et al. 2017; Kondakci and Zayim 2015; Moroz and Waugh 2000; Rafferty, Jimmieson, and Armenakis 2013). Whereas change might also usefully be conceptualised, through practice-based approaches, as a more complex process involving 'the interplay of agentive actors, contextual conditions, available tools and local understanding of the issues at stake' (Vennebo and Ottesen 2015:200).

In reviewing conceptualisations of change in section 3.2.2, I begin with the work of Fullan as a seminal figure in educational change in the last twenty years. I do so because his view of the meaning of change has evolved over the years: he has become prominent in critiquing linear conceptions of change implementation and has moved to a more nuanced conceptualisation of educational change as '*purposeful action* that is both driven by experiences and in turn produces greater meaning'(2016: xiii, italics in original). I then consider the implications of conceptualisations of change focussing on the

system or the individual and discuss how together they may frame my expectations of change in this study.

In section 3.2.3 I bring together my conceptualisations of both agency and change to sketch out what I call an agency|change framework. My core priority at this juncture is to outline a framework which incorporates the theoretical elements I consider necessary to this study, namely the sociocultural perspective, an understanding of agency which considers the relation between the individual and the collective, and a conception of change which generates new learning.

3.2.1 Conceptualising agency

The complexity of conceptualising agency has been acknowledged elsewhere (see Emirbayer and Mische 1998; Eteläpelto et al 2013; Hitlin and Elder 2007) and the range of interpretations illustrates that this is a contested endeavour. In section 3.2.1.1 I briefly examine the canon of agency literature to identify the broader dimensions of commonalities and differences between current formulations of agency that are used in relation to in-service teacher education. I consider Giddens' agency-structure approach, followed by Archer's analytical dualism, Foucault's relationship between knowledge and power and Emirbayer and Mische's temporal agency. I then discuss how these conceptualisations underpin a general conception of teacher professional agency as seen in Eteläpelto's work. In section 3.2.1.2 I note that narrower definitions for teacher professional agency are found in the literature which might be useful to my study. I therefore analyse clusters of work from

current literature to reveal a range of agentic orientations evolving from the dimensions in the previous section.

3.2.1.1 *Broader conceptualisations of agency*

As outlined above, I start with the agency-structure approach. Giddens interprets the social world as constituted through the actions of human subjects, who are 'historically located actors' (1993:168). Individuals have intent and capacity for action, though there may be unintentional consequences. As individuals interact, they produce and reproduce the *structure* of the society around them, with Giddens suggesting that 'structure appears as both condition and consequence of the production of interaction' (ibid:165). Thus, action and structure presuppose one another, with structure as the 'constraining and enabling conditions of action', reproduced in praxis (Emirbayer and Mische 1998:1003). What I think is valuable in this approach is that the 'duality of structure' reflects the dialectics I espoused in Chapter One, where the same entity can be viewed from different points simultaneously. Similarly, if individuals have capacity for action, then that capacity can be influenced or stimulated which is the purpose of this study.

In contrast Archer's (1982) analytic dualism questions the structuration approach, arguing that Giddens' theory precludes the analysis of the 'interplay' between structure and agency. She also criticises structuration for a lack of temporal dimensions. Similarly, Bourdieu (1990) focuses on the influence of *habitus* on agency, whereby individuals are constrained by the expectations of their social circumstances. Here Kockelman's (2007) theorising is useful. Kockelman argues agency is a balance between

accountability (for taking actions) and flexibility (to be able to perform actions) (2007: 375). He argues that in some environments actors may have more means to achieve certain ends but often 'under conditions that are not of their own choosing'(ibid). Kockelman notes classical views of agency as humans' capacity for self-creation under mediating conditions, which contrast with more modern views of free will, resistance and 'mediating relationality'(ibid:376). He likens the latter to the structuration or practice theory of Giddens and Bourdieu: 'the ways in which an interaction-structuring system is continually restructured in interaction' (ibid). What I think is valuable in the analytic dualism approach is the emphasis on the temporal and *habitus*, i.e. the mediating conditions which surround actions.

Foucault's (2002) writings focus on the workings of knowledge and power; it seems worthwhile to consider how power and knowledge might influence agency. Taken in the sense of *savoir*, (knowledge of the facts) and *pouvoir* (power to perform actions), Foucault argues that knowledge is neither structure nor faculty, but 'a certain strategic relation in which man is placed' which is always 'partial, oblique and perspectival' (2002 :14). Again, in his analysis of power relations, Foucault notes that there is a

'system of differentiations that permits one to act upon the actions of others, (...) differences in know-how and competence, and so forth. Every relationship of power puts into operation differences that are, at the same time, its conditions and its results' (2002:344).

These twin concepts of knowledge and power suggest that agency may depend upon that strategic relation in which one finds oneself which may constrain or enable actions, in much the same way that the power differential does. This leads to what Kockelman (2007) terms a connection between

flexibility/accountability and knowledge/power which in turn develops into the concept of distributed agency, which I discuss in section 3.2.1.2. What I think is valuable in a Foucaultian approach is to consider whether power and knowledge within the research setting may influence the forms of agency that are enacted.

In contrast to the structure-agency debate, Emirbayer and Mische consider agency as: 'a temporally embedded process of social engagement' (1998:963). Individuals, as they reflect, can be oriented to more than one temporal aspect at the same time. The elements of agency are characterised here as 'iterative' (past actions may be repeated), 'projective' (future actions are conceived) and 'practical-evaluative' (current actions are judged). Emirbayer and Mische contend that, rather than structuration or analytic dualism, the '*double constitution of agency and structure*' is more apposite i.e. 'temporal-relational contexts support particular agentic orientations, which in turn constitute different structuring relationships of actors toward their environments' (1998:1004). What I think is valuable in Emirbayer and Mische's approach are the temporal aspects which suggest that (mis)understandings of past practices may have an influence on the actions that practitioners may take in the present or indeed the future.

Finally, in my discussions of professional learning in section 2.3.2, I note the concept of professional agency and I turn here to Eteläpelto et al.'s (2013) paper for reflections on professional agency in the field of education.

Eteläpelto et al. acknowledge the contribution from Giddens' view with respect to an individual's power to act. Eteläpelto et al. argue that 'both official power

relations (manifested in structural power relations and managerial practices), and unofficial power (manifested as workplace games and passive resistance) are important facets of professional agency in the workplace' (2013:50). This concept of power relations echoes Foucault and may have implications for my research. Likewise, Eteläpelto et al. note the 'relational autonomy in the subject's exercise of the self' that Archer's theory of agency espouses (ibid:51), which contributes to the identity dimension in Eteläpelto et al.'s professional agency. This is termed a 'subject-centred sociocultural approach to agency' which by focusing on the individual's development also incorporates a temporal element which is influenced by the work of Emirbayer and Mische (ibid:60). What I think is valuable in the professional agency approach is that it incorporates aspects of Giddens', Archer's, Foucault's and Emirbayer and Mische's thinking to produce a conceptualisation of agency in the workplace which is quite broad. However, I now consider if there are narrower conceptualisations of agency which might provide a closer insight into practitioners' agency in an educational setting.

3.2.1.2 Narrower conceptualisations of agency in the professional learning literature

The debates concerning agency discussed in the preceding paragraphs are in turn played out in the literature I reviewed. To illustrate the range of conceptualisations of agency found in the literature, I have created Table 3.1 below, which draws on Charteris and Smardon's (2018) notion of typology to set out various narrower concepts of agency. Whilst Charteris and Smardon's paper concentrates on a typology for student-learner agency, I want to illustrate teacher-learner agency and opt for orientation to emphasise

differences. I consider that ‘type’ emphasises sameness (cf. Emirbayer and Mische 1998) and has closer links to the ‘ideal-types’ of social psychology (see discussions in Hitlin and Elder 2007). So, in drawing up Table 3.1 below, I take Emirbayer and Mische’s term *agentic orientation* in the first column to stand for the different conceptualisations of agency. I consider that ‘agentic orientations’ incorporates the notions of choice, flexibility and intention that I noted earlier in section 3.2.1.1, and indeed dynamism, whilst also acknowledging the role of structure. In the second column, I note authors active in this field. In the third column the *relation between agency and structure* emphasises the correspondence between the actions undertaken and the structuring environment. Finally, the *temporality* column considers which temporal aspects might be found within a given orientation, which are of interest to my study of teacher development and learning which aims to engage with all three aspects. The range of orientations is then exemplified in the paragraphs following the table.

Agentic Orientation	Author	Relation between agency and structure	Temporality
Autonomous	Dweck (2000); Ketelaar et al. (2012); Ryan and Deci (2000)	Volition accompanies act Individual actions Less emphasis on influence of environment	Iterative
Self-efficacious	Bandura (1997)	Belief in own capacity to execute and control course of action Individual and collective actions	Projective
Ecological	Priestley, Biesta and Robinson (2015); Biesta and Tedder (2007); Oolbekkink-Marchand et al. (2017); Priestley, Edwards and Priestley (2012)	Personal capacity to act constrained by environment, addition of temporal aspect Individual actions	Iterative; projective; practical-evaluative
Distributed-systemic	i) Butler, Schnellert and MacNeil (2015); Enfield 2017a	i) Individuals sharing agency across system ii) Individual collaborates with others in a social unit	Practical-evaluative
Distributed-semiotic	i) Enfield (2017b); Kockelman (2007); Zuckerman (2017)	i) Individuals sharing agency across artefacts and rules, as well as actors ii) Joint actions	Changeable
Relational	Edwards (2005,2009,2011, 2015)	Working with others to solve problems, recognising others' interpretations and aligning your response Individual collaborates	Practical-evaluative
Transformative	Haapasaari, Engeström and Kerosuo (2016); Sannino (2015a); Virkkunen (2006)	Taking action to transform working practices; interaction underpins learning and development process Collective actions	Iterative; projective practical-evaluative

Table 3-1 Different conceptualisations of Agency

The autonomous orientation as revealed in individualistic, often deterministic, perhaps traditional views of agency, is a common orientation (for example Ryan and Deci 2000). It incorporates ideas of will, choice and control (Bodman, Taylor and Morris 2012; Ketelaar et al. 2012), but also of resistance (Kockelman 2007). As might be seen in the work of Day (2020), amongst some teachers, individual autonomy which focuses on the primacy of existing practice may hinder pupils' academic progress.

Within an *autonomous orientation*, teachers may ask to receive training on an issue such as reading comprehension pedagogy which is the focus for this study, thus taking purposeful action or ownership (cf. Ketelaar et al. 2012). Autonomy can be linked to cognitivism, motivation and theories of the self; for example if a teacher encounters a professional problem and produces a helpless response by relying on senior leadership to solve the problem or a mastery response by looking for a solution himself (see Dweck 2000). From my perspective, the autonomous orientation provides a recognised, straightforward conceptualisation for teacher agency. However, a key limitation is that autonomy is less likely to accommodate a collective or relational perspective which is a central tenet of this study.

In *the self-efficacious orientation*, an agentic response can be seen in an individual's - or a collective's – willingness to engage with the following principles: mastery experiences (persisting with difficult tasks); vicarious experience (observing an experienced other); verbal persuasion (being open to feedback); social and physiological affect (acknowledging emotions)

(Bandura 1997). This social cognitive orientation is quite common in research into teacher agency (see the seminal work of Tschannen-Moran and colleagues 1998, 2007), especially where related to teacher learning communities as discussed in sections 2.3.4 and 2.4.2 (Butler, Schnellert and MacNeill 2015; Jones and Charteris 2017; Wood 2007; Zimmerman 2006).

Within a *self-efficacious orientation*, teachers may decide to actively set up vicarious experiences, for instance observing skilled colleagues, as I found in my own small-scale study which I discuss in section 1.3 (Pattison 2104a). From my perspective, self-efficacy's future orientation enables practitioners to envisage expanding their capability to act, which is its key strength, alongside self-efficacy's acknowledgement of the role of affect in influencing actions. My literature review also indicates that self-efficacy can be experienced as a collective orientation (Pyhältö, Pietarinen and Soini 2015). However, a key limitation to self-efficacy from my point of view is that social cognition studies concentrate less on the setting in which practice is enacted and the relations between actors, the setting, and the activity.

The ecological orientation is embedded in the sociocultural perspective of situated social practices, where personal capacity is constrained by its environment (Biesta and Tedder 2007; Oolbakkink-Marchand et al. 2017; Priestley, Biesta and Robinson 2015). It is a relational concept: 'human agents are reflexive and creative and can act counter to societal constraints as well as with societal possibilities' (Priestley, Edwards and Priestley 2012:197). It is also a broad concept incorporating Emirbayer and Mische's temporal aspects, i.e. teachers have differing capacity for action at different times (ibid) and the

use of tools, i.e. children being given ‘learner maps’ to help them negotiate learning in both home and school environments (Charteris and Smardon 2018:59).

Within an *ecological orientation*, teachers’ beliefs may come into conflict with discourses promulgated within an organisation (Biesta, Priestley and Robinson 2015). This can be illustrated by my finding, from early ethnographic data from this study, that many teachers were uncomfortable with leadership discourses around peer observations of classroom practices (see section 4.4.1). From my perspective, ecological agency’s strength lies in addressing issues of environment and its positioning within sociocultural theories which form the framework for this study. An ecological orientation also regards individual teachers as agents of change (Priestley, Biesta and Robinson 2015). However, as Biesta and Tedder acknowledge ecological agency has an ‘individualistic bias’, as it is concerned with how individuals respond to problematic situations (2007: 147) and later studies are still concerned with personal factors and the teachers’ environment (e.g. Oolbekkink-Marchand et al. 2017). This lack of attention to a collective agentic perspective is a major limitation from my point of view because I am interested in how teachers respond collectively to the problems they uncover in practice.

Distributed agency appears to have two separate orientations in the literature: one in relation to distribution across a system which I have called the *distributed-systemic* orientation and the other in relation to agency being distributed across signs and artefacts, as well as people as actors which I have called the *distributed-semiotic* orientation.

Firstly, in a *distributed-systemic orientation* the individual acts to bring about system-level change through collaborative inquiry (Butler, Schnellert and MacNeil 2015). Butler, Schnellert and MacNeil focus on agency from a sociocultural perspective linking it to *distributed leadership*, which they see as underpinning teacher learning communities where teachers set their own goals, as discussed in section 2.3.4. Butler, Schnellert and MacNeil also draw on self-efficacy (see discussion above). They consider agency in terms of ‘goal-directed’ controlled behaviours, where the agent controls a situation, selects a behaviour, and anticipates how it might be interpreted, before committing to it. However, Enfield (2017a) argues distributed agency also involves being evaluated by others, being entitled, or even obligated to act in certain ways. If agency is conceptualised as having elements then these can be divided up and distributed between more than one individual, supporting the argument that ‘the locus of agency is the social unit’ (Enfield 2017b:10). This may lead to joint action with a corresponding joint commitment, in the form of a ‘social pact’ (ibid:12).

Secondly, I consider a *distributed-semiotic orientation* which I have taken from Zuckerman’s argument that agency might be ascribed through ‘an ongoing semiotic process’ (2017:254). He considers how practitioners use signs and artefacts to signal when they wish to be accountable for actions - or not. So rather than conceptualising agency ‘in terms of moments of causality’, agency may be considered in terms of causal relations being made apparent (ibid). Zuckerman suggests that actors’ accounts of actions are ways of communicating agency, which can often be contested, with some actors being better at conveying arguments owing to position or access to resources.

Within a *distributed-systemic orientation*, teachers may for example be exerting agency when they all decide, by way of Enfield's social pact, to lobby senior leadership to purchase an educational software package. Or, when teachers themselves decide to investigate a pedagogical problem they experience. Within a *distributed-semiotic orientation*, sharing documentation with others at a staff meeting allows the individual teacher to signal through the artefact that they are willing to improve their practice through training courses. From my perspective, the distributed-systemic orientation has some advantages through a focus on collaborative inquiry for change and teachers being involved in goal setting. However, the lack of an historical dimension proves a key limitation as teachers may neglect previous experiences' impact on current work.

Similarly whilst the focus on artefacts and rules in a distributed-semiotic orientation supports an investigation, for example, into *how* teachers enact their professional practice through their use of training manuals or 'tips for teachers' instructions, there are limitations to this approach. Enfield subscribes to a view of individuals acting together in a single social unit which he terms joint action: 'the fusion or unifying of individuals into single, compound units of agency' (2017b:11). There are some temporal aspects to this orientation which were not present in the distributed-systemic orientation, as practitioners may move in and out of the social unit. Yet the distributed-semiotic orientation supposes joint commitment and I would argue that not all teachers are likely to experience beliefs about pedagogy in the same way as their colleagues. There may be tensions in the implementation of new reading comprehension strategies as we saw in the literature review (e.g. Porath

2016). I require a conceptualisation of agency which will allow for differences in how individuals experience agency within a group.

The relational orientation specifically examines different ways in which practitioners collaborate to solve problems but it also recognises that there are professional benefits in understanding others people's interpretations of practice problems and aligning one's response to another practitioner's in order to achieve desired outcomes (see Edwards 2005, 2009, 2011).

Relational agency is linked to activity theory (Edwards 2011) (see discussion in section 3.3). It is relatively collaborative in that relational agency encourages practitioners 'to seek and give support' to others and develop 'mutual understandings' (Edwards and D'Arcy 2004:154). Relational agency also incorporates temporal aspects, with Edwards strongly arguing for the evaluative aspects of agency and as an 'emergent phenomenon' (2015:780).

Within a *relational orientation*, individual teachers may decide to collaborate with others to produce new schemes of work, or identify individual pupils who require support or, in Edwards (2011) later work, collaborate with other professionals to promote pupil wellbeing. From my perspective, relational agency allows me to examine how teachers develop their learning and solve problems, key tenets of this thesis. It also examines relations between the practitioners and how the relational aspects motivate their actions. There are therefore few limitations for me, except that the collaborative element is only seen from the individual perspective, so I also require an agentic orientation which focusses on the collective from the outset.

The transformative orientation is a conceptualisation of agency which is linked to organisational development and expansive learning (Haapasaari, Engeström and Kerosuo 2016; Sannino 2015a; Virkkunen 2006). It is thus suited to an investigation in a professional setting such as a school. As practitioners uncover problems or contradictions in their activities, collective transformative agency allows practitioners to develop their activities and solve the problems. Agency here is seen as 'breaking away' from the constraints of an activity and 'taking the initiative' to change it (Virkkunen 2006:49). Interestingly, Sannino (2015) notes that individuals may initiate change but that collective endeavours are required to sustain the changes.

Within a *transformative orientation*, teachers may question the decisions of senior leadership, for example over effective timetable organisation. Such resistance indicates the start of the change process which continues with an evaluation of the problems, trialling models and taking actions to produce a changed form of practice (Haapasaari, Engeström and Kerosuo 2016). Kramer (2018) also argues that transformative agency can inform teachers' reflective practices by enabling teachers to question the status quo and be open to projective possibilities. From my perspective transformative agency allows me to specifically examine how practitioners engage collectively with perceived contradictions in practice in their workplace. Again, there are few limitations, although the role of the individual in instigating change appears underexamined.

The preceding orientations illustrate differing conceptualisations of agency. Autonomy is an interesting concept in professional situations, raising

questions of whether a teacher as practitioner has choice in the workplace and to whom she might be accountable. An individual's self-awareness is raised by the self-efficacy orientation, for example primary teachers with a greater sense of self-efficacy are more likely to benefit from vicarious experiences or develop mastery, although they are still influenced by workplace *habitus* (Pattison 2014a). These findings link with the understanding of the professional environment raised in ecological agency, which, like distributed agency, points to the issue of power. Taking Ashwin's distinction: in an agentic description, power is 'relational, that is it plays out in different ways in different situations', whereas with a structural approach, power is 'systemic, it is related to how agents are positioned' (2009:22). In this study I foreground the agentic dimension of change processes, rather than the structural, because I want to see how power 'plays out' in a setting where teachers may have very different motivations for engaging in a changed pedagogy for the teaching team. Relational agency considers the relations between different professionals and how they align with one another, but from an individual perspective. Transformative agency considers the problems that professionals encounter and how they solve them collectively but neglects the individual aspect.

I intend to draw on both relational *and* transformative agencies in this study as together they enable me to examine the interplay of the individual and the collective in bringing about change in the workplace (A full analysis of the congruence of relational and transformative agency with the theoretical choices made in this chapter follows in sections 3.6 and 3.7.)

3.2.2 Conceptualising change

By change, I mean alterations to the conditions and nature of work that professionals undertake in organisations and the actions they undertake to bring about those changes. Lewin's (1947) notion of planned change through learning is useful here, not least because Lewin focussed on change at a group, or collective, level. However, change is also unpredictable and may not be interpreted as anticipated or may be resisted (Eraut 1994). Goodson (2003) argues that change is a condition of the social setting rather than an outcome and as such the professional's personal understandings of change are important, i.e. at a micro level. Under a social practice theory argument this is because the workgroup develops its own social reality with norms and values. Trowler, Fanghanel and Wareham argue that process changes are embedded in social interactions in the work group at a meso level. This created social reality 'will impinge in important ways on any proposed changes to practices, which will be interpreted and implemented in ways mediated by pre-existing local cultures' (2005:436). So, as I concluded in the preceding section on agency, considerations of the commitment of both the individual and the collective are necessary for change implementation.

This thesis focuses on educational change which has often been experienced as school effectiveness, school improvement or school restructuring and, to a lesser degree, re-culturing programmes, in other words at the macro level (see Fink and Stoll, 2005). Hargreaves et al. argue that 'studies of what works and what doesn't across all the different change strategies have created a truly powerful knowledge base about the processes, practices and

consequences of educational change', but that has left a legacy of complexity and uncertainty about educational change which still needs to be addressed (2005:ix). By looking at the agency of teachers in that educational change process I aim to make some modest contribution to understandings of educational change.

I turn here to the work of Fullan to whom I have already referred in sections 1.3 and 2.1 as pertinent to a conceptualisation of educational change. Fullan has been a major influence in the field of educational change during the last twenty years, the period related to my literature review. I have also found Fullan's succinct analysis helpful for understanding how I might think about the implementation of a change process and particularly what might happen at the local level with the teachers themselves. The focus on collaboration by encouraging school leadership to 'use the group to change the group' represents a similar approach to the one I adopt (Fullan 2016b: 261).

Objectively, Fullan (2016b) argues, educational change has three dimensions: firstly, change of *materials* (i.e. teaching resources), secondly change of *approach* (i.e. new pedagogy) and thirdly changes in *beliefs* (i.e. new theory). If I were trying to implement a new instructional practice in a school according to Fullan's precepts, all three of these dimensions would be necessary to achieve the goal of implementation. In this instance, the third dimension of belief change has already been highlighted in the literature review, where I discuss evidence for the effect of beliefs on implementation (see section 2.5). The empirical study for this thesis sets out to investigate the first two: what happens if teaching resources are changed, how (much) does a new

pedagogy affect the use of the resources and to what extent are they interdependent? These three dimensions are conditions for changing practice and arguably all three are required for meaningful and sustainable change.

Incorporating all three dimensions in change efforts arguably renders change more meaningful, or real, but changes in conceptions and behaviour may make overall real change problematic.

Real change, then whether desired or not, represents a serious personal and collective experience characterised by ambivalence and uncertainty, and if the change works out, it can result in a sense of mastery, accomplishment and professional growth (Fullan 2016b:31).

The dilemma in educational change, Fullan continues, is that practitioners must implement change faithfully – what Fullan calls ‘the fidelity perspective’- and that change should result from adaptations implemented by users – ‘the evolutionary perspective’ (2016b:42). In developing the research design for this study, I should therefore consider how to maintain implementation fidelity whilst incorporating practitioner agency, which may ensure that the implemented change is desired by the practitioners.

Furthermore, Fullan argues that real change requires deep learning, rather than surface adoption which would be akin to just implementing the *materials* dimension of change, echoing concepts developed elsewhere (e.g. Marton 2014; Trigwell, Ashwin and Millan 2013). Deeper learning reflects a change in the *approach* dimension and potentially the *belief* dimension as well. When I finalise my research design, I need to consider how I can potentially bring about changes to teachers’ pedagogy (the approach) and whether the change I seek can be sufficiently deep to affect beliefs.

Educational change has always been linked to teacher development, but as I revealed in Chapter Two development does not always 'establish opportunities for teachers to confront the assumptions and beliefs underlying their practices' (Fullan and Hargreaves 2014:5). Making meaningful changes may entail setting aside a practitioner's subjective reality, i.e. a *belief* change, in order to adopt a new reality of changed practice and shared meanings. Fullan's implication being that change must happen at the individual level before it becomes collective.

Fullan (2016b) seeks to establish educational change's 'new meaning' by focusing not just on the macro changes of national reforms, nor the micro changes of targeting individual teachers' performances, but the meso level where teachers collaborate. Here there lies a 'shared meaning' of change, which for Fullan is both essential and difficult to achieve as 'it involves simultaneously individual and social change' (ibid:19). This collaborative, meso level is the setting of the current study, so the research design (see section 4.3) must consider not only practitioner agency to encourage implementation fidelity, but also how that shared meaning is developed in a structured fashion.

Fullan has been previously criticised for not taking sufficient account of deprivation in his models of educational change (Noguera 2006), although he refutes this argument by saying that context is important for change and he has focussed on the economic environment of schools in change programmes (Fullan 2006). Regarding implementation fidelity as discussed above, Fullan has been criticised for concentrating on the *innovations* introduced into a

school, whereas Hubers (2020) argues that it may be more pertinent to focus on the school system which would then entail examining *learning and behavioural processes*. Instead of considering sustainability at the end of the innovation as Fullan has done, Hubers advocates considering sustainability right from the start of the change process. Hubers argues that any definition of sustainability should include changes made to teaching practice. Indeed, for Hubers sustainable change is a process of both individual and organisational learning; understanding the learning process is a key methodological consideration in educational change research.

As my experience of educational change, which has provided personal motivation, and the contextualisation of teachers' professional development in section 2.3.2 suggests, there is a subjective meaning to educational change and as such educational change will always be contested. The three change dimensions of *materials, approach and beliefs* may not be experienced by practitioners and researchers in the same way. Teachers' experiences of change are not always positive, nor profound which influences their response (see section 2.4.2). Change can imply criticism of existing practices and teachers are often reluctant to upset 'cordial' professional relationships (Lockton and Fargason 2019). As the researcher responsible for the design, I also should understand the 'phenomenology of change' - how it is experienced, rather than just its intent- if I want the change to be both meaningful and sustained (Fullan 2016b:16); the context of the system in which it is experienced; as well as the learning of the individual and the organisation (Hubers 2020).

One way of thinking about how change is experienced is to employ an expansive methodology (see discussion in section 4.2.1). New practices mean challenges to existing ones and some may experience a need to defend those existing practices. Nummijoki, Engeström and Sannino suggest that this may lead to cycles of both defensive and expansive learning as practitioners adjust to change: 'If and when expansive learning is successfully accomplished, the participants construct a qualitatively new pattern and concept of their activity' (2018:227). Thus, expansive learning can be seen as a response to recurrent dilemmas experienced in an activity which leads to change, what Engeström (2016) terms 'learning what is not yet there'.

3.2.3 Selecting an agency|change framework for this study

In section 3.2.1 I have argued that conceptualising agency remains a complex process, and that conceptualisations which maintain iterative and practical-evaluative aspects, as well as a dialectic understanding of agency and structure offer the most appropriate agentic orientations for this study. In section 3.2.2 I have argued that educational change is more effective within a multi-dimensional, contextual approach, which considers sustainability from the perspective of teacher *and* organisational learning. In this section I consider whether my perspectives on agency and change can be brought together to form an agency|change framework commensurable with my theoretical position which serves to explicate findings from this study and contributes to the literature.

Fullan argues that 'successful change processes have a bias for action' (2016b:54), which implies agency is inherent in change. It is useful to note that

agency is not experienced the same way in similar contexts:-change over time may be characterised as ‘bounded agency’ when teachers act within their given context or ‘contested agency’ when teachers experience limitations to their professional beliefs (Oolbekkink-Marchand et al. 2017). Such dilemmas are examined in the concept of professional agency in section 2.3.2 (Eteläpelto et al. 2013; Eteläpelto, Vähäsantanen and Hökkä 2015; Holmqvist and Olander 2017; Pietarinen, Pyhältö, and Soini 2016; Pyhältö, Pietarinen, and Soini 2015; Toom, Pyhältö, and Rust 2015).

There is an established literature concerning teachers as change agents (Carse 2015; Fluck and Dowden 2010; Fullan 1993; Lukacs and Galluzzo 2014; Watson 2014), who share the characteristics of ‘mastery, collaboration, entrepreneurship, and lifelong learning’ (van der Heijden et al. 2018: 349). My study prefers to focus on collective agentic orientations because they facilitate contextual, systemic examinations through a sociocultural approach, which I have argued in section 3.2.2 are more likely to lead to sustainable change. Whereas, whilst choosing research into individual change agents through a socio-cognitive approach and a self-efficacy orientation is feasible and could be used collaboratively, self-efficacy forfeits the practical-evaluative aspects I have judged important. There is scope here for an agency|change framework to support the development of teachers as change agents by developing relational understandings within the system.

Korthagen (2017) has suggested that one of the problems with educational change is that a rational view tends to assume that influencing teachers’ thinking is enough to affect change, whereas, he argues, teacher learning is

multi-level and multidimensional. Priestley, Biesta and Robinson have highlighted the iterational value of professional histories as ‘resources for judgement and action’ (2015:139), rather than as producers of reified practices. They also argue the importance for teachers of Emirbayer and Mische’s (1998) practical-evaluative dimension, which may be ‘powerfully shaping (and often distorting) decision making and action’ (2015:141). In my research context, multidimensional learning would be conceptualised as teachers’ opportunities to learn new pedagogies and shape practice in group settings, which value past experiences, stimulate agency and aim to evaluate changes.

This suggests that an agency|change framework which examines how teachers’ agency affects- and interacts with- changes in practice would be a fruitful means of understanding the interplay between agency and change. This is not about enabling autonomy, as ‘(t)eachers granted autonomy may simply fail to achieve agency as they, for example, habitually reproduce past patterns of behaviour, or as they lack cognitive and relational resources’ (Priestley, Biesta and Robinson 2015:142). I would argue to affect educational change we should develop teachers’ collaborative learning in ways which allow changes to develop and be sustained, given that collective efforts of learning may be more effective than individual efforts (see Fullan and Hargreaves 2012). Encouraging orientations to agency which transform learning, plus examining how individuals engage with others collectively and relationally to change practice during that process, offers such an opportunity.

If I seek to develop in-service teachers' professional learning in the workplace as I set out in section 1.3, then I should design a research project which aims to stimulate the development of cognitive resources for change. The preceding conceptualisations of agency and change have enabled me to propose an agency|change framework which sets out a means of considering how teachers' agency may be involved in generating change. My framework therefore brings relational and transformative agency together as both seek 'possibilities for collective change efforts' (Haapasaari, Engeström and Kerosuo 2016:233). The former brings concepts of professional expertise and the latter brings the concept of expansive learning both underpinned by activity theory; together they might stimulate the transition to collective actions and generate change which is contextualised, system-wide and potentially sustainable.

This chapter continues by setting out my position in relation to activity theory and the role of double stimulation in expanding teachers' learning, before turning to a more detailed discussion of my two chosen agentic orientations. By juxtaposing relational and transformative agency, I seek additional ways of conceptualising agency and change in teachers' professional learning.

3.3 Activity systems: a framework for examining change

Activity theory derives from the work of both Vygotsky and Leont'ev, with Engeström's (2014) Activity System model positioning human *activity* as collective and sustained endeavour oriented towards an (evolving) common purpose. The activity system serves as a model for examining both the dynamics and historical change within a unit of activity. An activity system is

thus a conceptual means of examining 'the systemic whole, not just separate connections' within a single collective activity (R. Engeström:258). Given that it is 'a collective, artefact-mediated and object-oriented activity system', it is multi-voiced and potentially conflictual (Engeström 2001:136-7). The ability to conceptualise systemic activity in a professional setting where there are complex interactions between practitioners will be useful in this study.

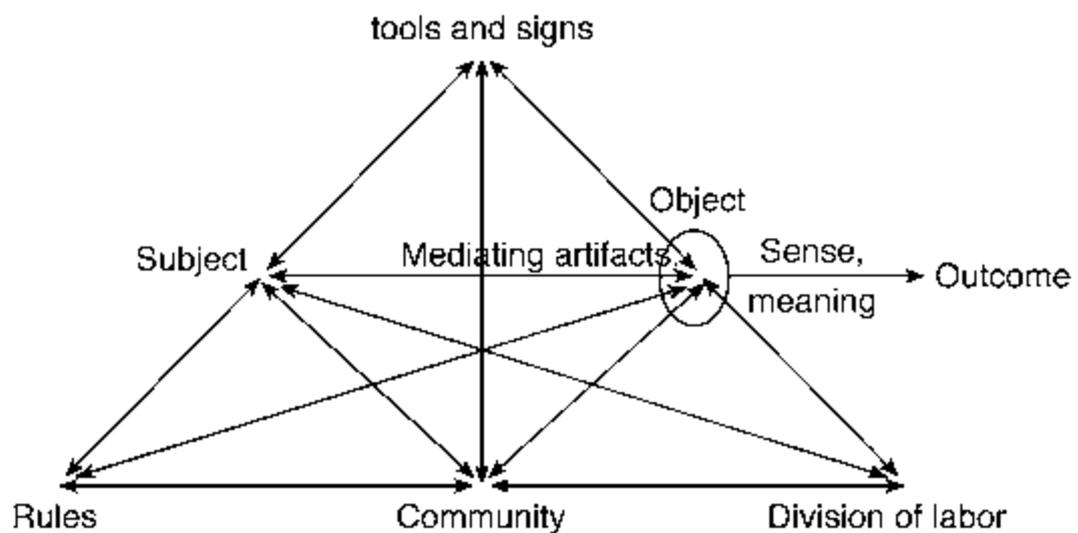


Figure 3-1 Engeström's second-generation activity system (2001:134)

The model in figure 3.1 above depicts the internal relationships within the triangle, showing how elements in the system mediate the outcome between subjects and their object. I focus here on the following Activity Theory principles: the activity system as the unit of analysis; object orientation; mediation; the distinction between activity and actions; contradictions as a source of change and development (Engeström 2008a).

The activity system as the unit of analysis:

- The *subject* refers to the individuals who carry out the actions making up the activity, in this study the teachers.
- The *object* is the object of activity- or problem- which the subjects have collectively selected, and which can be 'material or ideal' (Virkkunen and Newnham 2013: 33). It is useful to consider the object as a *construct* rather than a thing (Engeström, Sannino and Lemos 2016) and as transitory, changing as practitioners' conceptions of the object change (Sannino Engeström and Lahikainen 2016). The object in this study is the teachers' teaching practice or pedagogy.
- The *outcome* is an object imbued with greater sense or meaning through transformation, in this case, changed practice
- *Tools and signs*, or artefacts, have significance to the teachers' working practices (for example reading comprehension texts used by teachers);
- *Rules* are accepted practices and regulations in the workplace (for example guidelines for assessing children's comprehension skills);
- *Community* represents individuals acting within the system (teachers, support staff or parents);
- *Division of labour* relates to the allocation of daily duties or tasks.

My study aims to take the object of reading comprehension pedagogy and work with the teachers to arrive at a changed conceptualisation which impacts their practice.

Object orientation relates to the way objects- or as we saw earlier, problems- regulate activity in the activity system. We might conceptualise object orientation here as the way reading comprehension is currently taught in the setting. When actions are performed relating to the object, the subjects' conception of the object changes, giving it a second property, or 'reflection' (Stetsenko 2005:76). Whether mediated by language or artefact, the object becomes the 'sense-maker' (Kaptelinin, 2005:5); thus object-oriented actions have 'potential for change' (Engeström 2001:134) and are 'collectively meaningful'(ibid:136). If the object resists the practitioners' efforts, i.e. they struggle to find a suitable change to teaching methods, the object also functions as a purpose which *motivates* their actions (Sannino, Engeström and Lahikainen 2016). Thus, the tensions between the individual and the mediational means leads to a process of transformation (Wertsch and Rupert 1993).

Mediation, where acts are not just a response to a stimulus but have a cultural component (Engeström and Sannino 2010), is conducted through tools/signs, rules, community and the division of labour. For instance, practitioners' experiences act as mediators of signs or rules; mediation may thus resolve or manage contradictions (Virkkunen and Newnham 2013).

The distinction between activity and actions is as follows. *Activity* is a collective and dynamic *process*, which we might conceptualise here as the work undertaken together by teachers to promote children's learning. *Actions* are 'manifestations of the activity system' (Engeström 2008a:27), undertaken by *individuals*, for instance teachers change teaching strategies if children do not understand a concept. Thus, *actions* have a specific goal (children's understanding) and are time-bound (preparing children for standardised tests) (cf. Virkkunen and Newnham 2013). Activity and actions are mutually constituted, the one being dependent on the other; however, difficulties may arise when actions become routine and do not respond to the problems experienced in the activity. The intervention in this study is intended to enable practitioners to recognise and respond to problems in the activity by working as a team (Engeström 2008a).

Contradictions as a source of change and development: these are the problems which are recognised in the system and to which practitioners respond; change can only begin if contradictions are acknowledged (Engeström 2001). As teachers discuss and understand the historical reasons for tensions in the activity (for example why one teaching strategy rather than another is employed), they can start to explore solutions. The historical aspect is significant as it acknowledges the developmental layers in the activity system and the specifiable nature of activities, all of which facilitate the interpretation of workplace learning processes (Engeström 2008a, 2014). Contradictions - or tensions - also reveal the relational aspects in the activity system, for instance between division of labour and community.

Engeström's activity system model has encountered criticism: for neglecting emotional and ethico-moral aspects (Roth 2009); for underplaying aspects of 'conflict and social antagonism' (Avis 2007:175); for focussing excessively on the object to the detriment of the subjects in the activity (Reeves, 2010). Nonetheless, the activity system model provides a vehicle for exploring subjects' relationships with their working environment which will be central to this study.

3.4 Double stimulation: a tool for promoting change

Double stimulation refers to the use of artefacts and tools to stimulate learning, following Vygotsky's (1978) seminal work on the function of mental stimuli in children's learning. For instance, a child with a broken toy (first stimulus) might be given tools to mend it (second stimuli). Vygotsky argues that a simultaneous second set of stimuli creates temporary links which develop significance for the learner; i.e. something with 'culturally appropriate general affordances but also sufficient ambiguity and malleability' which the subject imbues with his/her own meaning (Engeström 2007b:374). Thus the first stimulus is a 'problematic situation' which is recognisable in 'a conflict of motives' (abandon the toy or find out how to fix it); the second stimulus provides an auxiliary motive (if I fix it with a screwdriver, I can play with the toy) and the artefact becomes 'invested with meaning', allowing the child to transform the situation through his own actions (Engeström and Sannino 2016:404).

In adults, Sannino sees double stimulation as a 'mechanism' for problem-solving so practitioners 'intentionally break out of a conflictual situation'

(Sannino, 2015:2). It is the value of these temporary links (created by second stimuli) in problem-solving which will be of interest to this study.

The principle of double stimulation is incorporated into formative interventions (explained further in section 4.3), with stimuli supplied by the researcher-interventionist 'provoking and sustaining an expansive transformation process led and owned by the practitioners' (Engeström 2011:606). Double stimulation experiments are an abstraction of real-life problems (Virkkunen and Schaupp 2011), where current problems are held up as a mirror or first stimulus to the development of ideas (Virkkunen and Newnham 2013).

I shall use the double stimulation principle as the cornerstone of my research design (see chapter 4). Initially I will provide participants with opportunities to confront current problematic situations (first stimuli), then present second stimuli such as artefacts or recordings of present practice with which to transform them. Stimuli of participants' own choosing will be a feature of problem-solving processes in later intervention sessions, as befits a study of agency.

3.5 Expansive learning: a concept for revealing change processes

Learning by expanding is a theoretical framework and an agenda for interventionist research in concrete human activities undergoing historical transformations (Engeström, 2014b: xxxv)

Having established the collective nature of activity in section 3.2, the learning which takes place within the system also needs to be conceptualised as a collective process, allowing practitioners 'to analyse, experiment with and reconceptualise the object of activity' (Sannino Engeström and Lahikainen

2016:248). If practitioners learn expansively, the object is changed or *transformed*; they can reconceptualise the *purpose* of the activity (Engeström and Sannino 2010). Expansive learning is therefore a means of conceptualising workplace learning which supports organisational change (Engeström, 2014a).

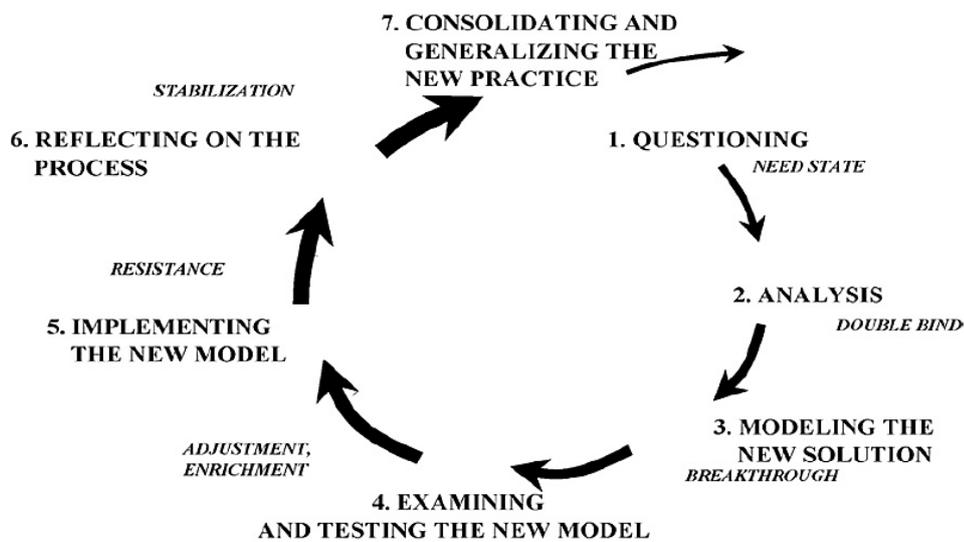


Figure 3-2 The expansive learning cycle (Engeström and Sannino 2010)

There are seven discrete actions in expansive learning cycles (figure 3.2), which incorporate ‘specific epistemic or learning actions’ (Engeström, 2008:130). These repeated processes, examined in detail in section 3.4.1, enable learners to produce collectively a new form of knowledge.

In expansive learning, practitioners move from action to activity i.e. from separate actions by individuals with a beginning and an end, to a collective activity which has a systemic self-reproducing character, although its form can change (Engeström and Sannino 2010). Contradictions, which we met earlier in section 3.2 can be illustrated by conflicts in the system which are short-lived, for example scheduling clashes, or long-term significant systemic or

developmental tensions, such as prioritising different curricula. Thus, contradictions are the 'driving forces of expansive learning' enabling new objects to be identified and motives established (ibid: 7). Engeström and Sannino consider motives for change to be located within the *object*, rather than the subjects themselves, so opportunities to interrogate the object are important.

3.5.1 Defining expansive learning actions

The cyclical nature of expansive learning actions is illustrated in figure 3.2 above, which can generate further improvements to practice.

The first action is *Questioning* which allows practitioners to problematise their practice, criticising or noting its value to different practitioners; for instance, in rejecting established reading comprehension pedagogies, they recognise the contradictions in the object of activity (see section 3.3).

The second action is *Analysis*, which can be split in two. *Actual-empirical analysis* concerns current practice, for example how is comprehension taught now? *Historical analysis* enables practitioners to trace the origins of current practice, for example how was comprehension previously taught? (cf. Engeström and Sannino 2010). The two phases of analysis may reveal tensions between current and historical activity which may explicate contradictions.

The third action *Modelling* is an iterative process where practitioners suggest solutions to the identified problem. New instruments may act as a

'springboard', enabling practitioners to 'compare and contrast' points of view (Engeström 2008a:116); for instance, practitioners share examples of reading comprehension strategies they have uncovered. With varied individual motives, constructing a new collective object can be challenging (Miettinen 2005).

Examining and testing the new model, the fourth action, allows practitioners to explore the model's potential and limitations, for example they trial the new model with some classes. There are tensions here with old forms of the activity; resistance to - or criticism of- the model is manifested by *disturbances* or 'unintentional deviations from the script', as actions depart from previous behaviours (Engeström 2008a:51).

The fifth action is *implementing the new model*: the new reading comprehension strategy is deployed in all classes in the school. Practical applications of this new model may be resisted by some practitioners, especially if models do not cohere with existing activity system elements such as *rules*. However ensuing compromises can lead to enriched models (Bligh and Flood 2015).

Reflecting on the process, the sixth action is supported through an evaluation process when practitioners identify further improvements, such as modifying the strategy for younger readers.

Finally, *the new practice is consolidated and generalised* across the system. As the activity system is not closed, the activity may be questioned anew in

external settings, for example in a different school, and the cycle recommences.

The cycle is an ideal-type and expansive learning actions may not replicate exactly, with practitioners returning to earlier phases before proceeding to later ones (Bligh and Flood 2015; Engeström and Sannino 2010). However expansive learning does promote practitioner agency (see sections 3.5-6).

Expansive learning's iterative, collaborative and reflective nature has the potential to support professional learning and I will use expansive learning principles in my research design (see application in formative interventions section 4.2.1).

3.6 Transformative agency: influencing collective change

Transformative agency examines disturbances and contradictions in a local activity and takes actions to transform the activity and its current work practices. Transformative agency is a dynamic, long-lasting process of learning and development which evolves in interaction. (Haapasaari Engeström and Kerosuo 2016:257)

Taking the initiative to transform actions may be understood as individual agency, whereas a collaborative search for a new form of an activity unfolding during expansive learning becomes 'shared transformative agency' (Virkkunen 2006:43). Transformative agency involves practitioners *collectively* recognising tensions and problems in activity systems, inquiring into them and seeking solutions (Haapasaari, Engeström and Kerosuo 2016; Kramer 2018). Practitioners' interactions result in transformation when 'the object and motive of the activity are reconceptualised' (Engeström 2001:137). Transformation implies a greater focus on 'the dynamics of the subject' (Engeström and

Glăveanu, 2012:516), bringing practitioner agency and experience to the fore, although agency can be affected by conflicted motives (see Sannino and Engeström 2017; Sannino, Engeström and Lemos 2016; Sannino, Engeström and Lahikainen 2016).

Transformative agency develops over time with variable components; as it 'evolves in interaction', transformative agency's development may not be linear (Haapasaari, Engeström and Kerosuo 2016:257). Kramer suggests that questioning old stabilities and engaging with 'possibility knowledge' are precursors to such agency (2018: 221). Transformative agency may appear contradictory, having both minimal, or substantial resistance (Haapasaari, Engeström and Kerosuo 2016; Sannino 2010); however longitudinal changes are more likely to be supported by 'material transformations' initiated or 'authored' by the organisation (Sannino, Engeström and Lahikainen 2016: 260).

I examined various works to find descriptors for Transformative Agency manifestations (Engeström 2011; Haapasaari, Engeström and Kerosuo 2016; Virkkunen 2006; Virkkunen and Newnham 2013). Engeström (2011) identified five types of transformative agency, subsequently increased to six by Haapasaari, Engeström and Kerosuo (2016), which inform the definitions in section 3.6.1 below. Haapasaari, Engeström and Kerosuo maintain that 'agency is expressed in discourse and action' (2016:240) and argue that analysing speaking turns reveals speech's inherent 'expressions of agency' (ibid). The practice of analysing individual speaking turns in their collective context is adopted in this study.

3.6.1 Transformative agency manifestations

Manifestation is understood to refer to the behaviours associated with transformative agency which are revealed in practitioners' discourse, rather than being directly observable (cf. Engeström and Sannino 2011). I interpret the descriptors as evoking the expansive learning actions (section 3.5.1), with expansive learning being regarded as a 'process of formation of transformative agency' (Haapasaari, Engeström and Kerosuo 2016:243).

- *Resisting the interventionist or management* is characterised by criticism, questioning, rejection or opposition from practitioners; for example, questioning the way professional meetings are organised.
- *Suggesting a task to be carried out or an object of discussion* supports the identification of steps towards a greater understanding of current practice; for example, practitioners note how meetings are organised over a two-week period.
- *Explicating new possibilities or potentials* in the activity identifies past positive experiences or the negative effects of current activity, in order to examine their potential in problem-solving; for example, practitioners retrieve information about past meeting schedules to share with group.
- *Envisioning new patterns or models of the activity* produces preliminary outlines or fully developed testable models. Systemic organisational relationships are considered, for example, the group decides how to remodel schedules and whom to contact regarding scheduling.

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- *Committing to concrete actions aimed at changing the activity* involves practitioners agreeing to change practice. This may be a rarer manifestation, for example, practitioners must *intend* to change meeting schedules.
 - *Taking consequential actions to change the activity* includes experimenting with new forms of practice or using new tools. Actions happen during, between, or at the end of formative intervention sessions; for example, new schedules are implemented for trial period.

Haapasaari, Engeström, and Kerosuo (2018) argue that transformative agency allows practitioners to collectively explore power relations and the complexity of activity system connections (see criticism of activity systems in section 3.3). The main challenge to transformative agency appears to be achieving collective action (Virkkunen, 2006) and sustainability (Haapasaari and Kerosuo 2015), so an effective research design will be important to the study.

3.7 Relational Agency: influencing individual change

The previous section discussed how transformative agency was enabled by expansive learning processes, I now turn to the concept of relational agency to explicate *relational* activity *between* practitioners in the activity system. For Edwards (2007) agency lies with the individual, from which vantage point the individual works for systemic change. The *individual decides to collaborate*, or

work relationally, unlike transformative agency which is predicated on collective actions.

Edwards describes relational agency as a process of:

(i) working with others to expand the 'object of activity' or task being worked on by recognising the motives and the resources that others bring to bear as they, too, interpret it; and

(ii) aligning one's own responses to the newly enhanced interpretations with the responses being made by the other professionals while acting on the expanded object (2011:34).

Here the notion of expansion, where collaborative endeavours change the nature of the object, resurfaces (see section 3.2). An object can be worked on together through negotiation and a collective solution devised, as practitioners learn 'how to interpret a problem embedded within social practices' (Edwards 2005:172). An ability to work together also 'expands their interpretations and supports their responsive actions' (Edwards and Mackenzie 2008:179).

Collective agency requires aligned motives in order to develop (Edwards 2016; Sannino and Engeström 2017), but strong individual agency may reduce the likelihood of alignment as individuals pursue personal motives. Whilst recognising the motives of 'others' implies reflection, 'others' also reinforces the impression that relational agency is examined from the individual's perspective.

In order to reach collective solutions Edwards argues that practitioners exploit elements of 'professional knowledge, team working and collaboration', which she defines as *relational expertise* (2005:173). Relational expertise recognises 'confident engagement' with one's own specialist knowledge, as well as

recognising the same expertise in others (Edwards 2011:33). Relational expertise appears comparable to the expertise which contributes to co-constructed practice (R. Engeström 2009) and double stimulation processes (Engeström, Kajamaa and Nummijoki 2015). Relational expertise can also be understood as ‘recognising what engrosses others, taking their standpoint and mutually aligning motives so that engagement continues’ (Edwards, 2012:25). By creating a joint interpretation of- and a joint response to- the object, relational expertise appears a more collective concept than relational agency.

Relational expertise, Edwards argues, is underpinned by *common knowledge*, which in turn acts as a second stimulus for professional work (Hopwood and Edwards, 2017). This argument suggests that there may be a hierarchical relationship here, with common knowledge in an ancillary role. Common knowledge here refers to knowledge which is a ‘prerequisite to quick and responsive relational work’ (Edwards, 2012:25); to ‘what matters in each profession’ (Edwards 2017:12); or to ‘knowledge of the motives that arise in different practices’ (Hopwood and Edwards, 2017:109). It is not clear in Edwards’ argument whether common knowledge is solely an individual quality.

Together, relational expertise and common knowledge seem to provide the foundations for relational agency, but their exact relationship is not made explicit in Edwards’ accounts. Edwards has previously envisaged the three concepts as ‘gardening tools’ which ‘operate at the analytic level between the collective and the individual’ (2012:31). I intend to focus on the analytical level between the two by examining how the individual orientation of relational

agency sits with the more collective relational expertise, as they both interact with the collective nature of transformative agency.

3.8 Summary

This chapter has conceptualised agency and change before contextualising an agency|change framework for this thesis, which incorporates agentic orientations which encourage collaborative change. It has also set out the theoretical principles which underpin my study, namely:

Activity systems provide practitioners with conceptual space in which to develop new models of practice, whilst considering the contradictions of existing methods and their potential for change.

Double stimulation processes enable the researcher-interventionist, and later the practitioners, to suggest artefacts which develop significance and forge temporary links to enable learning.

Expansive Learning theory facilitates an analysis of the processes and context of workplace learning. Its cyclical and developmental nature is congruent with a longer-term professional learning study.

Transformative Agency offers a conceptual tool for interpreting the collective actions of a group of professionals. Transformative agency may be initiated by an individual, but collective agency is required to make the transformation sustainable (Haapasaari, Engeström and Kerosuo 2016).

Relational Agency, Relational Expertise and Common Knowledge act as conceptual tools from an individual's perspective for negotiating and reconfiguring tasks; for interpreting the expansion of the object; for generating change when motives align (Edwards 2009).

I intend to adopt both transformative *and* relational agentic concepts to see if they lead to enriched interpretations. My methodology, considered in the next chapter, incorporates these five theoretical elements to explore how practices are enacted *explicitly* in intra-professional collaboration.

4. Chapter Four Methodology

4.1 Introduction

This chapter demonstrates how my methodology has been influenced by the theoretical concepts discussed in Chapter Three and by my professional background, as discussed in section 1.2. The methodology in turn influences the research design I develop and the methods I employ to bring that design to fruition.

Firstly, I conceptualise methodology and analyse formative intervention methodologies whose focus on stimulating change at concept-level makes it congruent with research into developing teachers' collective practice (e.g. Engeström 2001; Engeström et al. 1996; Engestrom et al. 2013; Engeström et al. 2014; Haapasaari et al. 2014; Virkkunen and Newnham 2013). In this section I also review several alternative methodologies compatible with research into practice and outline why the Change Laboratory instantiation of formative interventions is appropriate as the methodology for this study.

Secondly, I explore the research design which was motivated by my professional experience and my position at the setting. My research objective was to uncover and analyse practitioners' learning during a collaborative in-service teacher professional learning study. I set out how a Change Laboratory evolves through a series of workshops designed to develop practice through the seven steps of expansive learning as discussed in section 3.5. I examine my role as researcher-interventionist, which means organising and supervising the work of the Change Laboratory sessions,

chairing discussions, instigating expansive learning processes, and documenting and analysing the intervention (Virkkunen and Newnham 2013).

I reflect on how having a relative insider position enabled me to understand the teachers' professional dilemmas and develop a relevant research design. I explain how the expansive nature of a Change Laboratory formative intervention supports a design facilitating agency and collaboration, which I have argued in Chapters Two and Three is effective in changing practice.

My research questions are revisited by underlining their relationship to the design, which is developed according to the principles of expansive learning (see section 3.5). Sections 4.3.3 and 4.3.4 are devoted to the setting up of the Change Laboratory and the intended outline of the eight sessions and one review.

Thirdly, in section 4.4, I discuss the methods used in this study, principally Vygotskyian double stimulation tasks (see section 3.4), which are intended to elicit 'expansive forms of agency' in the workplace and are the principle means of knowledge production in Change Laboratory methodology (Engeström 2007b: 363). I provide a description of instruments used in sections 4.4.2 and 4.4.3, as well as a rationale for their choice and how the data were constituted. In sections 4.4.4 and 4.4.5 I turn to data analysis, with particular emphasis on how first-order analyses inform an evolving Change Laboratory methodology.

Fourthly, in section 4.5 I reflect on research quality, examining the steps I took to ensure the reliability of the research design, whilst also detailing some of its

limitations. In section 4.6 I set out the ethical guidelines I followed and the ethical frameworks I considered whilst fully informing participants, before providing a final summary.

4.2 A research-intervention methodology

This section sets out my reflections on methodology. I begin by conceptualising methodology and demonstrating how a Change Laboratory, which is a formative intervention methodology, dovetails with my ontology and the theoretical standpoint developed in Chapter Three. To assess the Change Laboratory's methodological viability, I consider how it responds to issues of understanding or changing reality, desirable change, flexibility of design (cf. Robson 2002) and to my position as an insider researcher. I then broaden my analysis to discuss several other methodologies before demonstrating how I came to settle on a Change Laboratory formative intervention as the definitive methodology for this study and why it is appropriate for responding to my research questions.

4.2.1 Conceptualising methodology

'I understand methodology to be theory; it's theory about the research methods that will be used. It's theory which underpins the decisions made about the researcher's range of choices of – for example – what to study; who to study; where to study; which research tradition to work within; what knowledges to draw on; what to include and exclude, foreground and background and the consequences of this decision; what counts as data and why; relational and ethical concerns; and how to represent the findings/how to write the research.'(Thomson 2013: online)

Taking Thomson's argument, a methodology is the theory about the research methods I employ, the traditions I draw on, the sorts of data I use and how I approach ethical concerns. I require a methodology which is commensurate

with the theoretical arguments made in Chapter Three and which suits my own professional expertise as outlined in Chapter One. The research tradition I call on is activity theory, as discussed in section 3.3. Activity Theory is derived from Vygotsky's early experimental interventions and later extended by Cole's empirical studies (e.g.1991), which acknowledge the cultural context. I commented in section 3.1 that I take a social constructivist view and would agree with Stetsenko (2017) that people's development is not a product of society and practices, but that people co-create those practices through their own agency. I therefore wanted a methodology which allowed me to provide a framework within which practitioners could question their everyday working practices, consider what worked and what did not, and then create changed practices of their own. It followed that any methodology I chose should consider the agency of those participating as they created new knowledge. I anticipated that the participants would generate new research knowledge about how to support children to develop reading comprehension skills and new knowledge about how they could work together as a team. I also wanted to see if new understandings about the nature of agency required to create new knowledge would be revealed and whether individuals could influence a collective agency for change.

The methodology I used also needed to be congruent with a workplace setting. Stetsenko argues strongly for a conceptualisation of *work* as labour in the general Marxist sense i.e. as 'people acting and striving together as the grounding of their lives and development' (2017:208), which coheres with the form of workplace learning my research aims to stimulate. 'Putting activity theory to work' represents an early conceptualisation of practitioner

development through 'collective activity' (Engeström, Lompscher and Rückheim 2005:9). Activity here being in a Marxist sense of *Tätigkeit*, i.e. 'the purposive actions of human beings, understood as social beings, all of whose sentiments and ideas are social constructs' (Blunden 2010:98). The emphasis here is on people being active, rather than passive, for they, according to Marx, 'change circumstances' (ibid:257). The Change Laboratory methodology is therefore a means of investigating a phenomenon underpinned by activity theory; it provides a framework for considering how investigations proceed, what is considered and from which standpoint, i.e. a representation of what is 'real' (see Schostak and Schostak 2013).

Robson notes that researchers consider either *understanding or changing reality*, proposing that it is 'part of the researcher's job (...) to suggest ways in which desirable change might take place, and perhaps to monitor the effectiveness of these attempts' (2002:7). By choosing a formative intervention methodology I wanted, as a researcher, to see if I could provide the means with which the practitioners could generate change. By discussing problems, the practitioners could potentially see that change was desirable and by researching the change process, I could see how effective my - and the practitioners' - attempts at change were.

For Engeström and his colleagues, problem-solving is a means of suggesting ways to make *desirable change*; to do so they employ the following methodological guidelines:

-
1. Where do we come from?
 2. What are the tools and signs available for different participants and how are they used to construct the object of the activity?
 3. What are the inner contradictions of our activity?
 4. What can and will be done? (Engeström, Lompscher and Rückheim 2005:13)

These guidelines underpin a methodology conceived as a way of making contradictions - or problems - 'visible to the practitioners', based on expansive principles (Engeström 2005:181). Essentially this enables the practitioner to learn how to solve his problem by following a series of steps which we see in figure 4.1 below.

Figure 4.1 demonstrates how the methodology starts from a phenomenological insight; indeed, understanding development by looking at the experiences of individuals would be the traditional phenomenological approach (e.g. Postholm 2011). In a Change Laboratory methodology, this initial insight arises from observation, discussion, existing expertise, or documentary analysis.

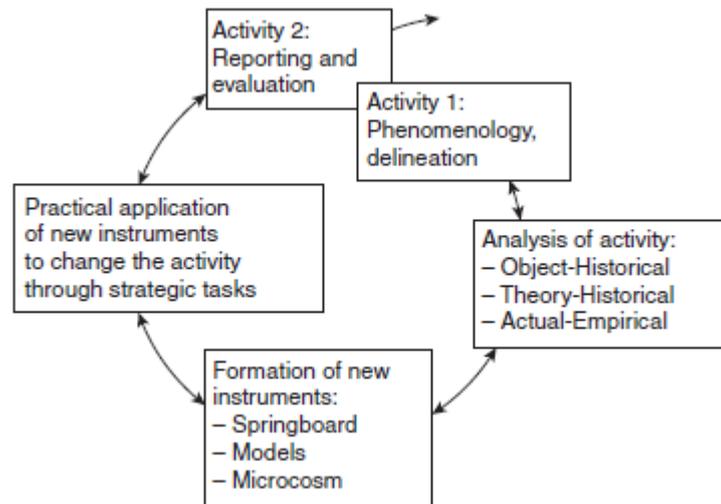


Figure 4-1 The methodological cycle of expansive developmental research (Engeström 2014:253)

The next step continues with an analysis of historical forms of an activity before turning to actual or current forms (see section 3.5 for a discussion of expansive learning). The intervention proceeds to develop new models of the activity by stimulating participants, for example through the introduction of past or present artefacts. Models are trialled before being applied in practice. As in similar learning cycles, in the final step activity is reported and evaluated. The cycle of expansion has therefore brought about change by producing new knowledge.

A Change Laboratory is designed to bring the analysis of practice and processes together in the workplace to examine cycles of change, as illustrated in figure 4.1. above, through the concept of expansive learning in ‘a new dialectic of close embeddedness and reflective distancing’ (Virkkunen and Newnham 2013: 24). Thus, the design enables practitioners to engage with workplace problems but at the same time have the space to step back and reflect on them, with the aim of problem-solving collaboratively through

incremental change (2013:4). Spinuzzi terms this a 'codesign': 'research that is conducted not *on* participants but *with* participants, oriented toward the interests of those participants, and yielding joint emergent knowledge (2020: 13, italics in original). I examine the impact of methodology on design in more detail in section 4.3.

As Robson has already concluded that 'part of the researcher's job' is to look at 'desirable change' (2002:7), the role of the researcher in the research process or her theoretical '*insider-ness*' should also be considered. I would argue that as an insider, a researcher would be well placed to know what desirable changes might be, for instance in conversations with senior leadership concerning school improvement, or staffroom conversations about the limitations of current practice. In Vygotsky's framework, 'the experimenter can manipulate the structure of the investigation in order to trigger (but not "produce") the subject's construction of new psychological phenomena' (Engeström 2007b: 365). As an insider researcher-interventionist I chose methods for the Change Laboratory intervention, namely double stimulation tasks, to stimulate knowledge production based on my knowledge of the setting (see detailed discussion in section 4.4). As such, 'the interventionist comes between an actor's actions so that the activity finds a new direction' (Virkkunen and Newnham 2013:3). My role as the research-interventionist was to identify changes which would be desirable based on my professional knowledge, i.e. improved reading comprehension pedagogy. A new direction could therefore potentially be found by drawing on my insider knowledge which I examine in greater detail in section 4.3.2.

In conceptualising methodology, I have emphasised that, from my perspective as a researcher with interests in professional learning, I require a methodology which facilitates change and the production of new knowledge. Emphasising change and knowledge production will have consequences when it comes to the issue of research design in section 4.3. This is a core distinction in discussions of methodology; for example, Robson (2002) distinguishes between fixed designs based on their close association with quantitative methods and flexible designs based on an association with qualitative methods. However, from the vantage point of a Change Laboratory methodology, a *flexible design* can be distinguished as one which responds to practitioners' growing agency. It is a design which allows practitioners to think about how to create new practices.

Thus, there are a range of choices to be made about the system of representation and about how it corresponds with my way of framing knowledge production. We have seen in Chapter Two that earlier discourses around professional *development* have characterised teachers as recipients of development activities; whereas later discourses surrounding professional *learning* have privileged teachers' agency on which I have expanded in Chapter Three. This study focuses on teachers' professional learning as they engage with everyday tasks and seek to improve pupils' facility with reading comprehension. As my discussion of agency suggests, my characterisation of knowledge production foregrounds learning as an initially co-constructed, but ultimately independently conceived, product. I now consider which methodology can best deliver co-constructed knowledge

4.2.2 Evaluating methodological alternatives

I have argued in the preceding section for a Change Laboratory methodology. In this section I consider if there were alternative methodologies which might have been congruent with my theoretical framework. I discuss four alternatives in turn: - case study, action research and its derivatives, design-based research, and formative interventions. All four might plausibly have provided apposite methodologies for a research project in professional learning. In the interest of parity, I examine each methodology in turn against criteria for incorporating *fixed or flexible designs*, seeking to *understand or change reality*, being compatible with *insider research* and overall congruence with *activity theory*. I close this section by discussing how I reached my final decision to use a Change Laboratory formative intervention as my chosen methodology.

4.2.2.1 Case Study

Case study is a generic and plausible methodology for professional learning studies, with many examples in the reviewed literature (e.g. Butler Schnellert and MacNeil 2015; Cherkowski and Schnellert 2017; Horn and Little 2010; King 2016; Oolbekkink-Marchand et al. 2017). Case Study is an iterative methodology which responds well to how and why research questions such as mine. It is suited to workplace situations with reoccurring practices and bounded settings such as schools (Yin 2009).

Whilst the design can be *flexible* Yin cautions against not following case study procedures rigorously. So it seems less likely to meet my requirement to be

flexible by employing an emergent design, as I will need to make changes to procedures to respond to practitioners' developing agency rather than adhering to prescribed procedures. Yin acknowledges that Case Study can be liable to bias, protracted narratives or be critiqued as less systematic than other methodologies. The purpose of case studies is to *understand* the case (Stake 2005), so whilst case studies may be investigative, they do not set out to change.

An *insider* could carry out case study research in her own institution, although Greene (2014) notes the difficulties of insider dynamics and that disclosure of information may place the insider-researcher in a difficult position. Case study insider-research is particularly a double-edged sword in that access is much facilitated but informant bias may be greater (Mercer 2007). Mercer also acknowledges that in-depth interviews, a staple case study method for constructing knowledge, may be more liable to influence when the rapport between researcher and interviewee is greater. As such case study may not enable collaborative construction of knowledge which is my aim (cf. Blunden 2010).

Case study has been considered congruent with research using an *Activity Theory* lens (see section 3.3) (cf. Douglas and Ellis 2011; Douglas 2011, 2012). However, whilst a case study incorporating focus groups may provide opportunities for relational expertise to develop (see section 3.7), this approach does not directly facilitate participants' *questioning* of practice (see section 3.5), nor address practice *contradictions* (see section 3.3) which are a central tenet of my theoretical position.

4.2.2.2 Action Research

Action Research is the second potential methodology, which I considered in detail when examining possible approaches for this study. In Action Research methodology teachers drive the collaboration (cf. Orland-Barak and Becher, 2011), which links with my focus in Chapter Two on agency and collaboration as instigators of workplace change.

Action research fits my *flexibility* criterion with the concept of 'flexible cycles' of research having the potential to accommodate the situated nature of teachers' learning in schools (Somekh, 2006:6). A cyclical method also facilitates the trialling and review of new models for practice.

Action research is very much concerned with systemic *change* (Darwin 2011; Edwards 2000). Indeed, Darwin argues that change through action research is less transient than change derived through developmental methodologies, as it is not tainted with the demands of the consultancy format. My present study counters this by being instigated by myself as an insider-researcher with no external drivers. Different approaches to change are evident when Darwin suggests that discourse in developmental methodologies seeks to provoke change, whereas Bligh and Flood (2015) counter that action research is more concerned with person to person discourse, rather than change stimulated by the mediation of action by artefacts.

There is some evidence of questioning of practice, which may lead to change, in the *Collaborative Action Research* strand which is prevalent in the reviewed professional learning literature (see section 4.2.2.1) (e.g. Bieler and Burns

Thomas 2009; Cloonan et al 2014; Goodnough 2016). There is also evidence of Action Research acting collectively to support teacher-led development (cf. reflective action planning, Frost and Durrant 2002), but whilst certain forms of action research can focus on transformation by promoting teacher agency, they may not conceptualise how that agency comes about (see Hardy, Rönnerman and Edwards-Groves, 2018). Hardy, Rönnerman and Edwards-Groves acknowledge how individual agency may challenge normalised problems and ‘respectfully respond to concerns raised within the group’ (2018:431), but note that development was limited to ‘individual understandings’ of practice (ibid:437). Teacher agency in Hardy, Rönnerman and Edwards-Groves is conceptualised more generally as ‘personal, professional and political’ and a more nuanced conceptualisation of transformation though agency does not occur (ibid :424). Whereas I argued in section 3.2.1.2 that specific conceptualisations such as transformative agency, which focus on questioning established organisational practices and taking collective action, have the potential to provide more extensive collective understandings.

Nor does Action Research benefit from the support of a researcher-interventionist to instigate change by guiding teachers to question practice (e.g. Mitchell Reilly and Logue 2009; Jaipal and Figg 2011). Methodologically the conceptualisation of practice as ‘doings’, ‘sayings’ and ‘relatings’ could be useful in understanding professional learning (Kemmis et al 2013). However whilst Hardy, Rönnerman and Edwards-Groves (2018) argue that doing, sayings and relatings are ‘moments of transition to transformed learning’, such moments appear to be influenced by the agency of coaches or facilitators

rather than the practitioners themselves. Action research does not provide a *structure* for examining agentic relationships which would be available in the activity system considered in a formative intervention. Thus, whilst a focus on research cycles and researcher autonomy are congruent with studies of agency (see Lapan 2012), individual practitioner self-reflection seems less likely to support *collective* agency *and* change which is the focus of this study.

'Action research provides the simplest basis for insider research' (Brannick and Coghlan, 2007:65) and *insider* action research specifically has been effective in the management of change as it is 'interventionist' (Coghlan 2007:296). However, Coghlan notes that insider action research has some challenges: the researcher may make assumptions about the setting and the participants; the researcher must negotiate a certain role duality and organisational politics. So, whilst (Collaborative) Action Research may be a potential methodology, it did not fit with my position. Although I was an insider as I was employed by the school where the study took place, I was not a practitioner in the truest sense because I was *not* a classroom teacher. Whilst there is potential for collaboration and the production of actionable knowledge of relevance to both academic and practitioner audiences (Coghlan 2007), I argue that by starting from first person practice, insider action research does not permit the practitioners to produce knowledge collectively and independently.

Regarding *activity theory*, Somekh's (2006) methodological principles position action research as historically and ideologically located which speaks to the dialectical principles which I discussed in section 1.7. Originating with Lewin in

the 1940s, a known contemporary of Vygotsky, there is some congruence between *practitioner action research* and *activity theory*-focussed studies. Its work-related, self-improvement focus, and short-time scales make it a possible methodology for this study. Action Research, like activity theory, considers that ‘knowledge emerges as aspects of practice or “praxis”’ (Somekh and Nissen, 2011: 95). Changes to praxis imply a certain level of innovation, perhaps both in method *and* methodology. A major difference between activity theory and Action Research lies in the incorporation of reflexivity (see Somekh 2006; Carr 2007), whereas intervention methodologies have been criticised for not acknowledging the ‘social and affective dimensions’ of taking part in interventions (Ellis et al. 2015: 48).

I look at the reasons why I did not choose action research as a methodology for this project in more detail in section 4.2.2.5.

4.2.2.3 *Design-based Research*

Design-based Research is the third methodology I evaluated, which is an iterative, investigative, and often collective approach (e.g. Bronkhorst et al. 2013; Holmqvist and Olander 2017; Pyhältö Pietarinen and Soini 2014). By adopting the methods of *bricoleurs* (Penuel 2014), this option meets the *flexibility* criterion. However, whilst providing some structure for the intervention, this methodology does not privilege the participants as much as I intend. There is a strong focus on *change*; the designers bring in expertise from outside to support change efforts (Penuel 2014), however how change is generated is not clear (see critique in Engeström, Sannino and Virkkunen 2014).

The *insider* perspective may be common in design-based research with many designs based on first person, reflective experience drawing on ‘tacit knowledge and deep process knowledge’ (Sevaldson 2010:22). Vakil et al. (2016) underline the importance of attending to notions of objectivity and trust as insiders designing a research project. Design-based research has close similarities with action research and would suit an insider-practitioner, but as I am not a practitioner in the setting this would not be appropriate for this study.

Regarding *activity-theory*, some design-based researchers have considered whether there are parallels between their approach and activity theory methodologies (Penuel 2011; O’Neill 2016). For instance, design-based research is unlikely to trace or question historical developments which are a feature of activity theory (Eri 2013; O’Neill 2016); they also focus more on instructional theories (see Penuel 2014), which seems less likely to support the development of participants’ agency. O’Neill suggests that design-based research sets the goals for the project rather than allowing practitioners to do so and the researcher delivers the project by ‘refining his or her theory’ (2016:499), which does not imply a wider change theory. As I want to see how practitioners’ agency may determine *how* their learning evolves, a methodology where the interventionist steps aside *during* the process is more appropriate.

4.2.2.4 Formative interventions

Formative interventions, my chosen methodology, do respond to the methodological criteria exemplified in section 4.2.1. Engeström’s methodology (referred to as Developmental Work Research in earlier papers) follows

Vygotsky's interventionist approach (e.g. Engeström 2001,2005, 2007b; Engeström et al. 1996; Kerosuo and Engeström 2003). Developmental Work Research 'has become increasingly systematised as a methodological genre of intervention' (Ellis et al. 2015:48). However, in later work the methodology is characterised as a *formative intervention* (Engeström et al. 2013; Engeström, Sannino and Virkkunen 2014; Haapasaari, Engeström and Kerosuo 2014; Spinuzzi 2020; Vänninen, Pereira-Querol and Engeström 2015). I refer to the methodology as a formative intervention in this thesis.

Following Robson's argument that researchers aim to understand or change reality, formative interventions set out to change reality by first mirroring professional reality with practitioners:

'structuring a real-life double-stimulation setting from the real-life challenges and cultural artefacts potentially usable as tools to meet these challenges as well as of supporting the participant's process of remediation'(Virkkunen and Schaupp, 2011:652)

Such a methodology provides opportunity to develop professional learning through a *flexible* yet pre-planned design, which follows specific methodological steps based on expansive learning (Engeström, Sannino and Virkkunen (2014). For example, existing pedagogical practice, and associated artefacts, act as first-stimuli for questioning practice (see section 3.4 for a discussion on double stimulation). As practitioners work together, second stimuli create temporary links which support problem-solving; space for collaboration supports practice changes. I discuss the research design in detail in section 4.3.

Interventions aim to uncover *how* new sociocultural forms of activity are generated and are a means of examining *change* or development in organisations. The Change Laboratory, as an example of a formative intervention, focuses specifically on workplace practices and processes to generate ‘cycles of innovation and change’ (Engeström et al. 1996:1). This dovetails with my professional interests and my concern to make the research part of practitioners’ working lives. Engeström maintains that change imposed from outside and above fails, whereas interventions implement change whilst avoiding ‘the dichotomy of obtrusive prescription from above *versus* minimal informal facilitation’ (2005:172). This was important in my decision-making for a methodology, as I did not want to impose an intervention but to work with practitioners to develop one. Likewise, formative intervention methodologies support the development of transformative agency (see section 3.6), which in turn brings about change (Haapasaari, Engeström and Kerosuo 2016; Vänninen, Pereira-Querol and Engeström 2015). This offered an advantage from my perspective because merely considering transformation did not consider the agency of those involved in practice change (cf. Hardy, Rönnerman and Edwards-Groves 2018).

Both the Change Laboratory methodology and the design place the research-interventionist *inside* the developmental process, which responded to my concerns about the role of the facilitator in Action Research. Blunden (2010) argues that, from a Vygotskian perspective, the researcher-interventionist should understand the role played by her own consciousness in the intervention as the researcher-interventionist is a co-participant. This leads to a slightly different conception in interventions of being an *insider*, when I, as

researcher, intervene 'to help the subject complete the task, these efforts then becoming part of the subject matter of the experiment'(Blunden 2010:134). I am necessarily inside the research when I plan its design, chose the material to stimulate practitioners' learning and analyse the data.

Formative interventions are contingent upon *Activity Theory* being based on Vygotsky's principle of double stimulation, the dialectic concept of ascending from the abstract to the concrete (see Engeström 2007b; Ellis 2011; Sannino 2011), with the object of an intervention being to expand agency (Engeström 2007b). For Engeström, Sannino and Virkkunen double stimulation becomes a 'generative mechanism' for change through transformative agency (2014:121). Formative interventions are congruent with developing teachers' professional learning as they stimulate new ways of working collectively and are intended to examine practice contradictions, which need to be analysed historically and dialectically to set against the empirical evidence of 'practitioners' daily actions' (Virkkunen and Newnham 2013:52). Having argued in section 3.3 that contradictions drive change; it follows that the methodology should respond to the setting's complexity and provide a vehicle to develop both teacher learning and agency.

4.2.2.5 Deciding on a Change Laboratory

My evaluation of methodological alternatives above suggests that my choice became one between a Change Laboratory and Action Research. I return to the criteria I have used to evaluate methodologies in section 4.2.2, namely criteria concerning *fixed or flexible designs, understanding or changing reality, compatibility with insider research* and congruence with *activity theory*.

Firstly, both a Change Laboratory and Action Research can sustain flexible designs which respond to the needs and interests of practitioners, however the design in a Change Laboratory has the systematic aspects favoured by Robson, as well as flexibility. As we shall see in section 4.3, the intended design of a Change Laboratory systematically follows the expansive learning steps discussed in section 3.5.1. Yet it is also *flexible* enough to respond to the practitioners' growing agency as we shall see in the actual design expounded in Chapter Five.

Secondly, a Change Laboratory focuses on the collective to explicitly develop and *change* practice through stimulation. Ellis (2011) recognises action research's potential for change, rooted in Lewin's (1946) cyclical model and Schön's (1983) conception of the individual reflective practitioner. Ellis also sees some limitations, in that action research *per se* has fewer conceptual tools to support practitioners' understanding of change. In some case, this has been offset by incorporating activity theory into action research methodology (Darwin 2011; Edwards 2000; Feldman and Weiss 2010). However, in a Change Laboratory methodology activity theory is endemic: drawing on the principles of expansive learning enables the intervention to potentially produce new knowledge.

Thirdly, the Change Laboratory's capacity to access and develop knowledge through joint work (Ellis 2011), is due in part to the researcher-interventionist's design and is in turn based on their position *inside* the research. By making use of ethnographic material and presenting this back to practitioners, the

researcher-interventionist uncovers 'possibility knowledge' to practitioners and thus the potential for change (Engeström 2007c:274).

Fourthly, Ellis recognises teachers as 'knowledge-workers' (2011:182) and argues that action research tends to focus on practical knowledge, whereas the *Activity Theoretical* approach of a Change Laboratory seeks knowledge with wider, conceptual applications, considers the history of professional practice and sees the transformation of the object of activity as a vehicle for professional knowledge creation. So, whilst action research affords some congruence with activity theory (Somekh and Nissen 2011), the transformation of the object to bring about new knowledge is not actively sought. Whereas in a Change Laboratory, the Vygotskyian principle of double stimulation forms the basis of knowledge construction and the insider knowledge of the researcher-interventionist is essential to its production. Ellis suggests that in interventions 'concepts emerge in everyday interactions and human learning and development involves active engagement with scientific or examined concepts in order to form mature understanding and make progress' (Ellis 2011:190). Such an analysis dovetails with my intention to examine how teachers' agency brings about change and produces new knowledge, which is authentic, practitioner-initiated, embedded in practice, with potential for generative solutions.

A Change Laboratory, therefore, combines a focus on historicity, double stimulation supported through a collective cyclical process, and yet has the potential to question practice and develop practitioner agency as the interventionist becomes gradually less involved (see Engeström, Sannino and

Virkkunen 2014). I would argue that such an approach responds more readily to my research objectives set out in section 1.3, namely to increase my understandings of teacher agency for developing new pedagogies and of how to promote qualified teacher learning within the workplace. To do so, I employed the following research question:

How can a Change Laboratory formative intervention stimulate transformative and relational agency for professional learning amongst in-service primary school teachers to develop a reading comprehension pedagogy?

The methodology is flexible enough to provide space for the *process* of change and opportunity for practitioners to question both process *and* actual changes. By choosing a methodology which responds very specifically to the theoretical questions around agency raised in Chapter Two through an emphasis on stimulation, I intend to provide opportunities for practitioners to expand their responses to questions of pedagogy through their own agency, with diminishing interventionist support. The research question fits the purpose of the research, placing professional practice at the centre and its design and methods are ‘interconnected and interrelated’ as I show in the following sections (Creswell 2013:50).

4.3 Research Design

A research design is the way that the researcher assembles and sequences the tools, and the ways in which these are applied, according to the principles elaborated through the methodological choices (Thomson 2013: online).

In this section I describe my research design as influenced by a Change Laboratory methodology. To do so, firstly I examine how I applied Change Laboratory principles to the design and show how they correspond with broader qualitative research parameters. I discuss how the tools- the methods such as double stimulation tasks - are put together in the research design to stimulate the steps in the expansive learning process in an appropriate sequence. Secondly, in section 4.3.1 I provide a detailed exposition of site and participant selection and how these issues influenced the research questions; thirdly in section 4.3.2 I reflect on my position as an insider researcher-interventionist and the context in which I worked, before fourthly turning in section 4.3.3 to session planning, and finally in section 4.3.4 to an outline for the intended Change Laboratory sessions.

In section 4.3.1 I cover how I chose my research site and its participants. I followed selection principles which are conventionally applied in Change Laboratory designs. The site had to be one which experienced 'challenges for transformation' (Virkkunen and Newnham 2013:65). When considering the design of a Change Laboratory, one of the first issues to consider is how to construct, in conjunction with the investigated organisation, 'an initial shared idea of the object of the intervention' (Virkkunen and Newnham 2013: 61). In section 4.3.1 I outline how I established the object, i.e. the professional problem, with the head teacher at the setting and discuss how, as researcher-interventionist, I negotiated terms of access. I document the nature of the setting, the process of engaging participants and demonstrate how I explained the research study to the participants.

In section 4.3.2 I reflect on my role as a researcher-interventionist. This is an important issue given my relative insider position, as my role was complex: I had to cater to participants' different needs and 'encourage them to express and deal with their personal doubts, contradictory feelings and indecision' (Virkkunen and Newnham 2013:105). I document differences between conventional views of insider research and my role in the Change Laboratory, as well as commenting on my researcher positionality. I consider my role in initiating and formulating the Change Laboratory research process, which reflects an emphasis, common to many qualitative research processes, on the 'researcher as key instrument' (Creswell 2013:45).

In section 4.3.3 I set out how I organised the series of eight Change Laboratory sessions. This is an important issue as I had to respond to school operational needs as well as my research needs, such as having time to do a first-order analysis of data to present at following sessions. These difficulties are acknowledged by Virkkunen and Newnham as it can be challenging to 'get the necessary actions carried out in the limited time available without hindering participants' discussion and thinking' (2013:79). I document how long sessions were, the time between sessions and the difficulties of maintaining momentum, as well as the reasons behind the choice of meeting place.

In section 4.3.4 I respond to the key methodological principle of development and show how a 'developmental collaboration' between the school and myself as researcher-interventionist is structured (Virkkunen and Newnham 2013:62). Bligh and Flood (2015) argue that the expansive learning cycle serves as an

heuristic for Change Laboratory design, so that the steps of expansive learning are reflected in the content of each successive session. This is the intended design, reflecting the 'emergent' designs common in many qualitative approaches where tools cannot be tightly prescribed, and plans may be modified (Creswell 2013:45). This is an important issue as thorough pre-planning was necessary if I wanted to be able to adapt the process, whilst still retaining the necessary expansive learning steps when I responded to 'participant-initiated deviations' (Virkkunen and Newnham 2013:79). For example, in the original design I intended to collect ethnographic data by observing teachers deliver reading comprehension to children in class; when the teachers resisted this part of the design, I modified it to suggest that they video their own practice to provide observational data for discussions in the Change Laboratory sessions.

The outline in section 4.3.4 also shows where, as researcher-interventionist, I planned to intervene to stimulate new knowledge production. Engeström views knowledge production as a process of understanding contradictions in an object of activity, what might be termed problem-solving. He uses artefacts to mediate that process, which he terms '*what*' artefacts which identify objects; '*how*' artefacts which guide processes, '*why*' artefacts which diagnose and '*where to*' artefacts which examine potential development (Engeström 2008a:129). Such artefacts are discussed in detail in the methods section 4.4.3. All of which is a collaborative process based dialectically on abstracting the nub of a problem to understand it, which leads to the '*germ cell*' of a new idea (ibid). The expansive learning cycle which I examined in section 3.5.1 then allows practitioners to develop new ideas into new practice, i.e. produce

new knowledge through a process which acknowledges ‘the central role of contradictions and debate in knowledge-creation’(ibid:133).

Prior to developing the research design, I had carried out a small Change Laboratory pilot with pre-service teachers the previous year and had some limited experience, which helped me consider research design issues. School-based Change Laboratory studies remain relatively rare (Botha 2017; Ellis 2008; Engeström, Engeström and Suntio 2002; Kramer 2018; Sannino 2010; Virkkunen et al. 2012) and I realised that I had to select a site which supported the development principle of interventions, which is ‘to identify a general inner contradiction in the current form of the activity and create an expansive local solution to it’ (Virkkunen and Newnham 2013: 64) (site selection is covered in more detail in the next section). I intended to contribute to the formative intervention field by developing an education-based Change Laboratory study with an object which met the head teacher’s school improvement aims. In line with Change Laboratory principles, the study involved participants who were ‘dealing with the same object in their daily work and (were) involved in realising the same final outcome’; in other words the study was part of their professional activity (Virkkunen and Newnham 2013: 65). With the intention of highlighting teachers’ agency in professional learning, I developed the following research question:

1. How can a Change Laboratory formative intervention stimulate transformative and relational agency for professional learning amongst in-service primary school teachers to develop a reading comprehension pedagogy?

The research design was structured to investigate how relational agency unfolded (see section 3.7) as participants:

- 1.1 Took actions to resist the direction of the change process
- 1.2 Suggested tasks or objects of discussion
- 1.3 Explicated new potential in the activity under discussion
- 1.4 Envisioned new models for the activity under discussion
- 1.5 Committed to concrete actions that support change of the activity
- 1.6 Reported taking consequential actions to change the activity.

The unfolding of that design process now follows.

4.3.1 Selection of site and participants

I chose to investigate the school where I was employed in teacher development, as the school was in a deprived inner-city area in central England (see figure 4.2 below) and was regularly engaged in improving its practice. Given the pseudonym Highway, it was a single-form entry school, catering for children from Nursery (3 years old) through to Year Six (11 years old). There were approximately 250 children on roll, two senior management members, nine teachers (eight permanent and one supply) and 17 support staff, mostly unqualified, who assisted teachers in class.



Figure 4-2 Highway's inner-city location (highlighted)

Highway led a Teaching School Alliance of four schools: the alliance received additional funding as an outstanding school to focus on priorities which included professional development and research (see Department for Education 2010).

Highway met criteria for selection as a site under Change Laboratory design principles:

- As lead school it experienced 'the need for change before others'. In initial discussions, the headteacher indicated he was eager to improve school results as it was due an inspection and a review of the school's performance in the previous year's Standard Attainment Tests

indicated a substantive focus on children's reading might improve pupils' attainment

- As lead school, having generated and concretised concepts in the professional learning study, it was 'in a central position' to spread concepts by encouraging their application in other schools
- The Head Teacher recognised the benefits of research for developing staff and senior leadership was 'capable of developing a new model of activity' in collaboration with the research-interventionist
- The Head Teacher was experienced and established, so the situation was 'stable enough to carry out the Change Laboratory process' (Virkkunen and Newnham 2013:65).

As researcher-interventionist, I instigated a scoping meeting with the head teacher on 16 November 2016. I intended to start to expose underlying contradictions in existing activity and create an 'historically new model' (ibid), to build relationships and ensure support for the study, as recommended by Virkkunen and Newnham (2013). We discussed the head teacher's professional learning vision and explored areas where the school's current study groups could dovetail with the proposed method (see scoping section, Project Outline, Appendix 2). We discussed the impact of my role as an insider researcher-interventionist on the study.

The head teacher had already established study groups to evaluate practice; rather than adopting the traditional approach of sending an in-service teacher on a training course, who afterwards shared her learning with colleagues, the head teacher was already taking a collaborative approach. I intended to build

on the head teacher's approach and use the study group concept to focus on common *workplace* learning practices.

Regular and ongoing changes to reading comprehension pedagogy by Senior Leadership represented the pedagogical contradictions within and without the system, as Senior Leadership responded to changes in government and inspection guidelines (DfE 2015). Making teacher workload manageable was a pressing concern for Senior Leadership, which reflected the government's concerns (Greenhalgh 2016). The dialectal contradiction here was how to find the time to conduct meaningful research which would bring about teacher learning, yet which would not substantially increase teacher workload. This contradiction provided the impetus for the research design.

Teaching staff at the school at which I was employed formed a natural team, consistent with an expansive methodology (Engeström et al. 1996), whilst also being a convenience sample (see Miles and Huberman's typology, 1994). As discussed above, study groups formed part of participants' regular work, as advocated by Virkunen and Newnham (2013). Support staff, who also delivered reading comprehension, were not part of the study, as meetings would take place in allocated staff meeting time, which they did not attend. All nine teachers were therefore involved in professional learning and the substantive focus of improving children's reading skills was a common thread across age groups.

I set this up as an *explicitly* joint project between the teachers as practitioners and myself as researcher-interventionist, so that the nature of the

collaboration was clear to the participants (cf. Engeström et al. 2014a; Sannino and Sutter 2011). My view of collaboration as a researcher-interventionist may not have been the same as the participants' (see Locke Alcorn and O'Neill 2013). Yet I would agree with Locke, Alcorn and O'Neill that the distinction between researcher and participant became less clear, as the intervention progressed.

With a maximum of nine participants, the group was not so big that it would hinder the frank discussion required in the Change Laboratory process (Virkkunen and Newnham 2013). A sample size of nine was consistent with similar Change Laboratory school studies (Engeström et al. 1995; Lipponen and Kumpulainen 2011; Rantavuori et al. 2016; Sannino 2010).

On 8 December 2016, I convened a meeting with all nine teachers (table 4.1 below). The project participants were provided with information sheets about the proposed study for which ethical approval had already been obtained (see Appendix 1). I advised them of the project's voluntary nature. All permanent teachers (n.8) signed the consent forms (which included agreement for discussions to be videoed), plus a supply teacher who was covering for a maternity leave later in the year. The teachers thus had time to ask questions about the proposed study prior to starting on 5 January 2017 (see section 4.6 for discussion of ethical implications).

Teacher Pseudonym	Teaching experience
Rosie	3 years
Sharon	15 years
Laura	Newly qualified
Hannah	9 years (on maternity leave after CL3)
Sylvia	c.20 years (substitute teacher for Hannah)
Vicky	2 years
Phil	4 years
Sarah	1 year

Table 4-1 Highway staffing overview

4.3.2 Reflections on running a Change Laboratory as a sole insider researcher-interventionist

As I set out in section 4.1 my role as researcher-interventionist was central to Change Laboratory design as I co-constructed knowledge with participants. I decided which artefacts to include as mirror material in sessions and how to design tasks to stimulate learning by expansion (see section 3.5). In that sense I was very much *inside* the research process. The teachers had different viewpoints: I found that I was both facilitator and orchestrator, though it was a challenge to help practitioners and senior leadership see that ‘differences become resources rather than hindrances’ (Virkkunen and Newnham 2013:105). Virkkunen and Newnham also note the benefits when the researcher-interventionist ‘actively negotiated both the process and the

new model' (2013: 184), which underlines a deeper researcher-interventionist involvement. As I continued to be employed at the setting after the completion of the Change Laboratory sessions, I planned to follow up on the intervention which I hoped would increase the likelihood of the changes to practice being sustained.

Customary definitions of insider research see it as research conducted by a 'complete' member of an organisation into the organisation itself (Brannick and Coghlan 2007:59). However, my insider-ness was relative as I had been at the school three months when I started the research; I had multiple professional identities with their own prejudices as I discuss in section 1.3 (McNess, Arthur and Crossley, 2015). However, I had no close friendships in school which may have presented conflicts of interest, although I acknowledge that any account is likely to have some degree of partiality (cf. Taylor 2011). As Coffey reflects, my relationship with the participants was 'at once professional and personal, yet not necessarily readily characterized as either' (1999:39). I did however have some of the skills which Robson suggests are necessary for 'flexible design investigators' such as having 'an enquiring mind', being a good listener, being adaptable and having a good 'grasp of the issues' (2002:169).

I chose to research at my place of work partly from pragmatic reasons- completing a PhD on a part-time basis, it was sensible to combine work and research interests- and partly because a greater understanding of reading comprehension pedagogy would enable me to fulfil my professional responsibilities, as a designer and deliverer of professional learning for both

pre- and in-service teachers, more effectively. As Robson notes, insider research is 'increasingly common' and I was mindful of dealing with its disadvantages such as conflicts of interest and lack of objectivity (2002:382). The local aspect of my role as a researcher carried a concomitant ethical duty to ensure the integrity of my research (Stutchbury and Fox 2009).

For me, the study represented a commitment to 'local problem solving' rather than an intervention that addressed 'general societal problems', a choice suggested by Chaiklin (2011:146). Similarly, Schön sees reflection-in-action as a 'local experiment which contributes to the global experiment of reframing the problem' (1983:112). My reflections on the Change Laboratory process as noted in my Research Diary are my ruminations on what worked and what did not – for example, if artefacts were effectively stimulating discussions of practice problems. The local can, nonetheless, be relevant to a wider research scholarship; the issue of teachers' in-service learning speaks to issues of teacher retention which I allude to in section 1.2. Likewise, the relational aspects which this study is designed to explore in its consideration of teacher agency may be relevant to wider issues of relations within organisations. The study therefore has potential to contribute to the research scholarship in terms of its future applications or 'generativity' (see Sannino, Engeström and Lemos 2016).

My 'preunderstanding' of the unit of analysis did not extend to an understanding of this primary school's working life (cf. Brannick and Coghlan 2007) and I still needed to familiarise myself with the key issues for the stakeholders, as recommended by Virkkunen and Newnham (2013). However,

my background as a former teacher did mean that I had some understanding of the challenges faced by the teachers in this study and as such my insider-ness reflected the shifting nature and complexity of the insider-outsider continuum and my own cultural norms (Hellowell 2006; Mercer 2007; Merriam et al 2001). Indeed, the proposed expansive methodology's collaborative nature may mitigate insider-outsider boundaries and participants' perceptions of me- and mine of them- might change during the process (cf. Milligan 2016).

To acknowledge my researcher positionality, I espoused reflexivity through the common practice of maintaining a research diary (Berger 2015; Fox and Allan 2014; Humphrey 2013). Engeström recommends studying the intervention and researcher interactions, by allowing 'the mirror to be used both ways' (2005:189). So, I recorded my own hesitations and dilemmas, as well as the group's; I considered how my position might be viewed. There were 'constraints and conflicts' which tested the outcomes of reflexivity as Adelman suggests (1993:21); for example, my internal debate whether to 'nudge' staff to report ideas to senior management when they were prevaricating (Research Diary 8.6.17).

4.3.3 Timing, Duration and Location of sessions

Change Laboratory methodological literature argues that sessions need to be regular to maintain momentum and interest in finding solutions to problems, with time between sessions to carry out tasks and enough sessions to generate change (Virkkunen and Newnham, 2013). Whilst Change Laboratories in factories were spaced at weekly intervals, over one to two months, (e.g. Engeström et al. 1995; Engeström et al. 1996; Engeström 2001;

Engeström et al. 2015; Haapasaari et al. 2014), others have been longer (e.g. Engeström et al. 2001; Vänninen et al. 2015). Change Laboratories set in schools have not always followed conventional patterns: two sets of three sessions across two terms (Engeström et al. 2002), every two weeks for three months (Sannino 2010), two meetings a week for three and a half weeks (Virkkunen and Newnham 2013); meetings every two months over two academic years (Kramer 2018; Thorgeirsdottir 2015).

I designed a study which followed formative intervention principles as closely as possible, with the caveat that timescales and the intervention's scope reflected the setting and my role as a sole researcher-interventionist. The sessions were set up according to access granted by senior management and statutory school holidays. The first three in the period January to February 2017, constrained by the half term holiday; two sessions in March 2017 prior to Easter; just one session in May, constrained by the annual exam period and holidays; one in mid-June, with the final session in early July and the review in mid-July 2017 (see Tables 4.2-10).

These regular sessions were allocated to the one-hour staff meeting slot, thus becoming normal workplace practice and adhering to workload guidance, but not achieving the recommended two-hour period (see Engestrom et al. 2013; Virkkunen and Newnham 2013). With two or three weeks between sessions there was time to carry out tasks, although with a risk of losing momentum and intensity (Virkkunen and Newnham 2013). Eight sessions and one review were comparable to the session total in previous studies (Engestrom et al. 2013; Haapasaari et al. 2014; Kramer 2018).

Engeström suggests choosing a meeting location which is *not* a workspace, but still central to the activity, following the principle of ‘separation and embeddedness’ (Engeström et al. 1996:7). I chose a meeting room to focus on developing practice, rather than being restricted to practices already enacted in a classroom. It was central, so that all participants could access it readily, yet no one participant regarded it as their domain. As the room was also used by small groups of children during the working day, the group was not able to leave documentation/displays in the room, however it was easy to set up for our sessions after normal teaching hours.

4.3.4 Change Laboratory Outline

In this section I provide an outline of the intended content for eight sessions and one Review (for similar outlines see Haapasaari et al. 2014). I examine the outline firstly from a design perspective, what needs to be considered theoretically and methodologically and thus incorporated from the outset and secondly in terms of the substantive content that I included which enabled me to deliver the full Change Laboratory series as its researcher-interventionist.

The Change Laboratory design incorporates a series of on-site workshops where participants meet regularly to discuss problems and develop a new practice model. The researcher-interventionist designs each session to mirror the expansive learning actions (see section 3.5.1): this incorporates my desired focus on the historical reasons for *contradictions* in practice. At this early stage in the design process, I was already considering methods as the *double stimulation* method is an integral component of intervention task design (Bligh and Flood 2015).

Double stimulation encourages the development of new concepts, by setting a problem for the group to discuss (first stimulus) with documents, video or artefacts (second stimuli) supplied as additional tools to facilitate analysis (see Sannino 2015). Recognising problems (the first stimulus) can be an emotional procedure, and no interventionist-introduced stimulus can be wholly neutral (Engeström 2007b). Indeed, Sannino argues that stimuli are ‘conflictual’ (2011:592) and stimuli selected by the interventionist may be rejected by the practitioners (Engeström et al. 2014b). Thus, problems are an essential design element. As agency grows during the intervention, stimuli are more likely to be designed by practitioners, and changes are more likely to be sustained (Haapasaari and Kerosuo 2015).

Engeström and Sannino (2012) argue that learning should be considered through its connection to instruction; what is proposed in Change Laboratory interventions is stimulus for learning, instructed or guided by the interventionist, following a series of tasks aiming to explicitly bring about expansion. Change Laboratories allow the interventionist to plan activities to encourage participants to question practice and give them the tools to do so, which suits my wish to promote agency amongst in-service teachers. The researcher-interventionist plans the session, but session outcomes derive from participants’ expansion of the object of activity, and as such sessions may evolve differently from the original plan and participant appropriation is expected (Engeström et al. 1996; Engeström, Rantavuori and Kerosuo 2013). I have responded to this evolution by documenting the *intended* design in Chapter Four and the *actual* design as it unfolded in Chapter Five.

Virkkunen and Newnham (2013) regard the outline's role as three-fold: a tool to identify problems for analysis (or Object of the intervention, in this case developing reading comprehension pedagogy); a tool to identify the connections between the sessions and organisational practices (where practices have been identified by the researcher-interventionist or practitioners as disturbances) and lastly a means to identify the intervention's structure.

This is an indicative outline for nine one-hour sessions, with the first two sessions tightly planned, based on my understandings from the Lesson Study Review and observational notes. Initial plans covered the tasks designed to stimulate learning for each stage of the expansive learning cycle in the order usually demonstrated within an intervention: moving through a questioning and empirical analysis phase, succeeded by historical analysis and modelling, and finally examination, implementation and consolidation (Engeström 2014; Engeström and Sannino 2010; Virkkunen and Newnham 2013) (see column 2 in tables 4.3-4.11). The session plans for later in the series were less tightly formulated, as the Expansive Learning cycle anticipated practitioners acquiring more agency as the intervention progressed, so later sessions were not completely predictable (Ploettner and Tresseras 2016). I worked from the outline to create initial session plans and then amended plans from the outline between each session, responding to practitioners' actions during- or between -sessions. There were consequently numerous changes to the plans when I responded as interventionist to practitioners' actions. The differences between my research intentions and the actual interventions carried out are discussed in Chapter Five.

4.3.4.1 *Double stimulation tasks designed to produce new knowledge*

This section contains explanations of the terminology used in the outline, indicating where concepts are already discussed in Chapter Three. The headings (italicised) which I list below draw upon Virkkunen and Newnham's suggestions for elements in an intervention (2013:80-81) and are illustrated by the outline presented in table 4.2. This explanation is followed by a series of tables (4.2-4.10), one for each Change Laboratory (CL) session.

Expansive learning action (column 2, Table 4.2) refers to the phase of Engeström's expansive learning cycle which is being targeted in that session. The final session is a review to discover participants' views of the research process, as well as their plans for future implementation.

First-stimuli (column 3, Table 4.2) refer to questions which present the problem (or Object) in the first instance, or make participants conscious of a problem which they construct, supported by mirror data (see below). Each of the eight CLs has first and second stimuli, based on the principle of double stimulation (see section 3.4).

Under *Mirror Data* (column 4, Table 4.2), I refer to the practice of using the three 'surfaces' of model/vision; ideas/tools; mirror (Engeström et al. 1996; Engeström 2007b)(see figure 4.3 below). Surface refers to materials provided in the form of tasks to participants which evidence 'potentially problematic or contradictory situations in the activity' (Virkkunen and Newnham 2013:80). I intended such material to prompt discussion of current practices – for example, the Lesson Study meeting transcript in CL1 or disturbance diaries in

CL6. Under *model and vision*, in CL3 I planned for participants to interrogate the annotated activity system model. Under *ideas and tools*, in CL3 I planned to ask participants to bring artefacts they used to support children’s reading comprehension or forms they completed to assess children’s reading comprehension progress. *Mirror* material was likely to be video and audio recordings of participants’ practice or discussions, for example Lesson Study meeting recording in CL1.

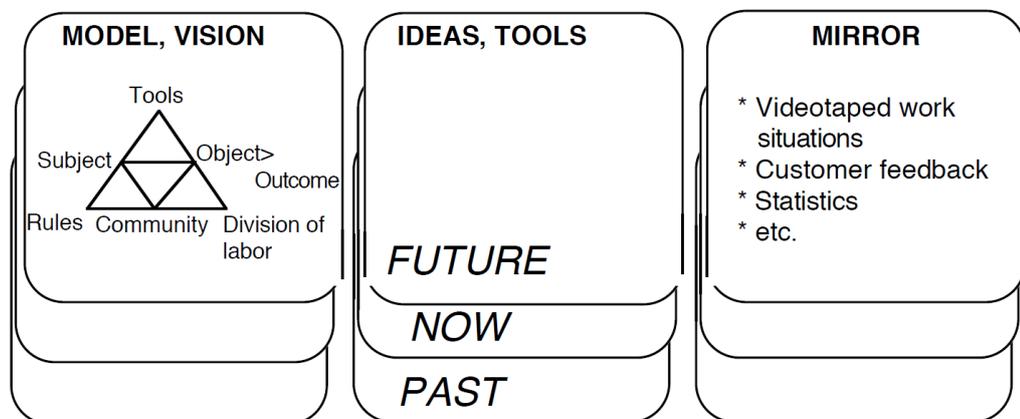


Figure 4-3 Schema for a Change Laboratory conceptual outline (adapted from Engeström et al, 1996:3)

Second-stimuli (column 5, Table 4.2) are presented once the participants are aware of the problem; second stimuli are tools (practical or conceptual) to examine the problem from a different perspective. Early mediating artefacts are introduced by the researcher-interventionist (cf.Engeström 2011), but as the sessions continue, more of these first-and second- stimuli should be introduced by the participants themselves, hence there are fewer detailed stimuli in the later sessions. Virkkunen and Newnham refer to ‘chains of double stimulation’ involved in remediating established activities, as participants move between first and second stimuli (2013:48). For example, in CL2 there is a second stimulus of *free drawing* designed to encourage

thinking about links between activities in school, before examining the activity system *per se*. The artefacts produced in these processes are discussed in more detail in section 4.4.3.

The last three headings of *Social organisation*, *Documentation* and *Record* (columns 6-8, Table 4.2) refer firstly to how I planned to organise participants, for example in pairs in early CLs, building to group discussion later; secondly to flip charts for recording ideas or forms I designed; thirdly what record I intended to keep of the CL proceedings and its artefacts, which formed the data collection to be examined.

I intended the design content to reflect the expansive learning steps evoked above; I close this section with a detailed discussion of session one by way of example. In CL1 (Table 4.2) I intended the *Questioning* expansive learning action to establish the idea of contradictions or disturbances, through free discussion which included all areas of practice. I therefore prioritised discussion tasks, to which they were not accustomed in current, largely transmissive, staff meetings. The first intended stimulus was to ask teachers to talk about their achievements, thus promoting a positive attitude to practice. I planned this as a paired task, so they were more comfortable to talk with a friend, before sharing ideas with the group. Based on my early data collection, potential contradictions might arise in Lesson Study discussions (the current professional development approach). This task's mirror evidence were two audio excerpts from the recent Lesson Study review, and the second stimulus was to complete individual grids of reactions to the material. The third task was planned to move participants from individual reactions to collective

engagement as they were asked to complete, as a group, a four-field diagram of identified disturbances in terms of unique/recurrent problems against eternal/new problems.

I also planned *between-session tasks* for each CL to maintain momentum. Between sessions one and two there was a reflection task, which asked participants to reflect on their practice in the coming fortnight and note the type of problems encountered. These actions would fulfil my aim of *Questioning* in CL1 because the permission to question actions would be established between all participants *in session*, and by asking them to collect evidence of problems *before* the next session, they were being asked to engage collectively with material which would form part of the *Actual-empirical-analysis* action in CL2.

Subsequent sessions followed the same format, as shown in Table 4.2-4.10 plans below. I anticipated that as participant agency grew, the plans would evolve somewhat differently, as participants brought their own second stimuli to the sessions and that there might be some overlap or oscillation between expansive learning actions across sessions, according to the needs of the group. The actual unfolding of CL sessions is documented in Chapter Five.

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL1 5.1.17	Questioning of current practice	Task 1 What do you do well/feel passionate about in your teaching?			Discussed in pairs and then collectively	Flip chart for general note taking (researcher scribe).	Session to be video and audio recorded (same for all CLs). Any artefacts produced to be photographed
		Task 2 What do you think about the Lesson Study approach?	Transcript and Audio recording selection from review meeting 8.12.16, two excerpts to analyse	Participants complete 'What's happening here?' grid, which records individual or paired response to audio clip; collect ideas on flip chart		Comments on clips to be collected in grid	
	Researcher's intention: establish idea of contradictions or disturbances	Task 3 How do you see the problems you've described?		Participants map sample disturbances onto a 4-field diagram: eternal/ new problem vs. unique /recurrent problem	Between-session task: Reflection	Flip chart Personal reflection sheets to be handed out	

Table 4-2 Outline of Intended CL One

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL2 19.1.17	Actual-empirical Analysis	Task 1 To talk to group about CL research method + Introduce the activity system		3 Conceptual aspects: mirror/ model/ ideas (PowerPoint handout)	Whole group	Activity system definition.	
		Task 2 Where do you fit in school and who do you interact with when you're trying to make things work?		Individual free drawing, to discuss collectively	Individual, collective	Participant to scribe	Photograph drawings of self in system
		Task 3 What happens within the organisation?	Share any disturbances experienced since CL1	Definitions of activity system terminology; sample activity system diagram; blank diagrams	Individuals or pairs annotated the activity system diagram, then collectively	Diagrams	Photograph individual + collective activity system diagrams
	Researcher's intention: link theoretical concepts to their working life, examine concept of 'object', examine relationships	Task 4 What do you think the disturbances are in this video clip from CL1? to discuss their interpretations	Video +Transcript (CL1 excerpt)	Annotate activity system with broken lines for disturbances	Between-session task: 1. Organise an observation of colleague 2. Complete a disturbance diary 3. Bring artefacts related to reading	Disturbance diary proformas to hand out	

Table 4-3 Outline of Intended CL Two

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL3 2.2.17	Historical analysis/ Actual-empirical Analysis	Task 1 Presentations on reading comprehension practice (less experienced teachers)	Live mirror-presenting artefacts relating to their practice		Whole group	Grids; participant to scribe	Photograph annotated disturbance field/notes
		Task 2 What is proving problematic in terms of the activity system?	Annotated activity system (CL2) and disturbance field (CL1)	Annotate disturbance field diagram (5.1.17) with new comments		4-field diagram	
		Task 3 It might be quite interesting to have an historical perspective? (more experienced teachers)	Live mirror-presenting artefacts relating to their practice	Feedback on second batch of presentations to be used to create timeline.		Flip chart for timeline	Flip chart
	Researcher's intention: promote historical perspective through second batch of presentations/ production of timeline	Task 4 Any disturbances to share from last fortnight?		Annotate diagrams as above	Between-session task 1. Complete Disturbance diaries 2. Set up observations of practice	Disturbance diaries proformas	

Table 4-4 Outline of Intended CL Three

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL4 9.3.17	Historical analysis/modelling	Task 1a How did we talk earlier about rules, the community, the organisation as a whole? (20 min)	1 st Video Clip of discussion from CL3 (c.5 min)	Transcript of clips space provided for notes; box for disturbances and ideas to take forward. Activity system diagram support	Pairs	Transcript	Photograph, timeline, notes on 1 st video and completed grids
		Task 1b Can you apply ideas to activity system?		Blank large activity system to annotate with problems	Whole group		New annotated activity system
		Task 2 Presentations from observation pairs of models (comprehension)	Artefacts brought by teachers	Simple 3 column table to complete: what worked well, why, even better if	In pairs; two or three sets	Table	Table
		Task 3 What kind of models had we? what could we have?		Refer to Timeline	Group	Flip chart	Flip chart
	Researcher's intention: revisit theoretical concepts; use timeline to examine the quality of preceding models and what they propose to do next; discuss disturbance diaries	Task 4 Do you think you're any clearer on what you want the object of enquiry to be?			Between session task 1. Carry out pilots 2. Video own practice 3. Complete disturbance diary	Flip chart	Flip chart

Table 4-5 Outline of intended CL Four

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL5 6.4.17	Examination	Task 1 Video clips of their classroom practice -some amendments to models? (30 min)	Videos	Grid to analyse changes	Individuals to present and comment on videos in turn	Flip charts, PowerPoint slides	Photograph intended model
		Task 2 How are artefacts used?			Whole group discussion	Flip chart	Flip chart
	Researcher's intention: use the clips to examine contrasting practice. Develop new model	Task 3 What is object of activity? What will you implement in class now?			Between session task 1. Trial and observe refined models 2. Complete disturbance diaries.	Flip chart	Flip chart

Table 4-6 Outline of intended CL Five

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL6 11.5.17	Implementation	Task 1 'What went well' and 'even better if': report on trials	Presentation by teachers; disturbance diaries	'what went well' and 'even better if' chart to complete	Individual feedback and group discussion	Flip charts	Photograph 'what went well' and 'even better if' chart
		Task 2 What sort of changes might we make based on first implementation? What elements do we want to keep?	Intention to show video clip of previous discussion on object Timeline	Annotate timeline with new object	Group	Timeline	Timeline
		Task 3 What do we want to change now and how do we want to do it?	Schemes of work	Academic papers on how to implement reading comprehension effectively (strategies and pedagogy)	Pairs>Group	Map feelings/ experiences of process so far onto a 4-field diagram	4-field diagram
	Researcher's intention: evaluate early stage implementation, amend as appropriate	Task 4 Could we do this across the school?	Activity system diagram	Annotate activity system Draw up an action plan	Between session task 1. Observe new model 2. Update senior leadership 3. Complete disturbance diaries		Action plan

Table 4-7 Outline of intended CL Six

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL7 15.6.17	Process reflection	Task 1 How are you getting on with new models?	Observation notes or video		Individual feedback. group discussion	Flip chart	Photograph flip chart
		Task 2 What about the recent changes that we've had? Where do they sit within that diagram? Who is involved?		Blank activity system diagram for annotation	Group	Activity system diagram.	Updated activity system;
		Task 3 Are there things that are still slightly problematic?	Disturbance diaries	Notes on flip chart	Group	Disturbance field.	Disturbance field;
		Task 4 How do we amend model?		Original model for annotation	Group	Action plan.	Amended action plan
	Researcher's intention: review mid-stage implementing, review relational aspects				Between session task Complete disturbance diaries		

Table 4-8 Outline of intended CL Seven

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL8 6.7.17	Consolidation	Task 1 Review of on-going models	Disturbance diaries Annotated activity system displayed		Group	Flip chart	Photograph activity systems. Charts
		Task 2 Can we produce artefacts to evidence impact of learning about reading comprehension?		Existing artefacts they might want to amend	Group	Flip chart	Flip chart
	Researcher's intention: consolidate different iterations into one cohesive model to be implemented in September. Produce a practical scheme of work	Task 3 What do you want to present to Senior Leadership?			Between session task: Finalise documentation	Proposed scheme of work	Proposed scheme of work

Table 4-9 Outline of intended CL Eight

Session /Date	Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documentation	Record
CL Review 13.7.17	Review	Task 1 How do you feel about reading comprehension? Current challenges? Things still not quite working?	Data from beginning of process	Sheet to complete with achievements	Whole group	Flip charts. Post-its	Photograph 4-field diagrams
		Task 2 What did you think the research process would be like? What did it turn out to be?	Activity system diagram,	Four-field grid	Whole group	Flip Chart	Activity system diagram,
	Researcher's intention: Encourage group to see what they have achieved Examine their understanding of CL model concepts Reflect on the research process and how it might develop in future	Task 3 Has it changed teachers' ways of working? How would you change process for others? Comparison with other professional learning?	Timeline		Whole group	Post-its	Timeline
		Task 4 What will make this work long term?	Activity system diagram		Whole group		

Table 4-10 Outline of intended CL Review

4.4 Methods

Thomson argues that to establish a firm foundation for new research it is important to show

how the researcher understands and has used particular methods – discussing the various tools that have been used, why and how, presenting the case that this particular combination of tools will produce the data necessary to deal with the topic at hand (2015: online)

As the methods used in Change Laboratories are strongly linked to the research design, I have already alluded to methods in section 4.3, but in this section, I set out the ‘tools’ I used in the Change Laboratory in detail.

Following Robson’s argument, the methods selected depended on ‘what kind of information (wa)s sought, from whom and under what circumstances’ (2002:223). The methods were congruent with the research question, in other words they were able to ‘deal with the topic at hand’:

How can a Change Laboratory formative intervention stimulate transformative and relational agency for professional learning amongst in-service primary school teachers to develop a reading comprehension pedagogy?

I planned to use ethnographic methods of observation to find out *how* the teachers conducted reading comprehension instruction in class, either directly by myself as the researcher-interventionist or indirectly by participant filmed video observations. To find out *what* the teachers thought or believed as a group about reading comprehension pedagogy I intended to record the

discussions in the Change Laboratory, similar to undertaking focus group interviews. However, as the Change Laboratory is a formative intervention intended to change practice, creating double stimulation tasks within a framework of expansive learning was the prime method of knowledge production.

The research design envisaged collecting the following data:

- Ethnographic
 - observations of reading comprehension delivery in classrooms
 - notes on staff meetings, conversations, training sessions
- Video and audio-recordings
 - researcher's recordings of Change Laboratory sessions
 - participants' recordings of their own classroom practice
- Artefacts
 - internal and external guidelines on reading comprehension delivery
 - documentation from training days
 - observation notes of teachers delivering reading comprehension sessions
 - researcher's session notes on video footage as part of the first order data analysis (along with audio transcripts, these become data available for second order analysis).

-
- Research diary notes
 - conversations with individual participants as part of working routines or lunchtime discussions about the research study (see section 4.6)

This section appraises the data I intended to collect, illustrated by later examples, the nature of which will be discussed in detail in the presentation and analysis chapters.

4.4.1 Pre/early Data Collection

As I noted in section 4.3, the Change Laboratory design normally involves time spent collecting data and observing participants in their work setting prior to commencing sessions (e.g. Engeström et al. 2002; Haapasaari et al. 2014). Virkkunen and Newnham note the value of ethnographic field notes at the planning stage of the intervention and advocate recording ‘impressions, questions, inferences’ (2013:63). My day-to-day teacher development role meant I regularly visited several schools where I could see reading comprehension pedagogy in action as part of my normal activities. During these lessons I was observing the pedagogical process, not making judgements. For example, I observed the early stages of reading being taught to five-year olds and group reading with six-year olds, both experienced teachers. I noted that in group reading, the technique was supposed ‘to enable teacher to check reading accuracy, but she cannot hear all individuals at once’ (Research Diary 26.1.17). Similarly, I was invited by the Deputy Head Teacher to attend a comprehension training session for support staff, so I could see how they delivered comprehension activities with children.

I accumulated other ethnographical data in my research diary: I kept notes of incidental conversations, often those from the staff room, which was the teachers' de facto 'backstage' (cf. Goffman 1959). In doing so, I recognised how such notes constituted a reconstruction of the field of research to some degree (see Coffey 1999). These comments will be denoted by the rubric Research Diary, with the appropriate date. For example, I noted teachers' conversations about being nervous about being observed teaching by senior staff (Research Diary 19.9.16); they worried about doing 'more observations' (Research Diary 29.9.16) and felt 'scared' by observations (Research Diary 15.11.16). This reluctance influenced the eventual research design.

Another source of early data was an ongoing Lesson Study programme (cf. Cajkler et al. 2015, Dudley 2013, Inoue 2011, Vrikki et al. 2017), a professional development activity not uncommon in English schools, which had started at Highway in September. The focus was on Reading Comprehension pedagogy and teachers had begun peer observations; this programme partly determined the object of the intervention (see section 4.3.1). The head teacher's interpretation of *lesson study* appeared to be quite loose, serving as an heuristic for peer observation. He regarded the September to December 2016 Lesson Study programme as 'dipping their toes in the water'. He intended to draw on the experience of older staff and to encourage everyone to develop a 'commonality of practice', at the same time as regarding lesson study processes as being 'guided' by Senior Leadership, rather than generated by teachers (Research Diary 16.11.16).

On 8 December 2016 I was invited to attend an informal staff meeting (29 minutes) led by the assistant head teacher to review Lesson Study progress. I audio recorded the session and made notes. So far, the teachers had made some observations of each other's reading comprehension sessions and they raised the following concerns in the meeting (table 4.11 below).

Areas of concern	What they would like to do
1. Lesson Study format: 'trying to co-ordinate so many staff'; 'a lot of bodies in the room';	Work in pairs; plan in advance
2. The system: 'no space'; 'trying to listen to them all reading'; 'no time'; 'short of support staff'	See reading in a different school for same age group; listen to children read every day

Table 4-11 Disturbances already identified 8.12.16

Table 4.11 indicates several early disturbances which informed the intervention. I therefore planned the intervention to enable the group to investigate their concerns about lesson study methods and the disturbances identified in the activity.

4.4.2 Video data

Video is a source of 'rich and comprehensive data' (Engeström and Sannino, 2012:53), though the partiality of camera angles and the camera operator may

present data which are in some sense constructed (Ruhleder and Jordan 1997; Luff and Heath 2012).

Engeström suggests that an advantage of a video-recorded method is that it supports the analysis of an ‘interconnected *instrumentality*’ (2005:187, italics in original). Instrumentality is defined elsewhere as ‘jointly used instruments in a community’ (Kerosuo and Engeström 2003:349): participants may use video to articulate understandings through talk and gesture, both in real time when conscious of the videorecorder, and in retrospect when they view excerpts. Participant exchanges, tools and signs are no longer separated, so that the researcher-interventionist is ‘traversing collective zones of proximal development’ (Engeström 2005:188), including her own. However, whilst a fixed camera captures the complexity and situated nature of interactions (Mondada 2006), coverage may be constrained by participants not being in shot and *in situ* work with artefacts not being captured, as seen in figure 4.4 below (Luff and Heath 2012).



Figure 4-4 Camera Angle in CL1

CL video recordings have multiple purposes: video recordings are not only used by the researcher-interventionist to analyse participants' interactions, they are also used as mirror material in subsequent CLs in a double stimulation (Engeström et al. 2014b; Sannino 2015). In CL2 Task 4 I planned to use a video clip from CL1 to remind them of disturbances already identified and to provide a concrete link to the activity system introduced in CL2 (see Table 4.3). As every session was video-recorded, I intended to conduct first-order analyses of footage between sessions to plan and prepare mirror material (see first/second order analysis procedures section 4.4.4). Another form of video mirror material was teacher-generated video clips, for example a planned task between sessions four and five was for teachers to video their classroom reading comprehension practice. This approach was chosen as video has been shown to mediate teachers' learning about classroom practices, bridge classroom and workshop contexts, and stimulate reflection (e.g. Pehmer, Gröschner, and Seidel. 2015; Sedova, Sedlacek, and Svaricek 2016).

I did not intend to seek individual interviews with staff, as seen in similar studies without a CL design (e.g. Sannino 2008a), as I felt that this would be a duplication of CL discussions. Participants would be able to speak to me informally about any aspect of the project and these conversations would not be audio or video-recorded, as I would make notes subsequently.

Images presented as data were processed in Photoshop (Version 7, Adobe) and manipulated, where appropriate, to preserve confidentiality by using the Gaussian blur function with a 100-pixel radius.

4.4.3 Artefacts

Various types of artefact creation were planned in the CL series; the following section provides examples of these and their purpose within the research design, illustrated by examples taken from the project.

Theoretically-linked artefacts: I planned to use an explanatory diagram and glossary to examine the activity system concept in CL2 (Appendix 3, with permission from Bligh and Flood 2015). I anticipated the theory might be difficult to conceptualise, so Task 3 (table 4.3) provided a model activity system which the participants annotated with their own interpretations (figure 4.5 below). I also intended to use conceptual tools, such as the four-field problem diagram in CL1, or the process review in CL6 shown in figure 4.6 below (cf.Engeström Engeström and Suntio 2002). Sketched on flip chart paper, these were intended as quick captures of a range of collective responses to a problem.

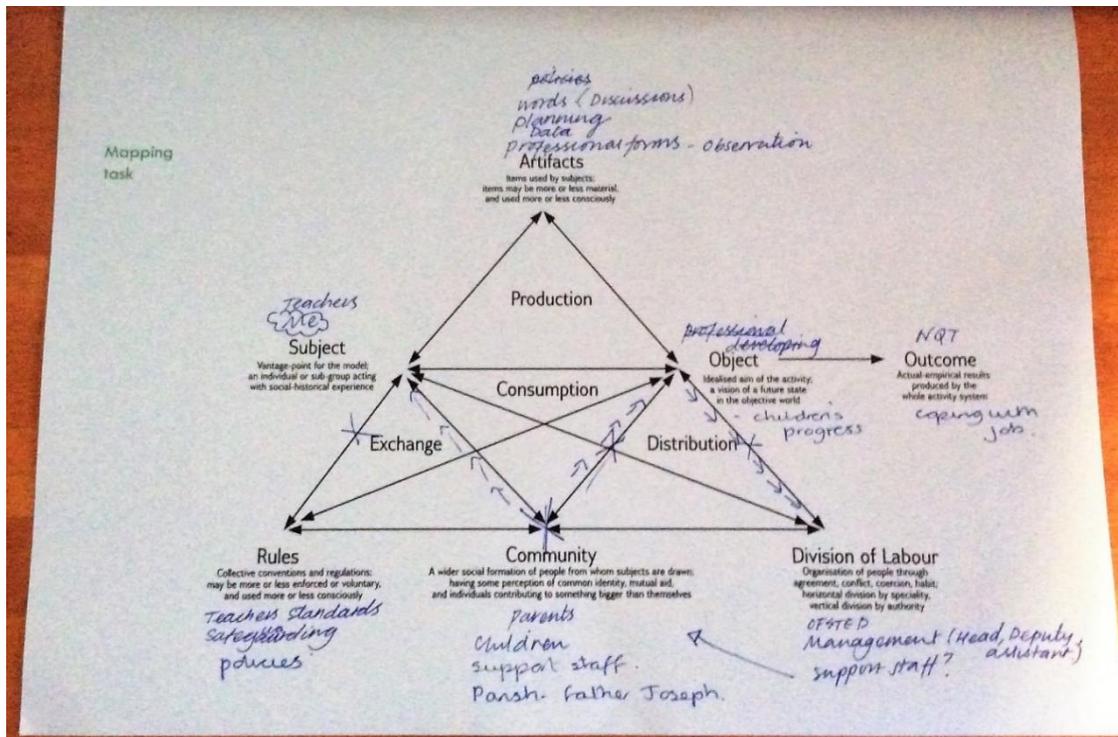


Figure 4-5 Sample annotated activity system with permission from Bligh and Flood (2015)

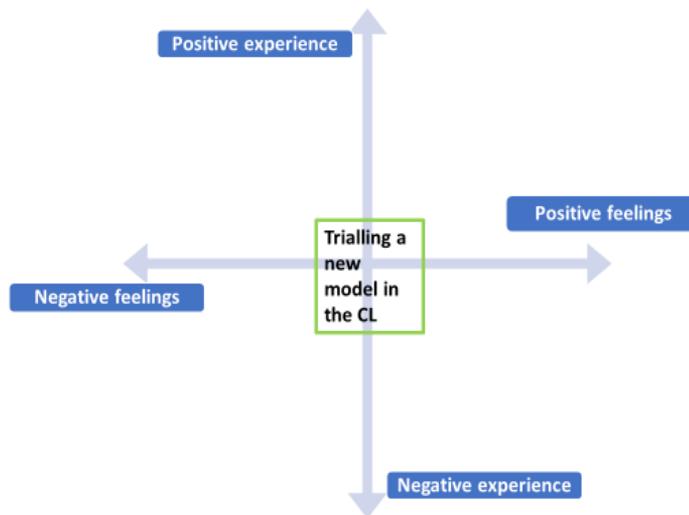


Figure 4-6 Capturing process review (adapted from model in Virkkunen and Newnham 2013)

Process-related artefacts: disturbance diaries were used as *between-session* tasks in early CL sequences (e.g. between CLs 2-3,) maintaining momentum and collecting 'information about problems met in the daily activity that call for new solutions' (Virkkunen and Newnham 2013:247). I adapted Virkkunen and

Newnham's template using an example from practice observed at Highway (table 4.12 below), and asked teachers to comment on the processes involved in daily teaching.

Theme	Difficulty/disturbance/surprise/problem situation	Available solution	Ideas for dealing with identified disturbance
<i>example</i>	<i>Children falling behind taken out of other lessons for pit stops, so miss lessons and/or playtime</i>	<i>Timetable for pit stops? Staffing?</i>	

Table 4-12 Disturbance diary proforma

Some process artefacts were simple, for example the grid in CL1 (task 2, table 4.2), which provided a tracking device for the mirror video excerpt with a series of prompts (figure 4.7).

What's happening here?

Extract	What sort of difficulty is it?	When does it happen?	Is it a problem for everyone?	What do you think about it?
1	Organising lesson study group observations	Everytime - in each group	Definitely.	Time management is difficult and release time for everyone.
2	Finding space (rooms) for intervention groups.	constantly	Yes.	- Work around it the best you possibly can - in the best interests of the children and staff.

5.1.17 Change Lab session 1_grid 1

Figure 4-7 Simple grid

Teacher-generated artefacts: I planned for the group to create their own artefacts, for example in CL2 teachers were asked to draw their relationships as practising teachers in school (Task 2, Table 4.3). This was designed to stimulate communication (cf. Ellis 2010; Theron et al. 2011) and to establish a culture of collective meaning-making. I hoped that artefacts created within the CLs, for example the timeline proposed for CL3 (Task 3, Table 4.4- see figure 4.8 below) would act as double stimulation to support the remediation process and be viewed as a reference point in later sessions (see Ploettner and Tresseras 2016). As historical perspectives may be difficult to access, I opted for a timeline to encourage discussion and relational perspectives (cf. Sheridan Chamberlain and Dupuis 2011), rather than a history matrix (see Haapasaari Engeström and Kerosuo 2016; Virkkunen and Newnham 2013).

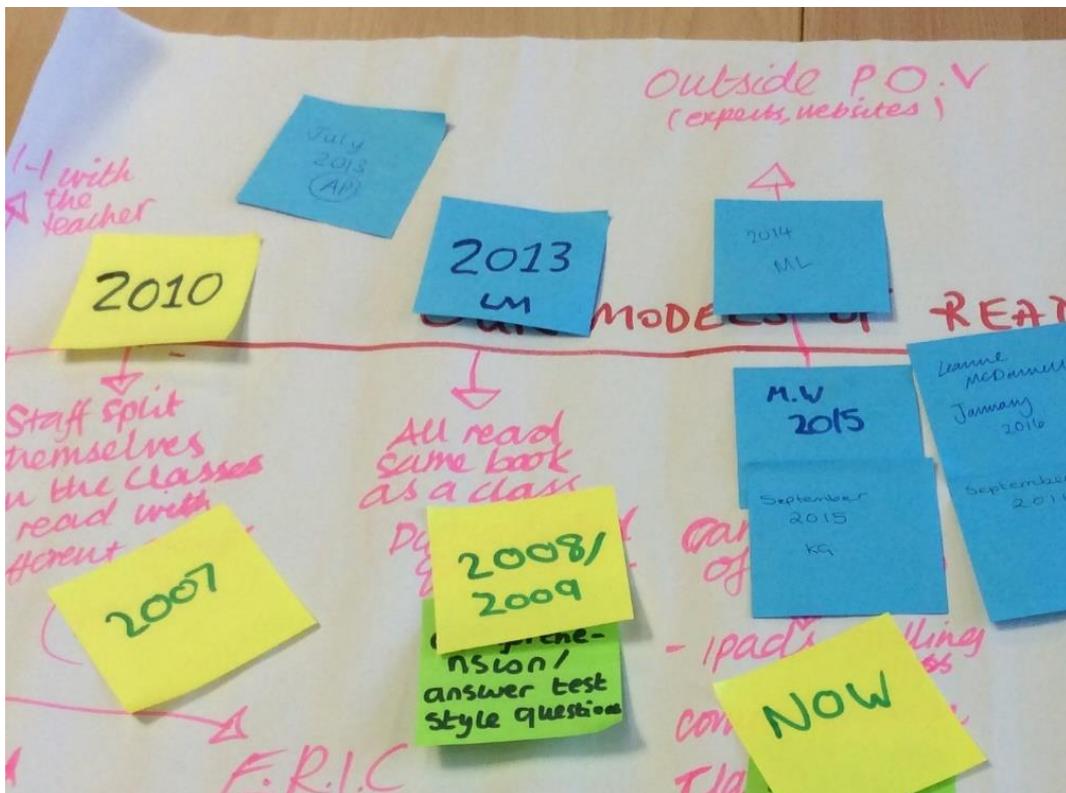


Figure 4-8 Timeline snapshot

My design also called for teachers to introduce artefacts to the CL process, for example they were asked to illustrate their approach to teaching reading comprehension by bringing artefacts to CL3, so that their own practice became part of discussions. By asking them to bring guidelines for reading comprehension delivery or sample materials, I also hoped to see how they interpreted practice designed by others.

4.4.4 Data analysis methods

In this section I outline why I chose the data analysis method and set out my data preparation. As the Change Laboratory (CL) sequence requires data analysis between sessions to prepare for subsequent sessions, I required a method which would allow for lighter touch first-order analyses and in-depth analyses for the preparation of the thesis. The first order analysis was an essential part of the methodology for the intervention. I have already discussed in section 4.3.2 how, as researcher-interventionist, I was making decisions on which data to select. Selection, informed by that first-order analysis, enabled me to decide which data to present as stimulus for new knowledge production. The production of new knowledge taken in a dialectical materialist sense can be understood where my first order analysis allowed me to 'abstract' the germ of a new idea - in this case data which provided potential stimulus towards a reconceptualisation of the object - to arrive at a new concrete (cf. Bligh and Flood 2015; Engeström 2008a). As this first order analysis proceeded across the course of the CL series, alternating episodes of analysis and intervention on my part informed the process of expansion.

The following paragraphs explain my data analysis method and demonstrate the distinction between the two orders of analysis.

I chose Qualitative Text Analysis (QTA) as I believed it could deal with the CL's complex instrumentality, discussed in section 4.4. 'Text' under QTA is understood in broad terms, thus incorporating all the data listed in section 4.4. Data to be analysed included audio transcripts from the nine CL sessions, supported by the video recordings, plus documents produced by the teachers during the CL sessions (e.g. annotated activity system diagrams, flip chart notes and drawings of the relational aspects of their work), as well as samples of work produced by children, which were brought to the CLs as mirror material and existing school policies and schemes of work. Ethnographic data from interactions with staff outside the CL session recorded in my research diary were also analysed. Given the variety and scope of the data, I required a method of analysis which allowed the researcher to apply the same coding across a range of instruments (documents, video and audio recordings).

QTA, as championed by Kuckartz (2014), is a derivative of Mayring's (2004) Qualitative Content Analysis (QCA) method. QTA can be applied across different data sets, one of my key requirements, and it suits deductive methods, which would be applicable to an investigation of expansive learning. QTA addresses all the data by classifying and categorising data as it evolves, rather than using a restrictive coding frame. I found QTA more interpretative as it retains a degree of 'hermeneutic interpretation and reflection' by acknowledging 'the interactive form' of the material under consideration (Kuckartz 2014:36). Given that my research question is concerned with

relational aspects and agency, this more nuanced, hermeneutic consideration was important, though I could still focus on the process and structure of analysis, which would suit the CL's linear nature.

I considered another QCA derivative, as implemented by Schreier (2012), where Shreier's use of coding frames echoes quantitative data analysis. Whilst its repetitive, structured nature may chime well with the stepwise CL method, I felt its reliance on a coding framework was more suited to a group of coders, who can check that a given code is exhaustive. As a sole researcher I needed a method that would adapt more easily to the constraints of one person's analysis, be less labour intensive and be more clearly suited to an interpretivist stance. I therefore chose to work with QTA, employing a thematic variant with deductive categories, so that the analysis was directly related to the forms of agency postulated in the research questions.

4.4.5 Preparation of data and first-and second-order analyses

I organised data in a chronological fashion, in line with the 'basic temporal structure' of expansive research (Engeström 2014:262). I collated notes, transcripts, mirror material and artefacts constructed during the session, labelling a pack for each session. Artefacts such as flipchart notes, diagrams or examples of pupils' work were photographed to preserve them and facilitate later analysis. I carried out all data analysis as sole researcher-interventionist, the group were not involved in the analysis process, as they might have been under participatory action research for example (see Somekh and Thaler 1997). An initial level of analysis therefore occurred when selecting items to be included, which is common to qualitative analysis

processes (Kuckartz 2014). Once data packs were established, a brief first order analysis began.

By first-order analysis I mean a preliminary engagement with data for methodological purposes during data collection. The CL format, with two or three weeks between each session, meant that I had to perform a first-order analysis of Session One in order to prepare mirror material for Session Two and so on. I watched the video recordings of the session and made brief notes on themes and areas of interest such as dilemmas, contradictions and double binds, then I listened to the audio transcript to select precise extracts to use as mirror material. As such, this first-order analysis became part of knowledge production in the intervention. For example, prepared transcripts from session one became data to be examined by participants in session two. The understandings built from their analysis of their own previous discussions enabled them to create new knowledge concerning their pedagogy. Audio recordings were professionally transcribed; this was a practical step, in line with some previous CLs (see Engeström and Sannino 2011) and allowed me to prepare selected transcriptions for mirror material in time for the next CL. Transcription was spare, with no emphasis, notations for pauses or tone of voice, in order not to influence participants' reactions when they read the transcript (see Brinkmann and Kvale 2015). As I was not transcribing myself, I made summary notes of each CL session in my research diary directly after the event.

Additional annotations in the transcript margins formed another set of memos of emerging ideas to set against the video and diary notes. Kuckartz (2014)

suggests that memos, originally used by Strauss, Corbin and Glaser in grounded theory approaches, are an integral analytic tool. This first-order data analysis employed to fulfil the methodological demands of the CL, placed my approach outside the conventional QTA method, as it preceded the initial work with the text (the first step in figure 4.9 below) when the data is 'systematically read' (Kuckartz 2014:50). The first-order analysis acted upon, as well as being influenced by, the research questions; this two-way process re-occurred in fifth and sixth steps of the analysis.

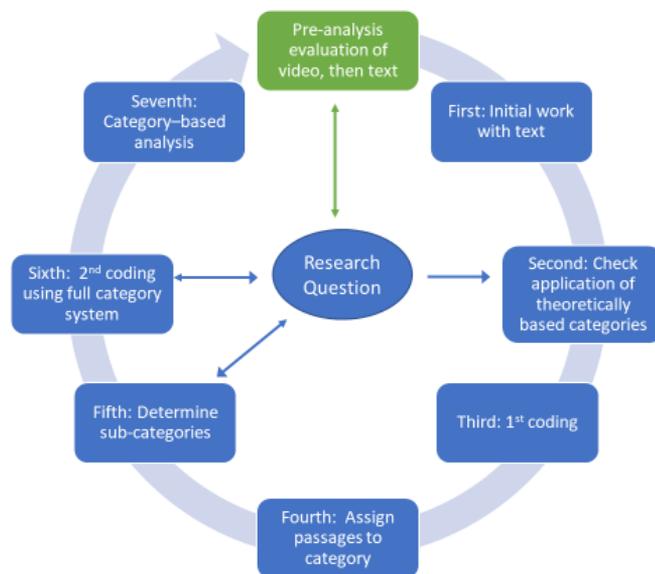


Figure 4-9 Steps in a thematic QTA process in the Change Laboratory

Adapted from Kuckartz (2014). Key: green box is 1st order analysis, blue boxes are 2nd order analyses

Second-order refers to analyses carried out when data collection was complete, and which built upon the first-order analysis' contribution to knowledge production. For step one (figure 4.9), I checked through the whole data set to ensure enough data could be assigned to the categories arising from the research questions, namely:

-
1. Taking actions to resist the direction of the change process
 2. Suggesting tasks or objects of discussion
 3. Explicating new potential in the activity
 4. Envisioning new models for the activity
 5. Committing to concrete actions that support change in the activity
 6. Reporting taking consequential actions to change the activity

I thus ensured that the categories were a viable option (step two). There were evidently sections of text which were not readily assignable. Text which consisted of incidental 'banter' amongst members, or comments about school pupils was not coded. Where I felt the text was potentially relevant, for example a discussion about the use of artefacts, I assigned the unit to a 'holding' category of 'Other', before reassigning it later to the appropriate category. I applied this process to the data from each session (see figure 4.10 below).

In step three of the second-order analysis, I completed an initial coding on paper and then moved from working on paper to the digital files, adding selected units into spreadsheets for each defined category (step four). I went back and forth between original audio and video recordings and the *audio transcription* as part of the coding process. I checked both for accuracy and noted emphasis/tone/gesture, whilst ensuring that any interpretation implicit in noting emphasis did not affect the integrity of the professional transcription. I also checked speakers - for instance to ascertain who was committing to

concrete actions - and looked for other clues to meaning not apparent in the transcript.

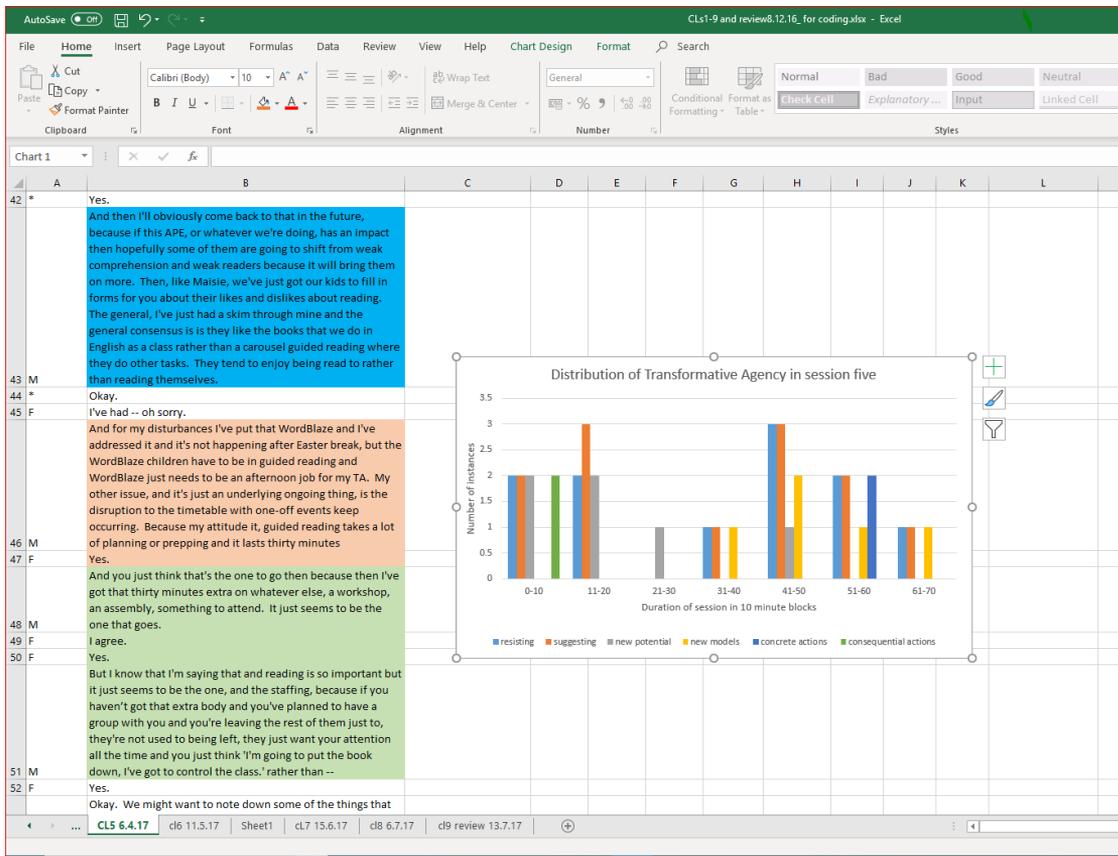


Figure 4-10 Coding spreadsheet CL5

Coding for consequential actions (blue), suggesting tasks (amber) and resistance (green)

With spreadsheets for each category it was easier to retrieve key passages to allocate to the sub-categories (step five) of common knowledge, relational expertise and relational agency which had arisen from the second part of the research question. I then rechecked the allocations to the six categories and three subcategories (step six) and examined the interaction between categories and sub-categories in step seven (see figure 4.11 below).

sample -CL6	common knowledge	relational expertise	relational agency-CL6	Comments
Whereas xx has put in place APE and the work from her kids blow mine out the water because they've got that sentence structure, and I want to then take that idea from xx and put it into Year 4s.		benefits of RE- leads to a commitment to action		
Well I now want to go away and do, again what xx does, in terms of if I've had a group for a day then they need to have the questions I asked, it's almost like a memory test isn't it?		aligning with year 3		part of unit 7, assigned to category 3 relational exchange of views . Concrete actions supported by anothers ck , language: I want
It takes literally, especially if I have something like, like it takes literally two minutes for me to type it up.	brief interjection of CK to reinforce argument			
They've had that conversation and then they're using the structure of something like this to then respond in their book.	assimilated into own ck??			
That's what I'm going to do I think this week going forward. I will use VIPER and then get them to answer it in APE.				asserts individual agency very clear which elements of model she will use and how
I want to just say it right here right now.				
Get them in. I would just use VIPER questioning in my head without sharing it with the kids, but I want to do that.				Jumping the gun here, but not understanding argument in next few lines about perennial contradictions
Yes, same.			all agreeing way forward	
I mean if these were on the wall I'd be more than happy to have that as a prompt and say --				yr 6 agrees to present the combined APE/VIPER idea
Talk through it, yes.				
Okay.				
So what are we all doing then?			points to willingness to act collectively, but not sure what they are doing.	
So that's what we want to do? Well let's see if I can get a, the				

Figure 4-11 Commitment to concrete actions spreadsheet annotated under 3 sub-categories

4.5 Research Quality

To be consistent with the constructivist epistemology espoused in Chapter One and my position as an insider-researcher (section 4.4), I set out how this research meets criteria for credibility, trustworthiness, authenticity and dependability in qualitative research. These criteria are recognised as suitable for judging the rigour of interpretative findings (Creswell 2013; Lincoln Lynham and Guba 2011; Miles and Huberman 1994; Yilmaz 2013).

Yilmaz suggests that *credibility* is affected by 'data collection procedures, multiple data sources, triangulation, thick and rich description, external reviews or member checking' (2013:321). In this study, I demonstrate that I had an open data collection process during the sessions, where participants were free to express views and all views were recorded. Triangulation in the Change Laboratory (CL) stemmed from the variety, range and richness of

data obtained: group discussions, participant recordings, documentation, pupil voice, off-the-record conversations and staff meetings. The final Review enabled debriefing: participants evaluated findings, their motives and willingness to participate in the research: they critiqued the research process and my role within it. Mirror material (partial transcripts) used in CL sessions acted as a form of member checking as transcriptions could be challenged if not a faithful representation of discussions. This process compensated for being a sole coder and meant that I had no monopoly on interpretation (cf. Brinkmann and Kvale 2005). I bore in mind that I could not assume that our interpretations, even if co-constructed within the CL, would be homogenous (cf. Berger 2015; Humphrey 2013).

Trustworthiness can be seen in the descriptiveness of the data and its accurate contextualisation (Yilmaz 2013). This was a six-month study where I had a good understanding of participants' working practices and I collected data in various contexts. This shared understanding developed through participant involvement in the CL sheds light on the emic perspective, in which as a former teacher I share. There remain etic perspectives, however, given that my role here was also of researcher-interventionist and my interpretation of that shared social reality will be reflected in the coming analysis and discussion. However, by using the first order analyses and selecting data which is then subject to further scrutiny by participants within the CL process, some of that personal interpretation is mitigated.

The *authenticity* of this study stems firstly from the collaborative nature of the small-scale intervention with its potential to change practices within the

activity system and build on a growing reciprocity (cf. Gitlin 2000). It is also authentic in its dialectical acknowledgement of the 'internal contradictions' which practitioners experience in their understanding of everyday practices (Virkkunen and Newnham 2103:30). Data presented in sessions by the participants and re-iterated analyses co-constructed by the group in successive workshops also indicate authenticity in the opportunity to confront those contradictions and reflect upon them. Likewise, my reflections in my Research Diary on the implications of my actions, what Schön might term 'the situation's back-talk' (1983:124), add to the study's authenticity.

The study was also authentic in its analysis of a particular teacher professional learning activity system in central England; as a local intervention, it suggested 'tentative solutions' to particular problems, as advocated by Engeström, Sannino and Virkkunen (2014b:120). There are limitations to a small sample: but this was a single activity system formed by 'a natural team' (Engeström et al. 1996:1).

Finally, Yilmaz suggests that a study has *dependability* 'if the process of selecting, justifying and applying research strategies, procedures and methods is clearly explained' (2013:320), which Chapter Four has shown. One advantage of following a relatively prescribed CL method is that if methods have previously been followed in different contexts and locations, they are dependable and can be systematically compared (Engeström et al. 2014b). The chosen QTA analysis method was systematic with all relevant data included in the analysis. I would argue that QTA aligns with CL being interpretivist and demonstrates commensurability. I would not claim that a

sole researcher acquires the same level of dependability as a team, although there is precedence for a sole researcher in a teacher training CL (Ellis 2008). A sole coder's categories at the analysis stage may lack refinement, as there is no consensus, however my use of a deductive method with categories framed by theory militated against this. As I had no peer coder, I also reviewed sections during the period of analysis to check my interpretations, as suggested by Berger (2015).

4.6 Ethics

The formal Research Ethics process at Lancaster University was followed, whereby I provided a rationale for the research design and my project intentions. The Research Ethics Committee was interested in the intervention procedures and as they were not familiar with expansive methodologies, several discussions centred on the difficulty of providing group discussion questions for the full sequence of sessions, given the evolving nature of the intervention. I provided outline questions instead, as seen in Tables 4.2-10, to which the committee agreed. There were some concerns about the use of video footage, especially in relation to the lack of anonymity in video used as mirror material. I provided extended clarification to the committee on the research design as elaborated in this chapter, which was accepted (see Appendix 1).

To conduct the CL ethically, I followed BERA (2011) guidelines and sought to incorporate principles like Locke, Alcorn and O'Neill's participative action research ethics (2013:113-114). These included 'communicative freedom'(ibid) (right to withdraw): for example, Senior Leadership expected

staff to be involved in developing reading as part of their professional duties, but the related research was the teachers' own choice, so not everyone attended every session.

Regarding 'critical self-reflexivity' (ibid) (being transparent about my research intentions): when I briefed participants, I explained that the study would expand their professional practice and benefit their pupils' development by encouraging professional reflection and would not require undertaking additional work. Pseudonyms would be allocated in the writing up of the thesis. I explained the use of video as a tool for analysis within the group and that no non-anonymised footage would be shared outside, and that confidentiality would be maintained. With my supervisor, I discussed the ethical issues of video footage which represents core data in some detail. The video data merits representation in some form as it is central to the research design; if it is not represented it calls the plausibility of the data into question (see discussion in Blikstad-Balas 2017). I decided that blurring faces in video images, as recommended by Heath, Hindmarsh and Luff (2010), would allow the centrality of video as data to be maintained, and although facial expressions would be lost in the degree of blurring which would maintain confidentiality, participants' opinions could still be inferred from the audio recording and the researchers' notes.

Finally, an 'affective principle' (Locke, Alcorn and O'Neill 2013) (taking participants' feelings into account) meant I was conscious that deconstructing practice could be considered judgemental and that participants could respond emotionally. Sessions were established as a safe place to share, participants

even referred to sessions as ‘therapy’ (CL review comment July 2017) and participants were also encouraged to speak privately if they wished.

Similarly, I referred to a relational ethics framework, given my relational agency focus (see Stutchbury and Fox 2009). I considered the nature of our collaboration and any imposition it entailed, which led to a research design with relatively short sessions. I was sensitive to the impositions of videoing and aimed to make participants feel comfortable, especially in early sessions. The parameters and nature of their participation was set out from the start:

Workshops will involve the discussion of video-or audio-recorded material about the Lesson Study processes, which will form the basis of your own discussions, devising strategies or in-school protocols for Lesson Study.(...) In addition, you may decide to make on-line journal reflections, self-selected artefacts or images, or other documentation available to me. You may also invite me to observe you in your day-to-day professional practice. You may choose to be involved in all or just some of the above activities. (...) Workshops will be convened in an agreed location with all or some of the stakeholder groups present. They are likely to last for up to two hours and with permission, discussions will be audio-or video-recorded. (Extract from Participant Information sheet December 2016)

There were compromises: I balanced respect for participants’ wishes (when they were reluctant to be observed teaching, despite observations being an accepted professional activity), with the need for knowledge about their reading comprehension pedagogy for the study. This led to the self-videoed session compromise (cf.Tangen 2013). I would argue that an ethically conducted research project consists largely of reflexively-constituted compromises such as these. Such professional dilemmas are anticipated in research which is dialectically construed: current change is questioned by participants exercising their agency to reject classroom observations and in that questioning the possibility of a different change is acknowledged in the move to self-videoing.

I was clear about how I wanted to work with participants:

My research aims to work collaboratively with you as teachers and, through a formative intervention method, inquire into how you, as individuals and collectively, engage with a Lesson Study process. It will take account of how you learn from the process and adapt to it, and how you interact with one another as stakeholders. Whilst a series of interventions has been designed to examine concepts relating to Lesson Study, such as peer observation and feedback, the nature of the interventions will evolve as we collaborate to test out new approaches. You will have the opportunity to discuss some of the theory behind the interventions and to critique the Change Lab method used in this study. (Extract from Participant Information sheet December 2016)

As an insider researcher-interventionist I wanted to underline my view of research as a collaborative process and to demonstrate that all views could be challenged.

If, hermeneutically, the researcher is integral to the research (Brannick and Coghlan 2007), then I am influenced by my background, identity and previous experience like any researcher; my values being part of the dialectics of my interpretation (cf. Covalski and Dirsmith 1990; Cochran-Smith 2005).

Brinkmann argues that 'power and ethics presuppose one another' (2007:128). The intervention was a researcher construct in the sense that content for each session pre-planned. When I designed first and second stimuli to explore practices there was an 'instrumental' or potentially 'manipulative' (Brinkmann and Kvale 2005:164) aspect to that process.

However, my instrumental role diminished as the CL series progressed and participants took more control. When participants resisted elements in the research design, as facilitated by an expansive methodology, it allowed them to 'object' to the process, as Brinkmann would see it, making it ethically congruent. My ethical responsibility lay in ensuring that respondents were fully

informed about my position and the function of the research, so that they could make their own decisions.

4.7 Summary

In this chapter I conceptualised methodology and considered the relevance of a range of methodologies to the development of teachers' professional learning and their suitability to a practice setting in a school. I adopted a Change Laboratory formative intervention methodology, as it specifically facilitated development through expansive learning and the principles of double stimulation, whilst supporting agentic activity. I then set out the research design for the Change Laboratory intervention in detail and discussed how the design was influenced by my theoretical framework, which also influenced the choice of methods.

I showed how I constructed the research design based on pre-data collection and an understanding of the steps of expansive learning theory, which were exemplified in the sessions outline. I acknowledged design intentions, to be compared with their implementation in Chapter Five.

I considered the processes of site and participant selection in my role as an insider researcher-interventionist. I also reflected on my role within the research as research instrument, facilitator and orchestrator within the planning process. Additionally, I acknowledged that reflections in my research diary served as a method of framing for myself the changeable nature of the intervention, of inquiring into the intervention process and of employing such sense-making to contribute to my understanding (cf. Schön 1983).

The type and methods of data collection were discussed, along with the necessity of providing transcriptions for ongoing sessions and enough descriptive data for subsequent analysis. I examined the use of video as it is central to the study and scrutinised the kinds of artefacts I anticipated being collected and created. Finally, I evidenced my choice of Qualitative Text Analysis and demonstrated its congruence with both an interpretive approach and formative interventions. I conjectured how the use of first-order analysis supported knowledge co-production in an oscillation back and forth between my analysis off-site as researcher-interventionist and subsequent intervention on-site with practitioners. The chapter ends with an evaluation of the study's credibility and authenticity, and a discussion of the ethical stance taken throughout the study.

In Chapter Five I build on the description of the intended design by illustrating how the actual design unfolded through a presentation of the data collected during that process.

5. Chapter 5 Data Presentation

5.1 Introduction

In this chapter I present the data collected during the intervention, whose main object was Reading Comprehension pedagogy development throughout Highway School. The chapter demonstrates how the actuality of the sessions differed from the design intentions in Chapter 4 and details the between-session planning, content, and delivery of the Change Laboratory. I present data in their temporal order (given the amount of data collected over a six-month period, not all data is presented), which is relevant to the research questions and provides a robust basis for subsequent discussion (see Trowler 2012). Presentation follows the framework of transformative agency manifestations which underpin the research questions, thus enabling participants' agency to be evidenced as their professional learning develops *during* the Change Laboratory process. Privileging the agentic in the data presentation facilitates subsequent analysis in Chapter Six when transformative and relational agency are juxtaposed.

Deviations from the original design are likely in Change Laboratory interventions and may be a potentially desirable development, as they demonstrate participants are exercising agency for their own ends (see Engeström, Rantavuori, and Kerosuo 2013; Vänninen, Pereira-Querol, and Engeström 2015). Participants' actions regularly caused me to alter the design in response, either in- or between - sessions. Designing the intervention was an iterative and transmutative process, which nonetheless

retained a clear design intention and logic. The data presentation reflects this logic.

The outline presented previously in section 4.3.4 is deconstructed in this chapter as four phases composed of two Change Laboratory (CL) sessions: *questioning practice* in CLs 1-2; *analysing practice* in CLs 3-4; *modelling* in CLs 5-6 and *implementing and consolidating* in CLs 7-8. Design changes are interrogated for each phase in turn: I begin with an overview of the sessions, including a brief resumé of activities carried out *in* sessions, followed by activities planned for *between* sessions. I establish the extent of the disparity between original intentions and session reality by showing which original intentions are extant, alongside changed activities, incorporated into the plan because of the group's emerging agency. This is followed by a presentation of transformative agency manifestations seen across the phase (see section 3.5); where an aspect is first encountered I provide a short explanation of its nature as an aide-memoire to the reader, drawing once again on Virkkunen and Newnham (2013). I conclude with an overview of the manifestations of transformative agency across the full Change Laboratory series.

5.2 Questioning practice phase: CLs 1-2

5.2.1 Overview Sessions One and Two

The first two sessions were designed to introduce the Change Laboratory method to participants with an emphasis on free discussions about working practices and a gradual introduction to activity theory. I planned to focus on the first expansive learning action of *questioning* current practice in session

one, before moving on to actual empirical analysis in session two. Table 5.1 below reveals how expansive learning actions *actually* unfolded over the sequence with learning actions spreading over more than one session.

The group were used to regular staff meetings, which were used to transmit information, not to promote discussion. Meetings often overran; in CL1 the Deputy Head's extended administrative briefing beforehand reduced the time available for running the session, but by CL2 I negotiated a prompter start.

CL1 5.1.17	Present n.8	Time: 45m Video/ audio recorded	Researcher's original intention: establish idea of contradictions or disturbances <i>Key: change in shaded Boxes</i>			
Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documents	Record: artefacts photos
Questioning of current practice	Task 1 What do you do well/feel passionate about in your teaching?			Discussed as group, rather than pairs as planned		
	Task 2 What do you think about the Lesson Study approach?	Audio transcript and recording selected from review meeting 8.12.16, two excerpts to analyse	Completed 'What's happening here?' grid, recording individual or paired response to audio clip; collected ideas on flip chart	Pairs, then group	Prepared A4 grid Flip chart – participant scribed	Grid (n.7), Flip chart notes (n.1),
	Task 3 How do you see the problems described?		Sample disturbances mapped onto 4 field diagram eternal/ new problem vs. unique /recurrent problem	Group	Prepared 4-field diagram on flip chart	Complete 4-field diagram (n.1)
Between-session task: reflection					Returned documents: Personal reflection sheets (4)	

Table 5-1 Actual session one

Session One was designed with three relatively short tasks. Task one, *passions*, started with participants' personal views offering a free-ranging stimulus. The intended delivery mode was changed by the participants' own actions: they instinctively talked as a group, rather than in pairs and appeared relaxed with the concept of group discussion (Table 5.1 above, CL1: task 1).

Task two, *lesson study review*, stimulated questioning by asking the group to consider the previous term's professional learning practice (see section 4.7), before attempting to conceptualise problems in task three. Lesson Study involved watching colleagues teach and the December review had suggested this was problematic. I saw this as fertile ground for uncovering the questioning aspect of expansive learning and therefore selected an excerpt from the December review as mirror data. I designed a grid as a second stimulus to be completed in pairs or individually (Table 5.1, CL1: task 2). As I had planned, the grids gave them confidence and participants recognised problems readily to produce a summary flip chart (figures 5.1./5.2).



Figure 5-1 CL1: task 2, practitioner scribing for group (Researcher 2nd from right)

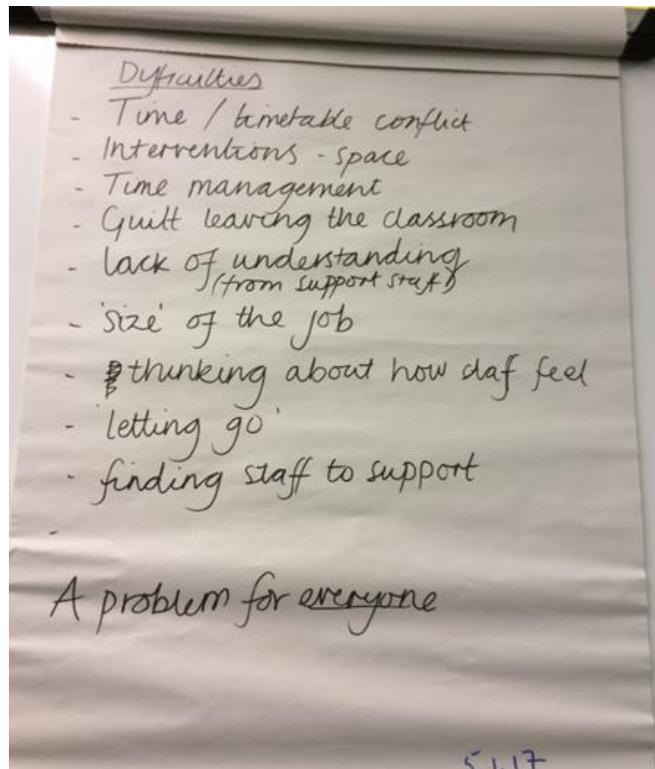


Figure 5-2 CL1: task 2, problems associated with Lesson Study

Task three, *identifying problems*, introduced a 4-field diagram (figure 5.3 below), which was chosen as a similar task had been trialled by Virkkunen and Newnham (2013) and I thought it would help participants conceptualise problems. They identified the December review excerpts as eternal/recurrent problems; but although the task stimulated other discussions, the group did not apply them to the grid. I resolved to return to grid tasks in subsequent sessions when they had more experience of conceptualisations and were perhaps less tired.

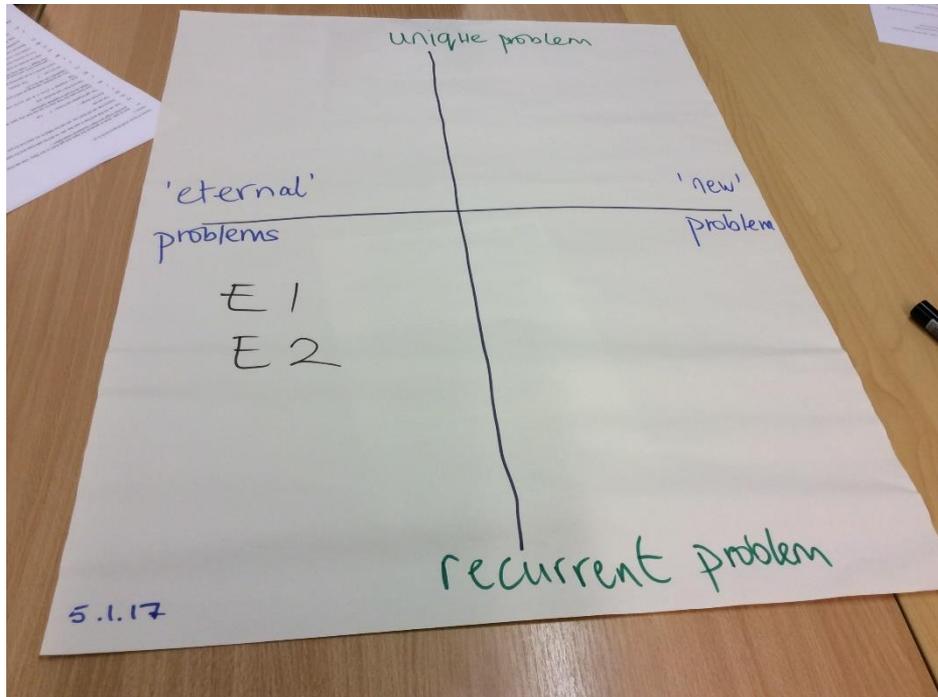


Figure 5-3 CL1: task 3, early attempts at conceptualisations

The first *between-session* task was the *reflection* (see table 5.1), which was completed by four participants. I designed this task to see if independent reflections corresponded to group discussions, which they did. I show two examples here: constructive criticism of Lesson Study and timetabling constraints (figures 5.4 and 5.5 below).

②

Personal Reflections

What differences did you see between the positive ideas expressed at the beginning of the session and the ideas uncovered when we looked at disturbances?

I think some people within the group see that the benefits of the lesson study groups outweigh the limitations and are willing to try and overcome the disturbances.

What do you think the key disturbance in the lesson study process is?

- * time
- * timetable clashes
- * teaching commitments / time outside of class → pressure on teaching assistants.

Who or what is it related to? (people/ schools/ alliance/local area/ educational policy etc.)

People
School

What could we think about changing-

- is it attitudes/opinions? Whose?
- Is it methods/ ways of doing things? What and maybe how?

I think everyone has a positive outlook on the lesson study process but it is critical that we get the method right. Smaller groups / pairs of teachers may be beneficial as this may take less organisation.

How have your previous experiences informed your comments?

Observing other teachers has provided me with an invaluable learning experience and this has informed my personal reflections.

change Lab session1_personal response sheet

Figure 5-4 Constructive criticism of current Lesson Study approach: reflection post-CL1

③

Personal Reflections

What differences did you see between the positive ideas expressed at the beginning of the session and the ideas uncovered when we looked at disturbances?

There were many positives discussed which was inspiring - staff needed to focus on positives rather than negatives but wanted to develop and use ideas gained from others. Negatives were more physical aspects like time and space.

What do you think the key disturbance in the lesson study process is?

Time management.
(everyone being released/getting together at the same time).

Who or what is it related to? (people/ schools/ alliance/local area/ educational policy etc.)

Time
Timetabling constraints

What could we think about changing-

- Is it attitudes/opinions? Whose?
- Is it methods/ ways of doing things? What and maybe how?

People talked about 'wavering from their focus' - would it be better to have a more flexible focus?

How have your previous experiences informed your comments?

Having been involved in study groups at a 2 form entry school. The problems encountered were not so evident. I can understand difficulties encountered in a 1 form entry school.

5.1.17 Change Lab session1_personal response sheet

Figure 5-5 Timetabling constraints: reflection post-CL1

Session two was held two weeks later and was designed to build on participants' experiences in CL1 and to introduce theoretical aspects (table 5.2 below). The fortnight's gap gave me time to prepare supporting mirror data.

CL2 19.1.17	Present n. 8	Time:87m video and audio recorded	Researcher's original intention: link theoretical concepts to their working life; examine concept of 'object'; relationships <i>Key: change in shaded Boxes</i>			
Expansive learning action	First- stimuli	Mirror- data	Second- stimuli	Social organisation	Documents	Record: artefacts photos
Actual- empirical Analysis	Task 1 To talk to group about CL research method + Introduce the activity system	Conceptual aspects of 3 surfaces-mirror, model ideas. Slide 5 summary	Power Point handout	Whole group		
	Task 2 Where do you fit in school and who are the people you interact with when you're trying to make things work?		Individual or paired free drawing,	Discussed collectively	A3 sheets	Drawings of self in system (n.6)
	Task 3 What happens within the organisation ?		Activity system glossary; sample activity system diagram; blank diagrams	Individuals or pairs annotated the activity system diagram, then collectively	Activity system definitions and grid;	Paired Activity systems (n.4);
	Task 4 What do you think the disturbances are in this video clip from CL1?	Short Excerpt from last week's CL	Supporting transcript	Annotated activity system with broken lines for disturbances	Flip chart	Group noted Activity system (n.1)
Between-session task: 1. Organise observations of colleagues – RESISTED in CL- amended to- bring information to talk about own reading pedagogy in CL3 2. Complete an individual disturbance diary 3. Bring artefacts which support delivery of RC					Returned documents: none	

Table 5-2 Actual session two



Figure 5-6 Separation at work: group seating in CL2

Participants were engaged, but I noted a physical separation amongst the teachers. Rosie and Sharon worked in a separate building and rarely saw the other staff: they sat apart (figure 5.6 above), despite my attempts in session to bring them together.

The activities were designed to stimulate an actual-empirical analysis, as the second stage of expansive learning. I had prepared a PowerPoint presentation to support the *introduction to the activity system* with handouts so that the participants could make notes (CL2: task 1).

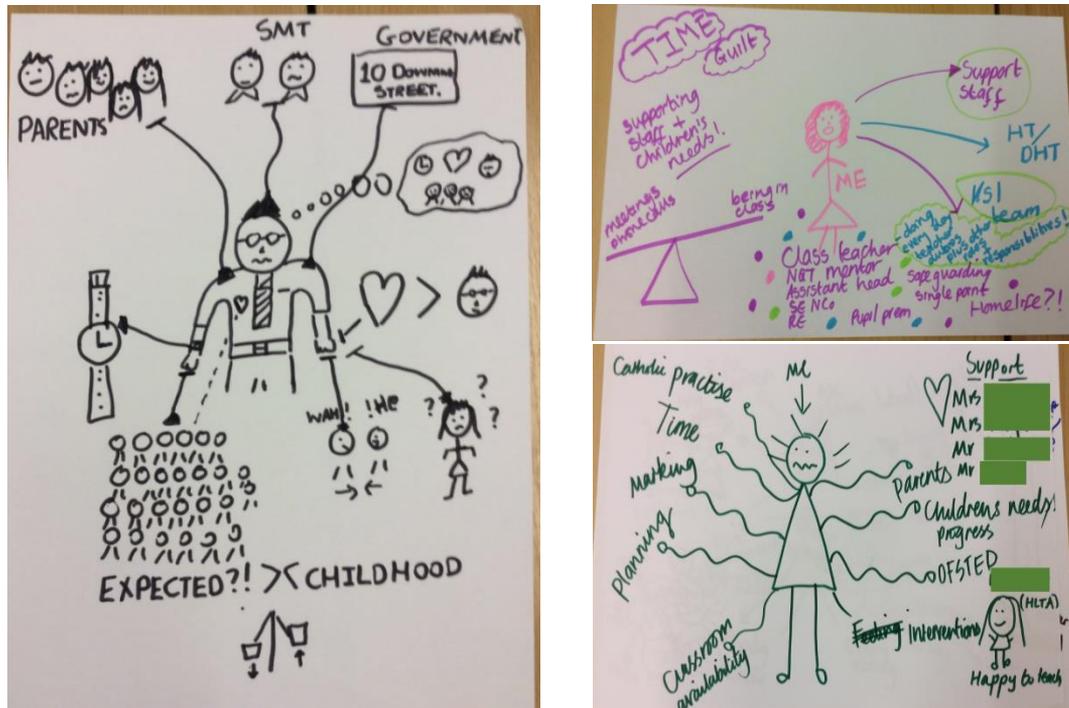


Figure 5-7 CL2: task 2: drawings created by participants showing workplace connections

Interacting with others (CL2: task 2) allowed the group to express relations within the school through the second stimulus of drawing: for example, an image of an octopus or a puppet to demonstrate the complexity/plurality of links within and without the setting (figure 5.7 above). It was designed to prefigure the more complex expression of the system in the third task.

Mapping the organisation was implemented as planned (CL2: task 3): the drawing exercise had served to stimulate links which participants mapped onto blank system diagrams (figures 5.8/9 below), with the aid of a glossary (Appendix 3). Afterwards, they discussed the mapping as a group and produced a combined view of the activity system at Highway (figure 5.10 below).

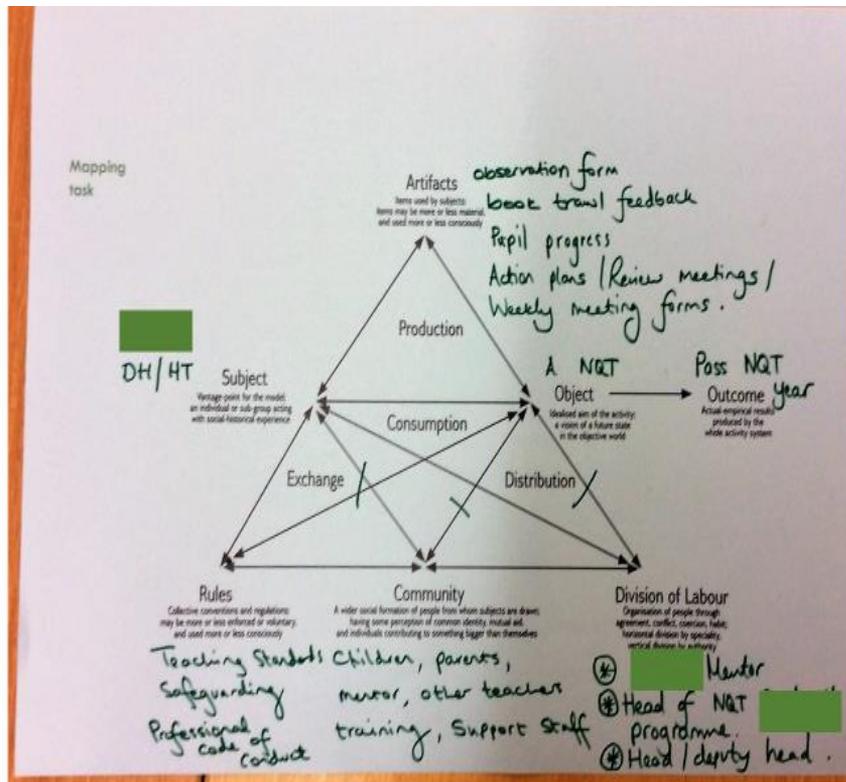


Figure 5-8 Mapping the activity system at Highway: task 3 paired annotation A

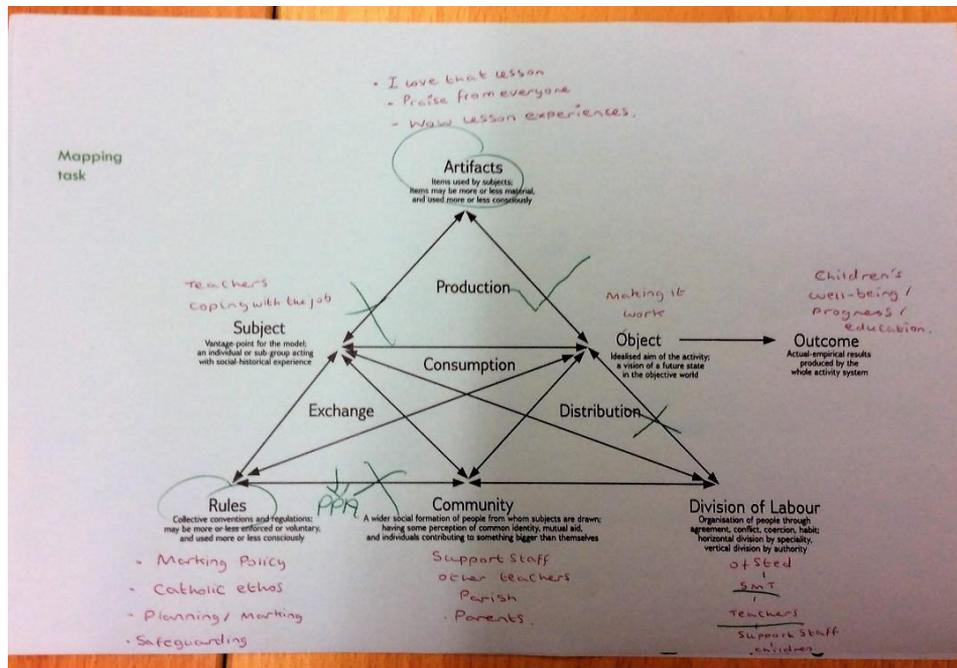


Figure 5-9 Mapping the activity system at Highway: task 3 paired annotation B

The final task, *Charting disturbances*, relied on prepared mirror data (a video clip from CL1 illustrating disturbances in relationships with support staff), plus a second stimulus of an accompanying transcript (CL2: task 4). Participants

readily recognised disturbances in community and division of labour (figure 5.10 - wavy lines); defining the object was more difficult.

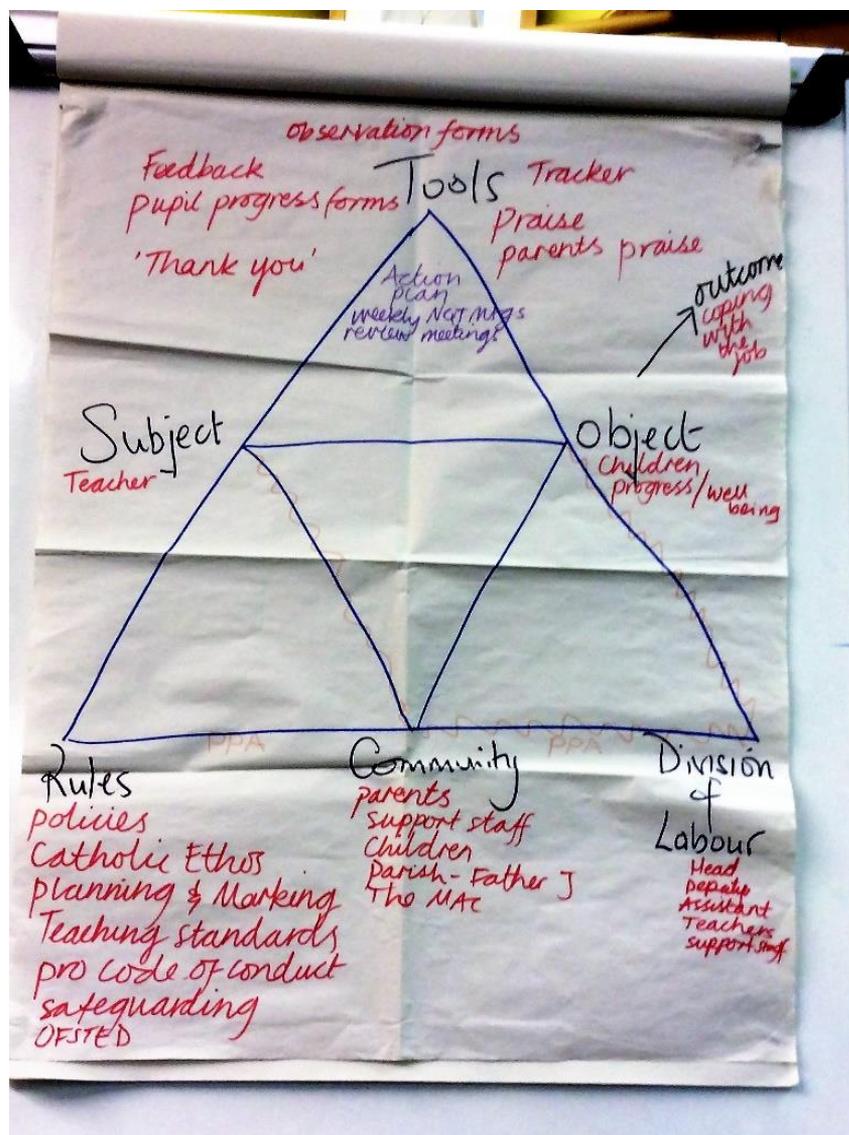


Figure 5-10 CL2: task4, Participants' collective conceptualisations of Highway's activity system

There were three *between-session* tasks, where I deviated from my plan (see Table 5.2: task 5). The group resisted the planned peer observation task, so I adapted by suggesting an information-gathering task instead. The disturbance task was set, although I reflected afterwards that I had not set the task clearly (Research diary 26.1.17). I used the next staff meeting to clarify how to record

disturbances, but no disturbance diaries were completed for CL3, which indicated that either resistance continued, or my task was not appropriate.

5.2.2 Transformative Agency Manifestations in Sessions One and Two

In sessions one and two the only aspects of transformative agency evidenced were *resisting, suggesting and new potential*. As might be expected in early stage expansion, the higher order elements of transformative agency were not found.

5.2.2.1 Questioning time out of the classroom: CL1

Aide-memoire 1: resistance is an aspect of transformative agency which is characteristically manifested by participants criticising, questioning, opposing or rejecting either the intervention, the system or management.

CL1: Task Two brought resistance: whilst Laura focused on simple timetable conflicts, Phil recognised the implicit dilemma of a teacher leaving the classroom and teaching being undertaken instead by unqualified support staff. It was common practice in Highway for classes to be taken by support staff for two hours per week, to give teachers time for Preparation, Planning and Assessment (PPA). Joe and Vicky took up Phil's comments, suggesting pervasive guilt (see figure 5.11/box 5.1 below).

5

What's happening here?

Extract 1	What sort of difficulty is it?	When does it happen?	Is it a problem for everyone?	What do you think about it?
	Having time to observe others.	Time table issues	Yes.	It would be a good thing to do but its difficult to organise.
Extract 2	What sort of difficulty is it?	When does it happen?	Is it a problem for everyone?	What do you think about it?
	-Space -Interventions -Support staff	Every day.	Yes.	Interventions are an issue. Hard to think of an alternative.

5.1.17 Change Lab session 1_grid 1

Figure 5-11 Time to observe colleagues: practice problems from lesson study review

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 2 What do you think about the Lesson Study approach?	Transcript and Audio recording,	Contributing to flip chart	Group
Laura	I've put timetable conflicts and, yes, just the fact it's so tight trying to fit it all in. (...)		
Phil	I want to say like lack of understanding, because I feel as if the support staff don't understand what it's about enough for you to leave the room.		
Joe	Yes.		
Phil	Not 'You're going again.' It's kind of the impression of 'Where are you going?'		
Joe	'We're getting lumbered with it again.' (...)		
Phil	So, a bit of guilt or something in terms of, they cover PPA --		
Vicky	That's my main thing really.		
Phil	But then this is something extra now and they're lumbered with --		

Box 5.1

Questioning time outside the classroom

Planned observations of other colleagues' teaching in the current study exacerbated this situation. The impact on themselves and on support staff, as

well as the kind of teaching undertaken, was discussed for around 10 minutes.

5.2.2.2 Questioning pedagogy:CL1

Time clearly perturbed the group as they returned to this theme in CL1: Task Three where they considered teaching problems they encountered. The fundamental nature of these problems resonated with teachers of three-year olds through to 11-year olds. They thought about the impact on prioritisation, as well as the fact that they knowingly took a reductive approach to teaching at this juncture, because it was simply quicker and more practical (box 5.2).

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 3 How do you see the problems described?		Sample disturbances mapped onto 4 field diagram eternal/ new problem vs. unique /recurrent problem	Group
Laura	But the same problems are still underlying aren't they?		
Rosie	Yes, it's like they're foundation problems aren't they almost like?		
Researcher	Ah, right okay, so there might be something else.		
Joe	Yes, I agree with that. I think even though there's a willingness to do it and wanting to learn and develop and do new ways, you fall back on a problem, it's like a time constraint, you're then like 'I can't actually go away and plan that lesson because I've got to do this or I've got to do that.' So then you're like 'Actually I'm going to have to revert and stick to what I know and the best way that I do it --'		
Laura	Because I know that's quick and I can do it.		
Joe	Because, yes, I know that's efficient, I know the kids will learn in that way and I know that they'll do that, even though that way is better.		
Laura	I just haven't had the time --		
Joe	So you feel a bit guilty at the same time. But yes, you're just doing it because you know that's going to make it a bit more simplistic or your work/life balance depending on what it is		

Box 5.2 Questioning the nature of their pedagogy

5.2.2.3 Rejecting the professional learning process: CL1

Towards the end of CL1, I had intended to ask participants to watch each other teach, using the previous lesson study format. However, given that there had been resistance to taking time out of the classroom, I accepted it might be deferred. The group were reluctant to commit: even more experienced teachers like Hannah passed responsibility to Senior Leadership, delaying observations (box 5.3 below). Therefore, whilst the reflection task was accepted, the 'nudge' towards observations was clearly rejected.

	In response to administrative question
Researcher	I'm assuming that nobody is planning to try and set up a lesson study observation before the 19th, which is the next one of these meetings.
Hannah	We haven't been told whether we're sticking with the same groups or how we're --
Researcher	I think, well I think perhaps that's something then we might talk about next time.
Vicky	Or whether we're doing it in pairs, whether we're doing it in groups.

Box 5.3 Reluctance to commit

5.2.2.4 Questioning the object: CL2

By CL2, resistance moved to questioning the object of the study. The extract shown in box 5.4 below reflected participants' confusion about the nature of reading: the skills required for comprehension often being conflated with a pedagogic structure where reading is guided by the teacher

First-stimuli	Preparation for between-session task: organising peer observations
Researcher	But this is about reading, not necessarily guided reading isn't it?
Sharon	I suppose.
Laura	I don't know.
Phil	I don't know.
Sharon	Guided reading, I think it's just specific, haven't they?
researcher	Has he said guided reading?
Phil	Because there was that conversation we had --
Researcher	But if you want to look at all reading --
Laura	Is it guided reading or just reading?
Phil	I think it is reading. but then if you're taking that line into consideration that idea, I wasn't here in the school, but when all support staff split up and then it was x amount of minutes. Because to me, going back to that line (...) the one where it's division of labour, that only is an issue when someone is absent, then have we got to take into consideration that line for reading, in terms of how you delegate support staff in a reading session or --?

Box 5.4 Trying to define reading

Phil took the discussion of reading beyond the substantive nature of reading and moved it to the processes involved in effectively implementing reading sessions. For Phil, questions about organising their own development stimulated thoughts of how support staff should be deployed.

5.2.2.5 Suggesting flexible timetabling: CL1

Aide-memoire 2: suggesting is the second aspect of transformative agency which characteristically refers to a task to undertake or an object to discuss.

The rejection of peer observations at the end of CL1 did not mean it was completely excluded: in box 5.5 below the group seemed open to observations at different times.

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 2 What do you think about the Lesson Study approach?	Transcript and Audio recording,	Completed 'What's happening here?' grid	Group
Laura	Or we do something different.		
Hannah	That's right, we just work around it.		
Laura	(...) Yes, because I think we all try and do stuff in the morning, like phonics and guided reading, maybe some of us do need to do those things in the afternoon.		

Box 5.5 Group suggesting flexible timetabling

Listening to the mirror data enabled participants to recognise potential limitations to their current approach; noting the problems on the grid proved an effective second stimulus as they started to suggest simple solutions (figure 5.12 below).

What's happening here? ⑦

Extract 1	What sort of difficulty is it?	When does it happen?	Is it a problem for everyone?	What do you think about it?
	Having time to Complete observation.	timetable Conflicts	Yes	Plan as far in advance as we can.
Extract 2	What sort of difficulty is it?	When does it happen?	Is it a problem for everyone?	What do you think about it?
	Space	When we do interventions / Pitstops / phonics	Yes	timetable for rooms 4 afternoon

5.1.17 Change Lab session 1 _grid 1

Figure 5-12 Suggesting simple practice changes

5.2.2.6 Suggesting approaches, whilst resisting processes:CL2

The question posed by the researcher towards the end of CL2 about setting up a series of peer observations stimulated a sequence of suggesting and resistance (box 5.6).

First-stimuli	Preparation for between-session task: organising peer observations
Researcher	What do you think you need before you go into a process of lesson study, have you any thoughts on that?
Vicky	<i>Well I think we need, if it was on guided reading that we're going to see, we need like, because I think everyone does guided reading so differently, we could do with training or a set structure of how we should do it. Or what a good way of teaching guided reading is.</i>
Laura	<i>Yes, like some guidelines, yes.</i>
Phil	<i>Or the lesson study could be that you're going to watch someone else do it and then just see if you like the way that they do it, I don't know.</i>
Vicky	<i>You'll all decide which – (...)</i>
Sharon	It's quite difficult I think though to get the whole group out together, that was what we found from the last one we did, is that we just couldn't all --
Rosie	Weren't we going to do it in twos or something or, I don't know whether that's easier? (...)
Hannah	But that's going to, we don't really know the approaches, do we? Because everybody's doing --
Researcher	No, okay. So we might not feel --
Hannah	No-one's doing a prescribed version, no-one's doing a loose version because we're all doing our own version aren't we?
Vicky	I think it would be hard for all the teachers to come on that teacher as well. Is that what you mean? Like all teachers came, if all these teachers came into my lesson, I'd feel a bit overtaken.
Hannah	Yes, it's a bit too much because actually if you're doing a guided reading session it's you with six kids isn't it?

Box 5.6 Suggesting (italics) but resisting change processes

Whilst participants acknowledged the need for development, when they suggested seeking training or guidelines, the group still resisted observations

because they were difficult to organise. This was underpinned by a lack of subject knowledge confidence. Resistance also centred on Vicky and Hannah's emotional reactions to being observed. Box 5.6 above demonstrates how participants' learning evolved as suggestions became resistance, as well as the interwoven nature of aspects of transformative agency.

5.2.2.7 Suggesting modified tasks:CL2

In CL2 there were few suggestions of new tasks. I proposed continuing with the previous peer observation model, but participants rejected the suggestion (box 5.7).

First-stimuli	Preparation for between-session task: organising peer observations
Laura	So, if we just jot down on a piece of paper what we do for guided reading.
Vicky	What they do for guided reading.
Laura	What resources we use maybe.
Vicky	And then we could put them all together --
Researcher	Could bring an example of something you've done, yes.
Vicky	And we could say what this school does, because I think we all do something different.
Hannah	I think we all do it something completely different, yes..
Researcher	So, if you bring that and then, are you saying then what happens about the observations after that, after you've got an idea of what everybody does?
Vicky	I don't know whether I'll need an observation or whether --
Hannah	We don't know. I think that's the bit we don't know isn't it, because we don't really know what we would gain from observing at the moment

Box 5.7 Participants taking control of the task

The teachers were firstly in favour of paired observations, then preferred informal observations and finally discarded observations completely in favour

of resource presentation (box 5.7 above). Modifying my suggested task reflected earlier resistance; sharing practice and associated resources was more acceptable to the group. Again, comments that had presented as suggestions, changed focus as participants resisted any proposed presence in their classroom, arguing that observations were not beneficial.

5.2.2.8 New potential

Aide-memoire 3: new potential refers to aspects of transformative agency which recognise the potential of positive past experiences, or the negative effects of current activity, in problematising the object.

This aspect was limited in sessions one and two. In CL1, participants saw the potential in past positive experiences of professional development (box 5.8 below). The simple act of recalling positive aspects of their teaching served to encourage discussion and stimulate some positive reactions to the study.

First-stimuli	Task 1 What do you do well/feel passionate about in your teaching?
Rosie	We did that thing (...) Was it probably two years ago?
Phil	Two years.
Rosie	And it was based on the seven habits, it was based on, was it Stephen Covey?
Phil	Yes, Covey.
Laura	Yes, Highly Effective People, it's a good book that is actually
Rosie	Yes, and it taught you to realise what you do that's really good.

Box 5.8 Positive past professional development

In CL2, discussions about different reading comprehension strategies led to several participants considering the potential of having specific training for all teaching staff (box 5.9 below).

First-stimuli	Preparation for between-session task: organising peer observations
Laura	Have you asked for guided reading training?
Phil	I've just raised, it's using meetings like this where I've said --
Vicky	I said we could have done --
Hannah	I think we could all do with that.
Laura	Yes, it would be nice if it was offered.
Vicky	I'd love a guided reading, I would love someone to tell me how to do it.
Laura	Yes, like a how to do it, different ways you can do it. Yes, definitely.
Vicky	I would rather 'Just tell me how to do it.'
Hannah	It's a shame really that we can't all have that guided reading training.

Box 5.9 Considering professional development options

5.2.3 Summary of Sessions One and Two

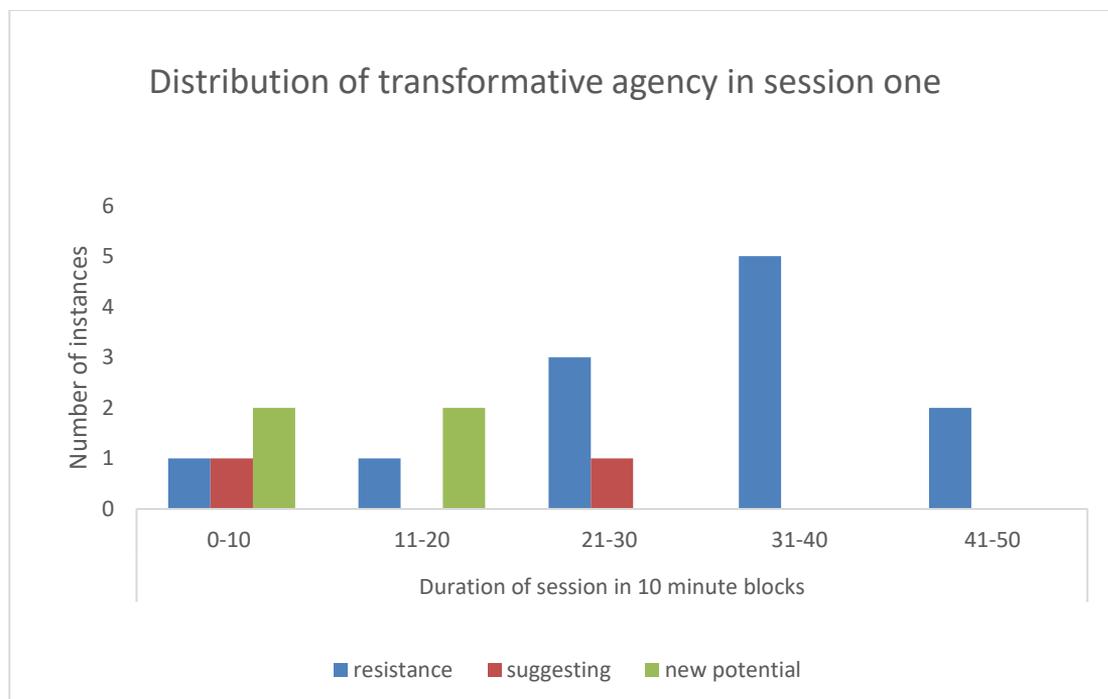


Figure 5-13 Transformative agency distribution: CL1

Figure 5.13 above highlights the main aspects of transformative agency uncovered in session one. It shows that resistance, for instance questioning time outside the classroom, or nature of current pedagogy (blue columns), tended to occur throughout the session. Whereas in CL2 (figure 5.14 below) there was no resistance in the first 45 minutes as they were drawing and talking about their teacher identity or exploring CL theory in the mapping exercise.

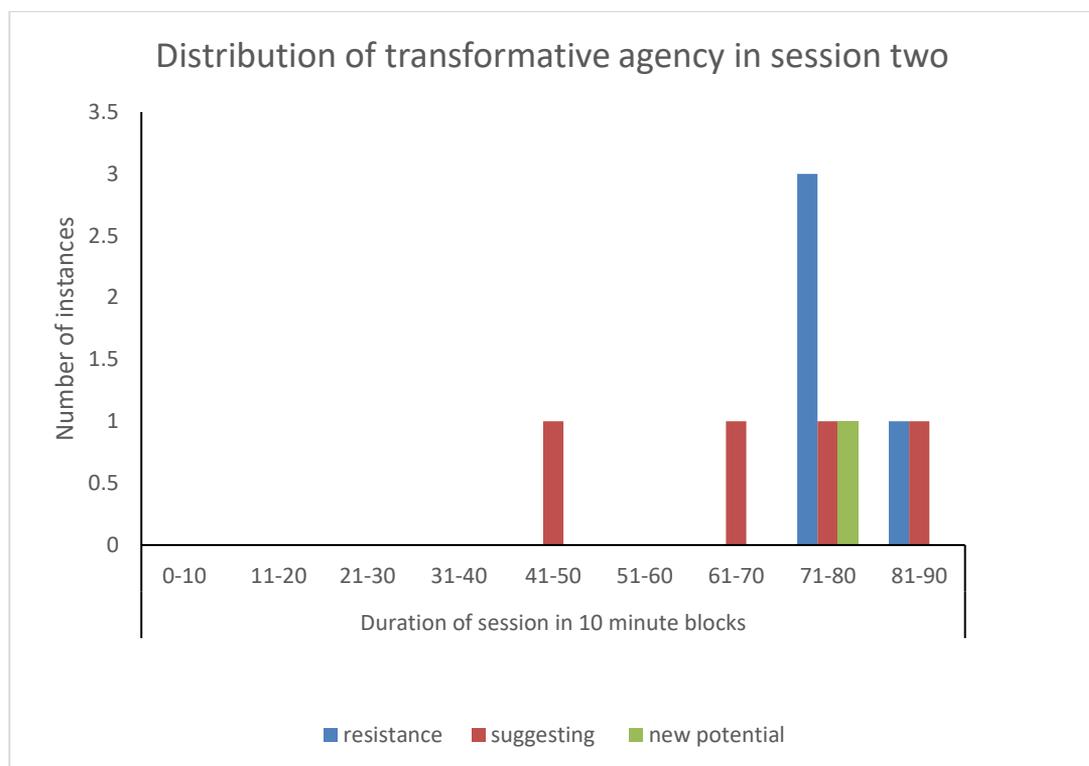


Figure 5-14 Transformative agency distribution: CL2

In these first two sessions suggestions, (claret columns), were limited with early suggestions on flexible timetabling in CL1, or later suggestions in CL2 for modifying tasks. New potential (green columns) was also limited, recalling past professional development in CL1 and the potential of professional

development packages in CL2. Most agentic comments occurred in the latter parts of both CLs when participants resisted *between-session* tasks

5.3 Analysing practice phase: CLs 3-4

5.3.1 Overview Sessions Three and Four

Session three built on session two by incorporating the move to resource presentation and discussion of pedagogy requested by participants (table 5.3 below). Whilst the planned expansive learning action was a focus on historical analysis, during the session I had to amend my *in-session* tasks owing to extended comments by the Deputy Head who wanted to listen to Phil's feedback from the Reading Comprehension training he had attended.

At Phil's *presentation* (CL3: task 1), the Deputy Head unexpectedly asked the group to adopt the strategy presented without discussion and then left the meeting, undermining the session's purpose. I subsequently noted 'the rest of the session foundered' and 'shut down' (Research diary, 2.2.17). I had to abandon the *timeline* (CL3: task 4). We still *re-engaged with the activity system* briefly (CL3: task 2) and a discussion of others' practice (CL3: task 3) led to an exploration of *rules* in the system. Expansion was more closely linked to actual empirical analysis than historical. I wanted to leave time to re-launch peer observations, and as the group had not engaged with disturbance diaries, I thought it important to press for these again.

CL3 2.2.17	Present n. 8	Time:75m video and audio recorded	Researcher's original intention: promote historical perspective through second batch of presentations and production of timeline <i>Key: change in shaded Boxes</i>			
Expansive learning action	First- stimuli	Mirror- data	Second- stimuli	Social organisation	Docs.	Record: artefact photos
Historical analysis/ Actual- empirical Analysis	Task 1 <i>Presentations</i> Phil-feedback from external training session 31.1.17; Laura and Sarah-own practices	External trainer's slides presented by Phil as artefacts; other teachers spoke about practice		Individual presents, group discussion afterwards		
	Task 2 <i>Re-engaging with the activity system</i>	Annotated activity system (CL2) and disturbance field (CL1) presented on mirror surface	Annotate disturbance field diagram (5.1.17) with new comments		Flip chart	Annotated disturbance field (n.1), group notes (n.1)
	Task 3 <i>Historical perspectives</i> Joe, Vicky, Rosie, Sharon	Rosie's reading props		Individual presents, group discussion afterwards		
	Task 4 <i>Timeline</i> [not created]		Extended presentations by staff + extended discussion = no timeline			
Between-session tasks: 1. organise observations of colleague – RESISTED during session: amended to reading comprehension approach piloted by Phil > video and share in CL4 2. complete an individual disturbance diary- 2 nd request					Returned documents: none	

Table 5-3 Actual session three

However, my planned *between-session* task of peer observations was amended by the group *in session* to Phil's trial of a new reading comprehension model (table 5.3 above). Under the new plan, Phil would video the session and present it to the group in CL4. In addition, Vicky advised me before CL4, that she wanted to trial a similar audio recorded

model. The Deputy Head later apologised for 'chipping in' and agreed to the videoing of classroom practice for internal use only, the actual video not becoming part of the data set (research diary 7.2.17).

Following resistance to session two's *between-session* disturbance diaries task, I reinstated the diaries as a *between-session* task in session three (table 5.3 above). However, despite targeting individuals and handing additional copies to Phil and Vicky before CL4, the diaries were again resisted.

Session four (table 5.4 below) represented an increase in participant involvement as some *between-session* tasks was completed with Phil and Vicky providing the mirror material. I had transcribed both their comprehension sessions and invited them to check the data and agree the selected clip, which Phil did, but Vicky was 'not bothered' (research diary 9.3.17). My original intention was to discuss Phil's recording and move on to the disturbance diaries; however, with no diaries produced, the time was re-allocated to Vicky's recording.

It had been a month since CL3 owing to a holiday. As Sharon and Rosie were absent, the session lacked Sharon's experience. Hannah had gone on maternity leave and Sylvia, the substitute teacher, although equally experienced, made fewer contributions.

CL4 9.3.17	Present n. 6	Time:90 m video and audio recorded	Researcher's original intention: to revisit theoretical concepts in case group unsure, to use the timeline to examine the quality of the preceding models and what they propose to do next; to discuss disturbance diaries if completed <i>Key: change in shaded Boxes</i>			
Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Docs.	Record: artefact photos
Historical analysis/modelling	Task 1a <i>Rules and the community</i>	1 st Video Clip of discussion from CL3 (c.5 min)	Transcript provided-space for notes, Box for disturbances and ideas to take forward, plus activity system diagram support	Whole group suggested by participants	Transcript worksheet	Notes on 1 st video (n.1),
	Task 1b <i>Revisiting the activity system</i>		Blank large activity system to annotate with problems	Whole group suggested by participants	Activity system	New activity system annotated (n.1),
	Task 2 <i>Phil's Presentation : Pilot A</i>	2 nd Video clip of Phil's self-recorded 'expert' method (c.6min)	Grid to complete (See Figure5.17)	Pairs	Transcript provided + grid	Completed grids (n.5)
	Task 3 <i>Vicky's Presentation : Pilot B</i>	Audio clip of Vicky's self-recorded 'expert' method (c.5min)	Grid to complete (See Figure5.17)	Pairs	Transcript provided + grid	
	Task 4 <i>Timeline</i>		Construct a Timeline	Group	Large sheet of paper	Timeline (n.1),
	Task 5 <i>Defining the object?</i>			Group discussion		
Between-session task: 1 Requested more pilots: RESISTED in CL4 by Joe, Sarah, Laura, Sylvia 2. Requested comprehension guidelines provided by Deputy Head 3. Amended request for disturbance diaries to: reading group diaries for 3 weeks; map onto Simple View of Reading matrix; capture pupil voice					Returned documents: item 2: none item 3: 7 sets of documents	

Table 5-4 Actual session four

Activities in CL4 (table 5.4 above) were originally designed to stimulate the expansive learning stage of modelling now that we were at the midpoint of the CL sessions. However, as the historical aspects had not been fully explored in CL3, I incorporated them into CL4. The first two original in-session tasks were

maintained. *Rules and the community* used mirror material from CL3 (video clip illustrating how they organised reading comprehension sessions in class) with a supporting grid to revisit discussions about the school community (CL4: task 1a). Whilst *revisiting the activity system* supported a return to conceptual analysis (CL4: task 1b/ figure 5.15).

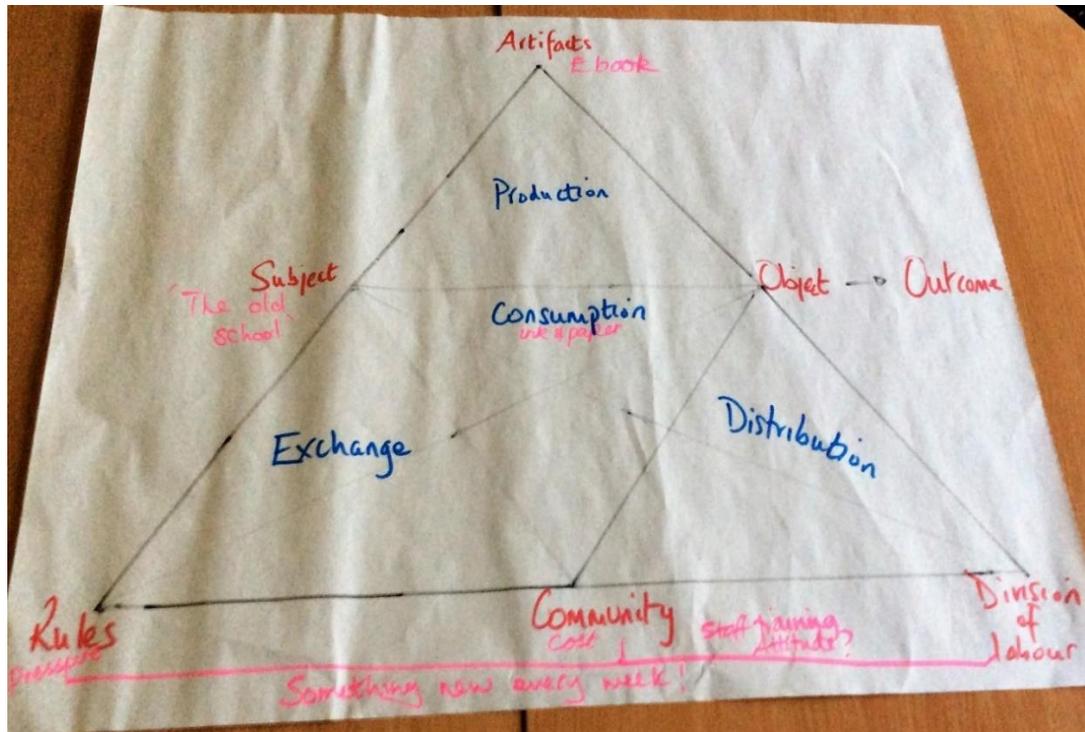


Figure 5-15 Revisiting the activity system: CL4

Phil's and Vicky's *presentations* on teaching sessions recorded between CLs 3 and 4 were amendments which incorporated the participants' preference for sharing new models rather than being observed (CL4: shaded tasks 3 and 4). The *timeline* (CL4: task 4) had been brought forward from CL3's plan, so that historical elements were included. The session concluded as planned with *Defining the object?* which summarised the group's progress (CL4: task 5).

Between-session tasks: further video pilots were resisted despite videoing representing a non-threatening approach in my opinion. Laura, Joe and Sylvia were not available; recently qualified Sarah was reluctant to be videoed. Whilst Phil was eager to do another, I wanted to involve all the group, so I decided to change approach before CL5, which I discuss in section 5.4.1.

5.3.2 Transformative Agency Manifestations in Sessions Three and Four

Resisting, or suggesting continued across both sessions. In CL3 there were instances of *new potential*, *envisioning new models* and one instance of *reporting taking action*. In CL4 there were no instances of *envisioning new models* and fewer of *new potential*; however, there were more instances of *reporting taking consequential actions as teachers responded to - or initiated-tasks*.

5.3.2.1 Resisting Senior Leadership

Having heard Phil's presentation concerning external reading comprehension training, the Deputy Head wanted to adopt the approach straightaway. Whilst the suggestion was accepted orally, the group's body language appeared less eager (figure 5.16 below). So, whilst resistance threads such as questioning the current practice of keeping records of comprehension tasks, and rejecting perceived increases in workload surfaced, it was the Deputy Head's comments which influenced decisions about which pedagogical approach to take.



Figure 5-16 Practitioners resisting the model the Deputy Head wanted to adopt in CL3

First-stimuli	Preparation for between-session task: researcher's attempt to organise peer observations
Vicky	What [the Deputy Head] just talked about, is there any, like not saying is there any point, but we're going to then, because I do think we need consistent in this, especially in guided reading in particular because we're all doing so many different things and I think it is a good thing that we would have some consistency. But obviously then if we're looking at each other we're all going to, do you know what I mean?
Researcher	Yes, I do know what you mean -- But then we risk not doing anything at all don't we, because we're all sort of waiting on somebody else. Is there --?
Phil	I still think we're waiting from above me. I think, make a decision and I'll follow the decisions --
Hannah	But the decision was made wasn't it earlier? The decision was made.

Box 5.10 The consistency dilemma:CL3

This left the group in a quandary: whether to resist the hierarchy and to accept consistency as the only solution or to continue with the research that was also endorsed by Senior Leadership (box 5.10 above).

5.3.2.2 Resisting change

Overall, resistance to being observed was characterised by the view that the proposed trial was not appropriate to all classes, as the teachers did not want to disrupt children. In Box 5.11 below, four out of eight participants present subscribed to the collective view that the timing was not right. Even by the end of session three the group were resisting active solutions.

First-stimuli	Preparation for between-session task: researcher's attempt to organise peer observations
Phil	You can't toy with Years 2 and 6 this time of year.
Sharon	Yes.
Hannah	It will fit us for a while but then we'll have to change
Phil	I think if it was summer term everyone would be like 'Yeah, yeah.'
Joe	Yes, go for it.
Phil	But you can't run the risk with the kids' --
Joe	Yes, it's just the time of year now as well. In September, if it's hitting the ground running, we could go through the year.

Box 5.11 Justifying inaction: CL3

5.3.2.3 Resisting processes

By CL4 there was some collective resistance to elements of the research design with participants being reluctant to record their teaching. Joe recognised that the group needed to be pushed into concrete actions to overcome their inertia (box 5.12 below); however, they did not seem willing to take these actions themselves (box 5.13 below).

First stimuli	Between-session task: requesting more pilots
Joe	We're not getting any closer, we come and have these discussions, and I'm not being derogatory of what we're doing
Researcher	No, no, I know --
Joe	But we never get to an endpoint.
Researcher	Right okay.

Box 5.12 Dissatisfaction with the research process:CL4

First stimuli	First stimuli requesting more pilots
Joe	But we need some solutions on the table.
Researcher	But I don't think you, you haven't got your solutions, yet have you?
Laura	No.
Joe	Well we need some options and some ... I think.
Researcher	Okay.
Vicky	I think we all need to be on a course.
Laura	Where do the solutions come from?
Joe	That's it.
Laura	I don't think it's us that can come up with that personally --
Vicky	No.

Box 5.13 Reluctance to take responsibility: CL4

In fact, the Deputy Head had given them a set of reading guidelines which no one was using, as they were not considered definitive, unlike a training course (box 5.14 below). There appears to be significant resistance to the 'they' of Senior Leadership.

First stimuli	First stimuli: Requested comprehension guidelines provided by Deputy Head
Joe	They put everybody on [the course] and --
Laura	They have to do it.
Joe	They have to commit to that and say 'Everybody needs to see it.'
Vicky	Just say 'Right the school is closed, we're doing this.'
Researcher	Right.
Joe	It's something, if they think it's such a problem here and we keep hearing it's a massive, they need to do something quite drastic to get the point across.

Box 5.14 Resisting exploratory approaches in favour of conventional training: CL4

5.3.2.4 Suggesting new approaches

In CL3 new suggestions surfaced for different reading comprehension strategies; these seemed more intuitive, and less fixed, conceptualisations of comprehension than in CL2, with teachers suggesting playing a more active role themselves (box 5.15).

First-stimuli	Task 1 Presentations
Phil	If we just went in and just pulled apart the pictures and the language, and I think trusted in ourselves a bit more and just went for it, because you'd get more of a focus and it would knock-on to your English lessons

Box 5 15

Just going for it: CL3

5.3.2.5. Questioning outcomes engenders new suggestions

In CL4 the mirror material prompted participants to think about how they delivered learning. The group questioned the way they used physical and human resources when they were teaching reading comprehension. They also started to think about outcomes they wanted which, as in CL2, led to a directly linked, collaborative suggestion as to how they could improve outcomes by encouraging children to annotate text with their ideas (box 5.16 below).

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 1a <i>Rules and the community</i>	1 st Video Clip of discussion from CL3	Transcript provided-space for notes	Whole group suggested by participants
Joe	The kids don't learn to read because of the resources, people, we're just trying to do too much in such a short period of time' (...)Are we then saying, I don't know, is the material that you've got in Year 2, 1, 3, good enough for the kids at that point? And if it's not then they're not meeting the objectives and the desired outcomes because, I don't know, maybe you're saying they're not good enough texts or you can't get your hands to them because you haven't got enough people to go and source them and sort them.		
Phil	Yes. It's what you leave with the other groups as well, because if it's just a, and I'm guilty of it, like a filler, (...)?		
Laura	This is not getting anywhere is it?		
Joe	What desired outcome do you want?		
Phil	<i>Because they annotate it, I completely forgot about that, but we were reading Christophe's Story today and I was thinking how good would it be if they just focused on a page and pulled it apart and --</i>		
Laura	<i>Scribbled all over it and --</i>		
Joe	Yes.		
Phil	<i>And link it back to their sentence types that they've got to know so that when they come to do it you get --</i>		
Joe	<i>And that could be like an easier way of doing it couldn't it? Imagine you had those two pages and maybe the group who sits out just prepped and looked at stuff, looked at language or something.</i>		

Box 5.16 Questioning outcomes engenders new suggestions (italics): CL4

5.3.2.6 Suggesting alternative pedagogies

The recorded comprehension activity stimulated participants to consider how they used tools to support practice (box 5.17 below). This represented a shift in assessment concepts, with which they appeared to be comfortable, especially when Laura found it an acceptable 'rule', as the idea had been used elsewhere.

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 2 Phil's Presentation:	2nd Video clip of Phil's self-recorded demonstration	Grid to complete	pairs
Vicky	I should do that every day, record them.		
Phil	But that's the thing, couldn't we? Could we?		
Laura	Do you think they would stay quiet?		
Phil	No, like in terms of, instead of writing it down could we record it and then when we go back to do the evidence we could listen to them.		
Laura	We could if they were in Year 1, especially for the lowers who are quite good at verbally giving answers but can't put anything down. I think I heard about a school that did that actually and then when Ofsted came they showed a lot of that as like evidence.		

Box 5.17 Proposing digital alternatives: CL4

What's happening here?

Video Extract	What sort of questions are asked?	How do the children respond?	Why and how might this be a problem?	How does the clip make you feel about your own practice? Now, or in the past? What might you learn from it?
1	How do you find out information from the text? Which is the most important part of info?	Children responded really well to teacher and each other and the text.	Thinking time - to assimilate ideas.	- More skilled based rather than concentrating on decoding text
Audio Extract 2	Why do you think? What do you think?	- children sharing their own ideas.		- children sharing ideas about a text. - rather than literal comprehension.

3.17 Change Lab session 4 _grid 1

Figure 5-17 Populated comprehension clips grid: CL4

There was also a shift to thinking about changing pedagogy when Phil noted that he should give the children more time to think about their responses and that he should curtail his input (figure 5.17 above).

5.3.2.7 Dilemmas in current practice

Potential was expressed in CL3 as a realisation of current practice's negative effects, such as not regularly listening to all children read. There was a growing recognition of contradictions in practice: children needed to understand what they were reading, as well as decode words. Here the second stimulus of the disturbance field's eternal and recurrent problems helped articulate their dilemma (box 5.18).

First-stimuli	Mirror-data	Second-stimuli
Task 2 <i>Re-engaging with the activity system</i>	Annotated activity system (CL2) and disturbance field (CL1) presented on mirror surface	Annotate disturbance field diagram
Sharon	And when you're reading aloud you're just reading the words out you're not actually taking in the story. You do need to ...	
Laura	Yes, they read it and then they're --	
Hannah	Yes, then they need to be taught how to do that don't they?	
Joe	But that's why I think we need to come away from writing it all, it needs to be like really rich conversations between, and treat them like, like you say, a book club of adults, dig deeper. Okay, I'm going on about a cat in a red hat, but they need to dig deep about 'Well why has cat got a hat on?'	

Box 5.18 The comprehension/decoding dilemma: CL3

5.3.2.8 Potential in old and new resources

The historical dimension introduced in CL4 meant the group acknowledged that previous reading comprehension models used in school had potential, such as parent volunteers, one-to-one reading with a child, regular whole class reading or small groups, which more experienced teachers noted on the timeline. Ideas from the training session also began to be offered as a

potential approach; for example, the mnemonic APE: 'Answer it. Prove it. Explain It.' (figure 5.18).

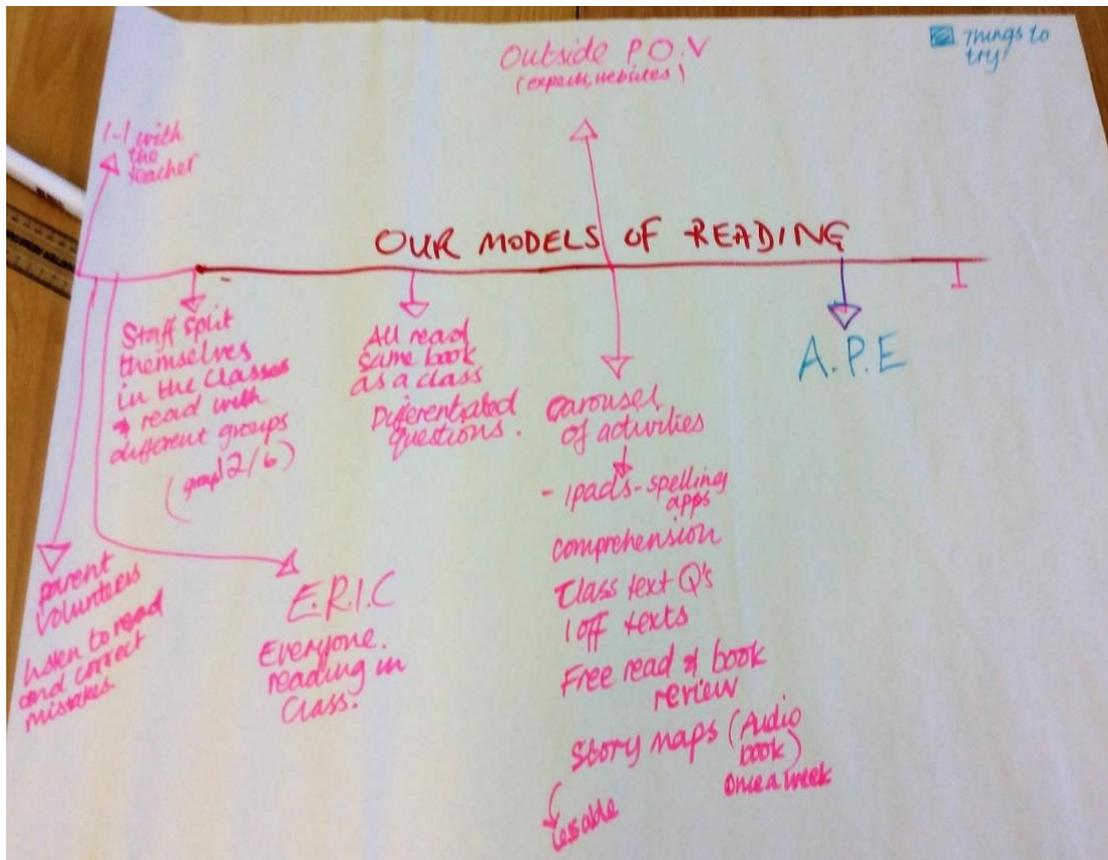


Figure 5-18 CL4 Timeline: earlier reading comprehension models

The group also examined recording children’s answers to a text, as a means of maintaining evidence of comprehension and making assessment easier. They recognised that internet resources or blogs, although useful, had their limitations, as they were not sure of the writer’s expertise. Nevertheless, they preferred on-line to academic resources.

5.3.2.9 New models: whole class text

Aide-memoire 4: models or new patterns of activity are aspects of transformative agency which may be preliminary sketches or more comprehensive representations.

In CL3, Joe envisioned a new, more holistic model where teachers would focus on one story or novel to develop children's comprehension skills which was received enthusiastically (box 5.19). His comments were prompted by Sharon's account of how she delivered reading comprehension and were a general outline, rather than being fully developed.

First-stimuli	Task 3 Historical perspectives
Joe	I just don't see why we can't just have in each year group three of four really, really good novels and the time that the kids love it the most is when I turn around and say 'We're reading for enjoyment today.' (general agreement)
Joe	(...) It's just like 'Why can't we just have a really good, thick novel, or whatever it is appropriate for years and do it over a term? It could just be you just focus on that really good text and everybody could choose their own, what they think is appropriate for their kids, and then you could do nice activities for the whole.'

Box 5.19 The whole-class text model: CL3

5.3.2.10 Reporting taking actions by trialling training day ideas

Aide-memoire 6: transformative agency may be seen in consequential actions, which may be reported rather than evidenced. They are more likely to occur between CLs and characteristically involve experimenting with new tools or practices.

There was just one instance of a reported action in CL3 when Vicky had been eager to implement a more child-centred comprehension pedagogy (box 5.20). Based on a strategy Phil had acquired at the CPD session, Vicky let the children read to one another and then explain what they had read. She wanted to share her experience with the group and the Deputy Head.

In the early part of CL4, Phil and Vicky related further actions they had taken as result of external training, as evidenced in the mirror material.

First-stimuli	Task 1 Presentations
Vicky	I did that because, obviously I'd already had a conversation with you, I did that method today 1, 2, here's the contents page, I literally didn't even listen to them read and they were like 'Do you not want me hear me read it?' Like they went to go and read it to me and I was like 'No, you read it in your head and then tell your partner --
Sharon	Tell your partner what you've read.
Vicky	'You're not even telling me I'm just listening to the conversation.'
Sharon	Tell your partner.
Vicky	So, I just sat there as if I wasn't even listening to them but obviously you are because you're listening, and they did it really, really well

Box 5.20

First reported consequential action:CL3

5.3.3 Summary of Sessions Three and Four

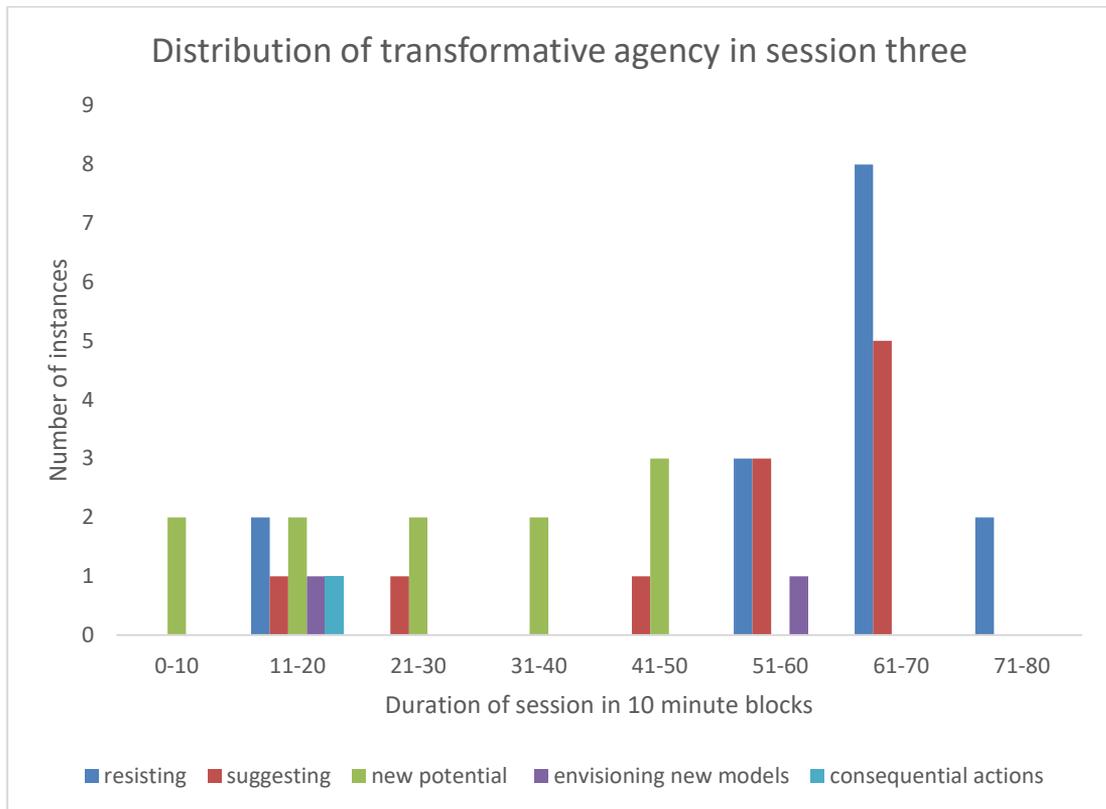


Figure 5-19 Transformative agency distribution in CL3

CL3 (figure 5.19) contained much resistance: in the first quarter, participants resisted senior leadership, in the last thirty minutes peer observations were resisted (blue columns). Figure 5.20 (below) indicates that the resistance phase was still strong in CL4, with much questioning and criticising throughout the session revealing dissatisfaction with the research process, reluctance to take responsibility and resistance to leadership ideas.

The prevalence of suggestions- 'just going for it' and new potential seen, for instance, in the comprehending/coding dilemma in the earlier part of the session (claret and green columns), suggest that the stimuli of staff presenting their own practice in CL3 was effective, which continued in to CL4.

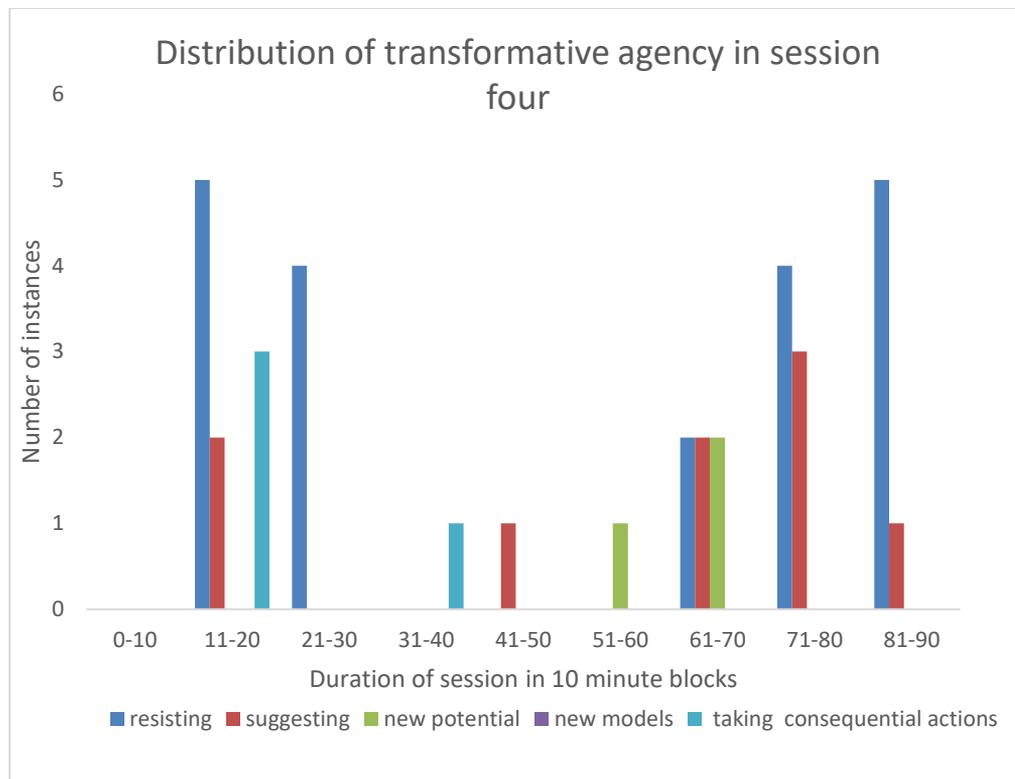


Figure 5-20 Transformative agency distribution in CL4

New potentiality was a strong feature of CL3 but had less influence in CL4, despite the potential recognised in old models in the latter part of the session (green columns).

The 'expert' stimulus of external training resulted in consequential actions being reported in CL3s and 4 when new strategies were trialled (light blue columns), which led to some early envisaging of new models such as the whole class text in CL3 (purple column). CL4 did not produce any new models, despite an original session design for stimulating new model production, perhaps as there was greater focus on historical elements and less forward thinking.

5.4 Modelling phase: CLs 5-6

5.4.1 Overview Sessions Five and Six

Session Five (table 5.5 below) was designed to address the lack of modelling in session four. Thus, like the preceding session, it incorporated a focus on two expansive learning actions: modelling and the examination of earlier suggestions.

By CL5, the group's continued resistance meant that new session plans deviated strongly from the original intention shown in Chapter 4. I reflected on the continued resistance to disturbance diaries and wondered if the term *disturbance* implied failings (Research diary 17.3.17). I decided to use the regular staff meeting between CLs4 and 5- i.e. using established *rules* in the system - to relaunch the task, as artefacts produced in staff meetings tended to be ascribed greater significance. I expressed the task in terms of children's learning, rather than disturbances in teachers' practice. I asked participants to keep a diary of reading tasks undertaken in a three-week period, to note how they taught comprehension, how the children responded and if there were any surprises (figure 5.21, p.173). There was a reading focus in school that week with a Book Fair, the annual World Book Day and a Readathon competition. Teachers were asked to collect younger children's views through discussion or through written questions in the older years (cf. Flutter 2007). Finally, I asked them to take a blank Simple View of Reading diagram (e.g. Stuart, Stainthorp, and Snowling 2008) and to map the children's decoding abilities against comprehension skills (figure 5.26, p.182).

CL5 6.4.17	Present n. 8	Time: 67m video/ audio recorded	Researcher's original intention: to use artefacts and timeline to examine the quality of preceding models and new proposals <i>Key: change in shaded Boxes</i>			
Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documents	Record: artefacts photos
Examination/ Modelling	Task 1 <i>The reading experience</i>	Teacher-completed reading diaries and simple view of reading maps; children's views on reading		Individuals presenting in turn	Flip charts, PowerPoint slides	Reading Group diaries (n.7); simple view of reading maps (n.5); pupil voice as individual survey (n.2 class sets) and as group discussion on reading (n.5)
	Task 2 <i>Highway's guidelines</i>	<i>Copy of guidelines</i>		Group Discussion		
	Task 3 <i>Defining the object?</i>			Group Discussion		Reading 'voice' findings summary (n.1)
	Task 4 <i>Revisiting the Timeline</i>	Original timeline; Frameworks for literacy/ government guidelines/ national curriculum (1999 to present) to enable date checking	Timeline requiring dates/ detail	Group	Add post-its: object (green), date occurred (yellow), when teacher joined school (blue)	Amended timeline (n.1),
	Task 5 <i>Planning new model(s)?</i>	Slide of previous models discussed	Expansive learning cycle diagram.		3 surfaces: questioning, analysis (changes in history of reading at our school matrix) and new model	Intended models (n.1)
Between-session task: 1.To trial refined model as paired classes					Returned documents: n/a	

Table 5-5

Actual session five

3.6

1. Reading groups Diary Spring 2017

Week commencing	What you noticed about how you taught reading?	What you noticed about how the children responded?	Any surprises?
20 March 2017	SATs preparation - lots of work on the content domains - inference / deductive skills. Speed of reading and using information effectively.	Chn have very poor deductive skills - find it hard to read 'in between the lines' of stories etc. Much better with non-fiction texts.	Poor knowledge of vocabulary - will hinder many - eg. double down.
27 March 2017	Development of 2/3 mark question through use of PEE (point, evidence, explain). Referring to the text as much as possible.	Developed knowledge of PEE, but still some are unsure when to use it. Over-answering simple retrieval questions.	Over developed answers, need to be more concise. Ability to refer back to the text as opposed to using their head to remember facts etc.
3 April 2017	Development of test practice. Varied length of papers / 20mins / 40mins / 60 mins so that they learn how to use their time correctly.	Chn are learning to manage time better - maybe starting with non-fiction to get additional marks early.	Poor use of time from some, spend too much time trying to access 2/3 mark questions before attempting simpler 1 mark q's
Number of groups taught	5	Content: fiction/non-fiction? Comprehension, free reading?	Variety of all genres.
			Please bring to next CL on 6.4.17: guidelines or schemes you use regularly for comprehension

Figure 5-21 Reading Groups Diary:CL5

Instead of the intended classroom practice video clips to develop the model, I amended the plan to refocus on the *reading experience* (CL5: task 1) through reading diaries (figure 5.21 above) and pupil voice evidence, followed by *revisiting the timeline* (CL5: task 4) to help examine the quality of preceding models and influence new ones. There was resistance to organisational input, such as the Deputy Head's reading comprehension guidelines (CL5: task 2), as well as intervention content. However, the group did develop three different models (CL5: task 5; see summary in figure 5.29, p.188) that they wished to trial before the next CL, which became the *between-session* task (table 5.5 above).

Session Six (table 5.6 below) was the most changed from the original design intentions in Chapter 4. The focus was less on the expansive learning action of implementation as planned, rather on the examination of a new model.

CL6 11.5.17	Present n. 7	Time: 76m video/ audio recorded	Researcher's original intention: evaluation of early stage implementation Key: change in shaded Boxes			
Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documents	Record: artefact photos
Examination Implementation	Task 1 <i>Paired model evaluations</i>		'what went well' and 'even better if' chart completed	Individual feedback and group discussion	Flip chart	www/ebi chart (n.1)
	Task 2 <i>New introduction</i>	Joe introduces website		<i>Joe shares information</i>		
	Task 3 <i>Reframing the object</i>	Activity system diagram		group discussion		
	Task 4 <i>Refining the model</i>		Comparison with other available models; previous disturbances	group discussion	Action plan	Amended action plan (n.1)
Between-session task To report to senior leadership on the new model they want to implement across school To implement a bigger scheme May to July 2017					Returned documents: n/a	

Table 5-6 Actual session six

Sessions continued to have a dual or overlapping focus as the CL series progressed. Planned researcher-interventionist content in this session was strongly resisted. I had to respond *during* the session to the new material introduced by Joe and amend my plans in situ, despite having planned *in-session* tasks in detail.

Paired model evaluations (CL6: task 1); participants reported on the implementation of a guided reading group model and a thematic reading model. I had intended to stimulate modifications to their existing models, by revisiting Sharon's arguments through a mirror video clip to which she had agreed in her absence and by reviewing research concerning similar comprehension pedagogies (originally Task 2, table 4.7).

However, Joe's *New introduction* (CL6: task 2) led to a major re-alignment of activities *within* the actual session. I accommodated the changes by foregoing my activities: *reframing the object* (CL6: task 3) provided a brief return to the activity system and *refining the model* (CL6: task 4) enabled the group to consider how-and which model- they would present to Senior Leadership.

Between-session tasks remained similar, as Senior Leadership's involvement had been planned for this stage; it became Joe's new idea that went forward, rather than the anticipated model. The group continued to resist peer observation as part of a wider implementation and opted instead for a report on progress.

5.4.2 Transformative Agency Manifestations in Sessions Five and Six

Sessions five and six contained all six aspects of TA. Resistance elements were fewer and more relative in CL5 and in CL6 there was little resistance with none for the first 40 minutes. Suggestions were important in CL5 to lay the foundations for modelling in CL6.

5.4.2.1 Questioning individual approaches

In CL5 participants criticised their lack of initial training in reading comprehension methods, which they linked to a continuing reluctance or hesitation to trial anything new. They wanted to develop a model that could be used throughout the school (box 21 below). Criticisms in CL6 were against the research *process* when Joe argued that Senior Leadership should have been more involved, especially as the group were still concerned whether innovations would be allowed or would be staffed. The fact that teachers could be moved to a different year group the following year deterred change. They were also deterred by presenting information to Senior Leadership, specifying that they wanted to ‘talk’ or ‘update’ rather than present.

First-stimuli	Mirror-data	Second-stimuli	Social organisation	Documents
Task 5 <i>Planning new model(s)?</i>	Slide of previous models discussed	Expansive learning cycle diagram.		3 surfaces: questioning, analysis and new model
Joe	I don't think it's that anybody's unwilling to try it --			
Vicky	No.			
Joe	I think we're just trying to think of the viable solution for it. So, it's good enough saying 5 and 6 will join together and it's like 'Okay what are we going to do?'			
Laura	Where do you start?			
Joe	We could decide, but then --			
Researcher	Well you have lots of ideas up there that you've already come up with.			
Joe	But we've got to start thinking about the fluency through the school, haven't we? We could do our own thing but then how would that then link to Year 4 and 3 objectives?			
Sharon	No, you look at what's right for your children in your year groups.			
Joe	But you've still got to look at the development journey of somebody reading, you can't just off and say: 'We're going to do it our way.'			

Box 5.21

Questioning reliance on individual approaches

5.4.2.2 Disturbance diary stimulates suggestion

Phil specifically raised children being taken out of comprehension sessions to practise their spelling as a disturbance by choosing to complete a disturbance diary (the only one during the CL series), as well as a reading group diary (figure 5.22 below). He suggested keeping children in the comprehension class instead, a change in practice not taken up by the group.

Year 4

Disturbance diary

Theme	Difficulty/disturbance/surprise/problem situation	Available solution	Ideas for dealing with identified disturbance
example	Children falling behind taken out of other lessons for pit stops, so miss lessons and/or miss playtime	Timetable for pit stops? Staffing?	
Word blaze taking place at the same time as Guided Reading	Children who need support with spelling are not getting to grips with their comprehension skills.	Timetable for interventions. Staffing for more teacher led reading	Change timetable placing more importance on Guided Reading.
Disruption to the timetables through one off events happening.	Focus taken from reading and geared towards practising assembly/ attending workshop/ staff being ill.	LESS disruption through one off events	Something needs to give.

Figure 5-22 Phil's disturbance diary recounts disruptive procedures: CL5

5.4.2.3 Purposeful Suggestions

The heading *purposeful suggestions* is taken from Sharon's suggestion to Laura to take a group of children out of the classroom to concentrate on their reading needs and leave the rest of the class with support staff to do something 'purposeful'. Purposeful encapsulates the practical suggestions

which surfaced in this session (see figure 5.27, p.185). The group suggested encouraging older children to read to younger ones, thereby building their own confidence, an idea that evolved into a ‘reading buddies’ concept. It was Sharon who suggested a model of pairing classes where the children were closest in age, year 5 with Year 6 etc, which became the *between-session* task (see table 5.5).

5.4.2.4 Suggesting a skills-based strategy

In CL6, Joe’s new model surfaced as a suggestion: ‘can I put something out there?’ He had searched online for a different strategy for developing children’s reading comprehension skills across ages five to eleven, known as VIPERS, which he was keen to implement (figure 5.23).

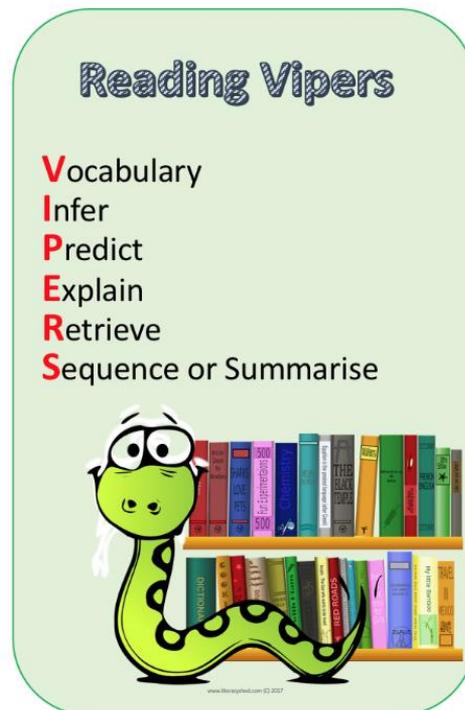


Figure 5-23 Adopting commercial strategy: VIPERS © The Literacy Shed

Once the new model had been proposed, further suggestions centred around a training day for support staff, so that they too would understand the new model. The participants also evaluated existing resources to see if they fitted with the model and proposed involving parents once the model was established.

5.4.2.5 Potential and limitations in previous practice

The APE strategy's potential mentioned in CL3 (figure 5.24 below/section 5.3.2.8) was reiterated in CL5, as a way of developing weaker children's comprehension skills. The timeline in task four (figure 5.25 below) reiterated the potential of reading a whole-class text (see section 5.3.2.9). The pupil voice surveys also revealed that children became more involved in whole-class texts, liking interactive stories if they were younger and strong characterisation as they got older. These debates reaffirmed the object as the enjoyment of reading.

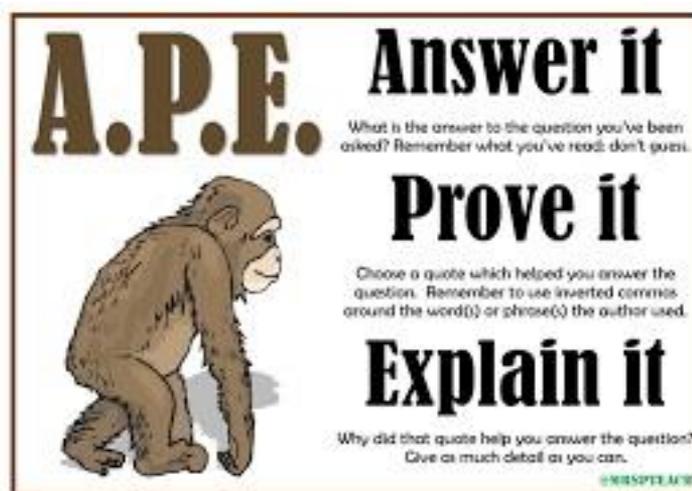


Figure 5-24 A.P.E. strategy

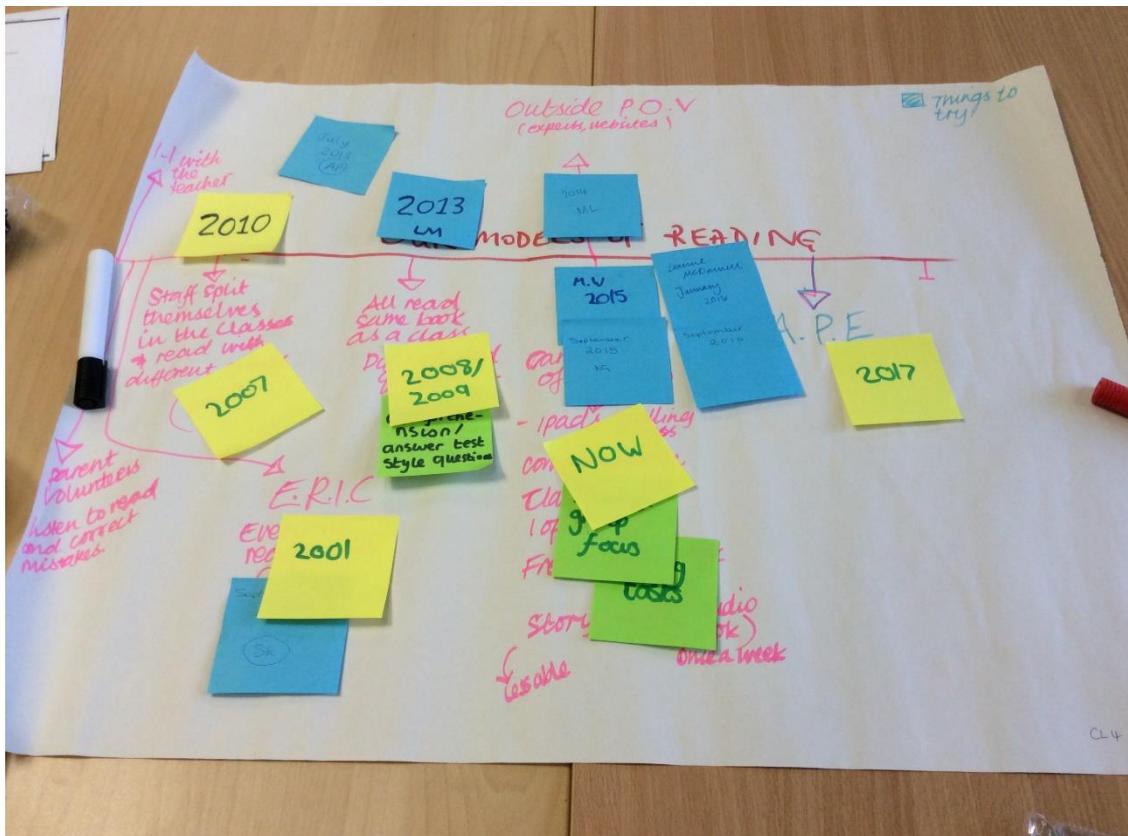


Figure 5-25 Timeline revisited: CL5

Discussions in Box 5.22 below highlighted the negative aspects of managing current practice, which centred around a guided reading strategy, which Phil later characterised as ‘flawed’. Laura also noted that the pupil voice task had helped her see how children’s difficulty in reading influenced their attitude to reading, which became problematic for teachers. These same children were those Laura had already identified as weak comprehension/ weak decoding on her Simple View of Reading proforma (cf. figure 5.26 below).

First-stimuli	Mirror-data
Task 1 <i>The reading experience</i>	Teacher-completed reading diaries and simple view of reading maps
<p>Laura</p> <p>Sharon</p> <p>Joe</p> <p>Sharon</p>	<p>I think we've just, that stuff the Deputy Head gave us- I think that's what it is isn't it? Like what guided reading should look like and we're trying to encompass probably too much of it maybe.</p> <p>Because you focus should be just that reading with that group, not what everyone else is doing. I know it's difficult, I understand that, but you can't concentrate with everyone -I think we're getting too focused on other activities.</p> <p>Yes, I don't like the whole carousel, I think it's over complicated, like you were just saying.</p> <p>It's a lot of planning and a lot of work and then it's like 'Who's done which?' Then you're taking it and you're marking it and to me I'm thinking, well to me they shouldn't be activities that need any marking</p>

Box 5.22 Guided reading carousel limitations:CL5

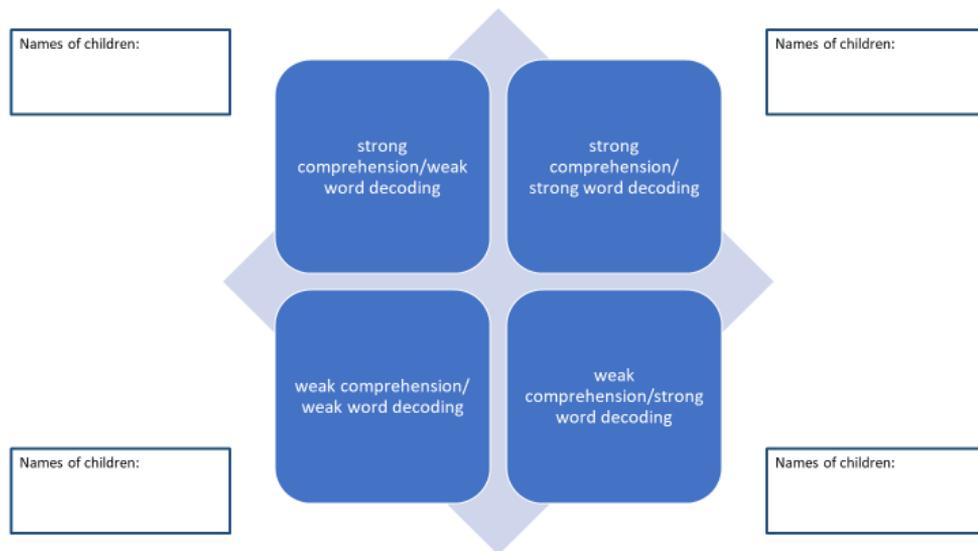


Figure 5-26 Simple View of Reading proforma

Overall, the surveys revealed several limitations which the participants summarised in figure 5.27 below:

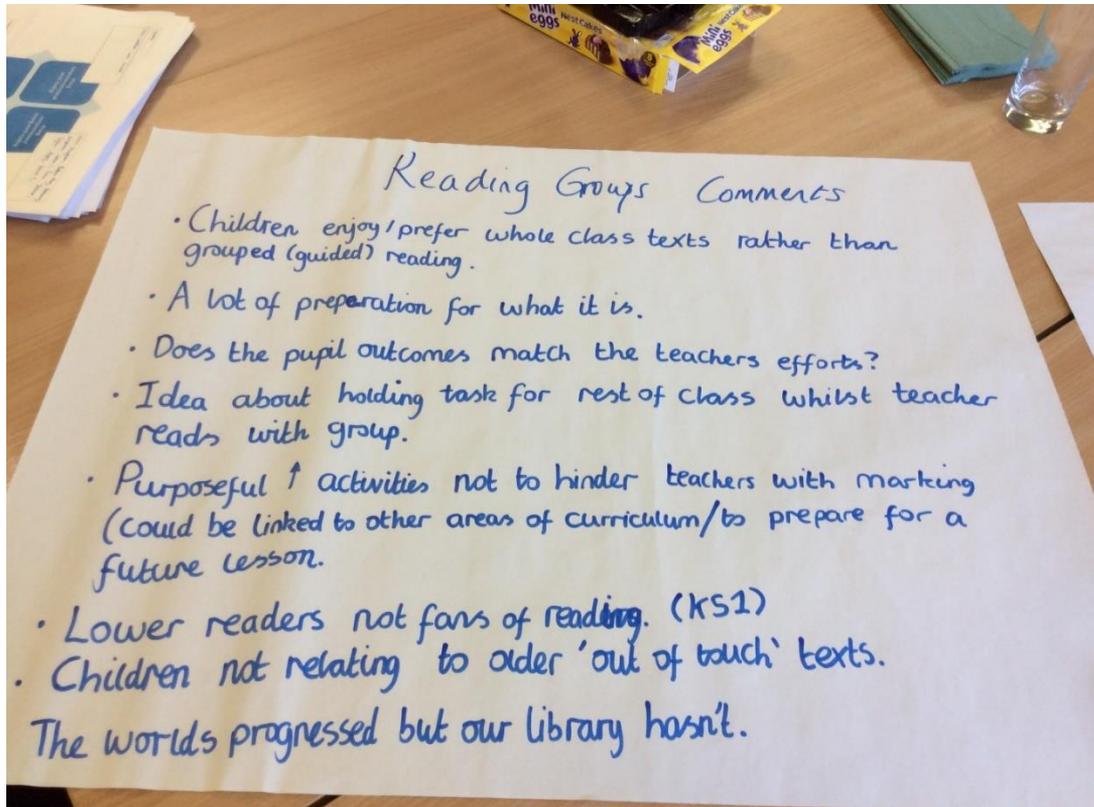


Figure 5-27 Summary from reading experience activity:CL5

5.4.2.6 Potential of different models

In CL6 the participants evaluated the two models implemented after CL5, work in several classes demonstrated the models' viability (figure 5.28 below).

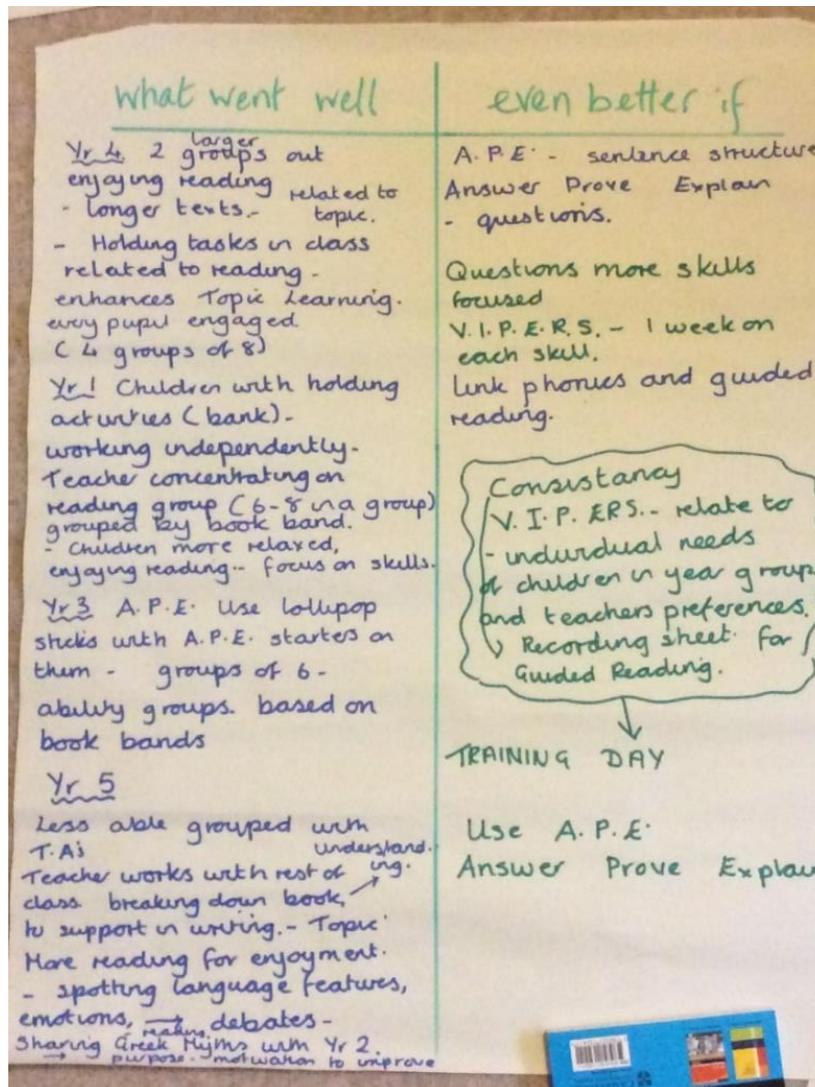


Figure 5-28 Specific ideas for moving forward:CL6

Phil summed up the benefits of thematic reading comprehension (model 1) which contextualised learning (box 5.23 below). In year 1 Laura felt comprehension was more skill based and in Year 5 Sarah found learning outcomes were more extensive (figure 5.28 above).

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 1 <i>Paired model evaluations</i>		'what went well' and 'even better if' chart completed	Individual feedback and group discussion
Phil	... everything is going through Victorians.		
Researcher	So you're saying it's got knock-on effects across other areas.		
Phil	Yes, yes, they know more about what's been said and it's almost like, what is it, the creative curriculum where everything was drilled --?		
Vicky	Thematic planning. (agreement)		
Phil	But everything's reading now, it's not like you're doing your spellings or your handwriting or you're doing comprehension from a textbook that's got nothing to do with Victorians.		

Box 5.23 Thematic reading comprehension's potential:CL6

Joe saw VIPERS' (model 2) potential for use by teachers and support staff alike, to promote skills and as an assessment tool (box 5.24). VIPERS was welcomed quickly by the group and valued for the fact that it could be applied consistently across the school, as well as promoting skills which the children required in standardised assessments in years 2 and 6.

First-stimuli	Mirror-data
Task 2 New introduction	Joe introduces website
Joe	You might think 'Right, actually today I want them to do a bit of predicting at the same time as doing a bit of inference.' and it's just having, you could even have it as a little booklet for a teaching assistant and it's just like, choose different questions about different things or --
Researcher	Yes, so different focuses and different types, not always --
Joe	Or choose a focus which, these are all the content domains as well, but these just link in and it gives it, it's a bit more of a purpose because people know what they're doing.
Phil	Because otherwise you get that 'They've read well.'
Vicky	Yes.
Joe	Yes, it's a bit too loose and this brings it back around to 'Well actually I've done this question and this question today with them and actually we looked at a bit of inference as well.'

Box5.24 Recognising VIPERS' potential: CL6

5.4.2.7 Envisioning new reading comprehension models

Joe envisaged a model in CL5 that was closer to a Book Club than guided reading, where the children would feel involved; the club became associated with ideas for increased use of the library or outdoor spaces. For Laura, this tallied with her decision to exit the classroom so that she could concentrate on developing comprehension skills with a given group. The model developed by pairing up classes, as previously suggested, and Sharon encouraged everyone to think how reading linked to other aspects of the curriculum. They finished by settling on a set of models linked to children's experience, as seen in figure 5.29 below:

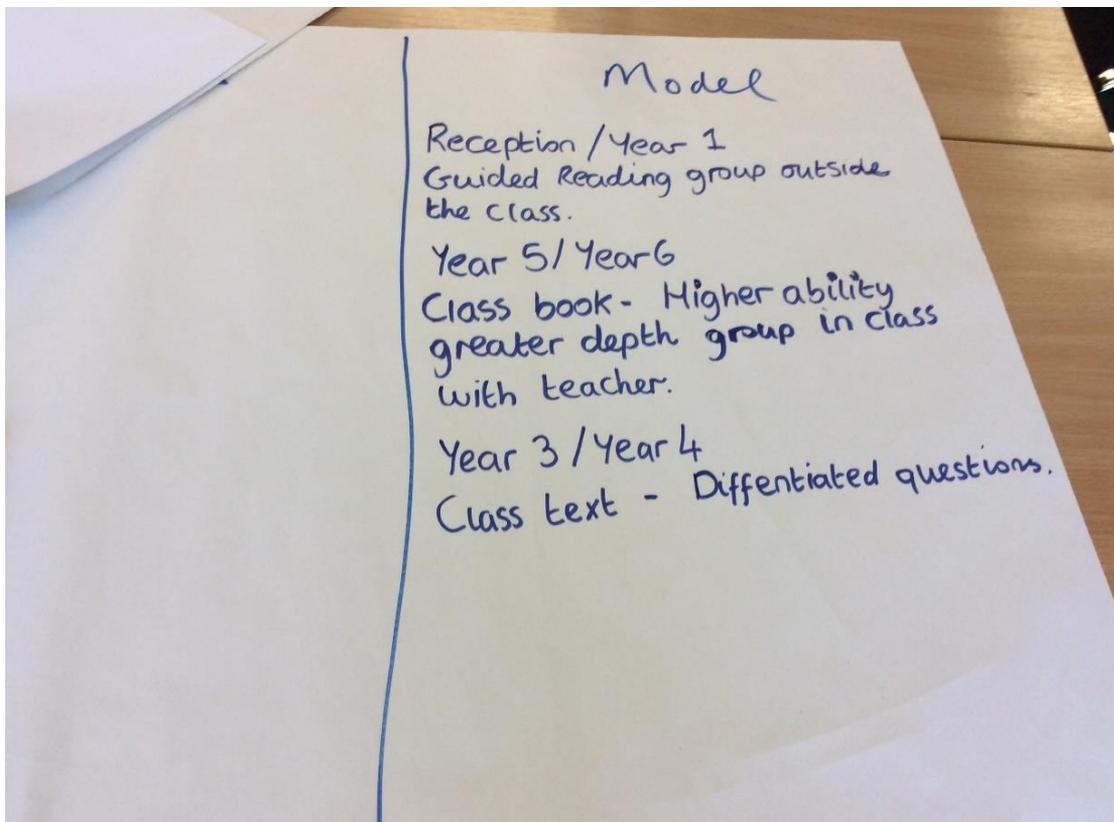


Figure 5-29 Models for paired class reading development: CL5

5.4.2.8 Refining the VIPERS model

As the group sketched out the new VIPERS model in CL6, they addressed how support staff (teaching assistants) would handle the new pedagogy (box 5.25 below). They recognised the model would have to be flexible, as they did not want the mnemonic to be used in a 'mechanical' way. They discussed how to implement it across the school, even combining VIPERS with Vicky's APE, a method of structured written answers to comprehension questions. These discussions were summed up in an amended action plan (figure 5.30 below).

First-stimuli	Mirror-data
Task 2 New introduction	Joe introduces website
Vicky	I don't know whether my teaching assistant would feel comfortable doing inference and stuff.
Joe	That's the problem, we need, sometimes --
Laura	But if you give them that you could just say 'Today concentrate on prediction.'
Joe	They can take an iPad though, can't they? and just look down that list if they need to and just be like 'Oh one minute, I want to do a bit
Joe	And thing with VIPERS is you could do one of each- five questions, six questions, or just pick and choose, combine some. Because some, if you're clever, as you're getting up through the school combine two questions into one-get them to retrieve and infer.

Box 5.25

Refining the VIPERS model: CL6

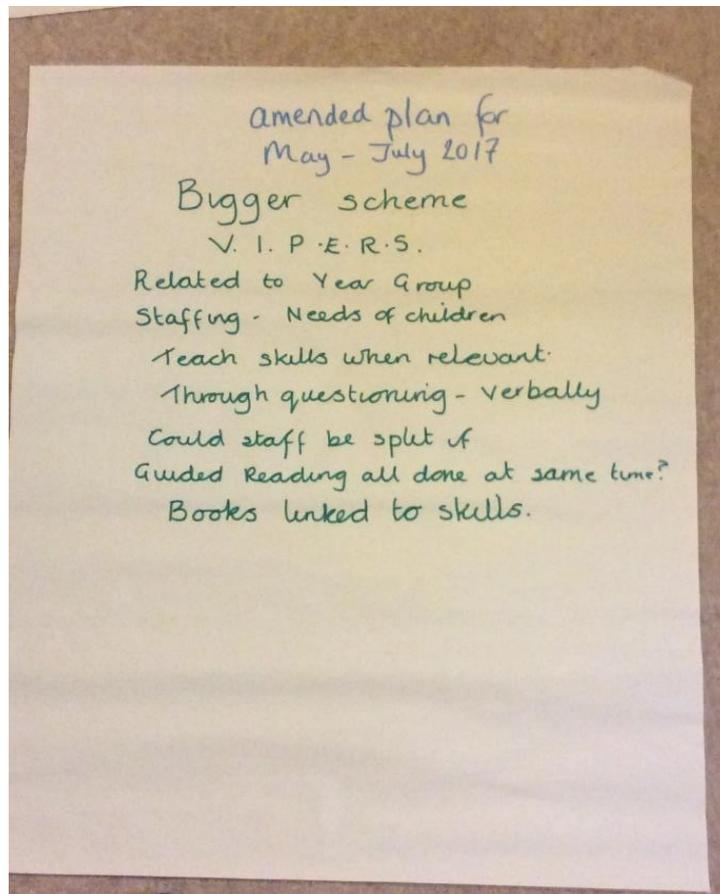


Figure 5-30 Amended action plan:CL6

5.4.2.9 Committing to concrete actions

Aide-memoire 5: the concrete actions aspect of transformative agency is characterised by intentions being expressed specifically.

Concrete actions appeared between CLs5-6 as Phil removed children from the spelling group after noticing the disturbance and as Laura decided to take the target group out of the classroom for reading. Vicky committed in CL6 to combining the VIPERS + APE approaches in her lessons (see section 5.4.2.8).

5.4.2.10 Report taking consequential actions

Teachers in years three to six, plus Laura in year 1 had taken consequential actions between CLs4-5 by mapping the children's reading, enabling them to profile their class' comprehension/decoding disposition.

The period between CLs 5-6 had been productive as several participants implemented their version of initial models (figure 5.29 above). Sarah trialled her agreed whole-class text comprehension model and extended the idea by linking pupils' reading to their writing. She intended to ask the children to read their stories to a younger year group, following pupil voice survey suggestions. Vicky reported deciding *not* to focus on a whole-class text and the use of differentiated questions as agreed but returning to the comprehension model from CL3. Phil extended his whole-class text model by linking comprehension to another area of the curriculum (history). Laura trialled her model and had taken a group out of class to read; she had been supported by observation and feedback from Sharon as planned.

5.4.3 Summary of Sessions Five and Six

CL5 was productive and dynamic with a focus on suggestions and models (figure 5.31 below). Resistance was frequent but minor, illustrated by the group's questioning of different approaches (blue columns). Suggestions were plentiful, for example early suggestions from Phil's disturbance diary and Sharon's purposeful suggestions (claret columns); potential came from the group discussing limitations to the current guided reading carousel compared to the potential in former practices (green columns).

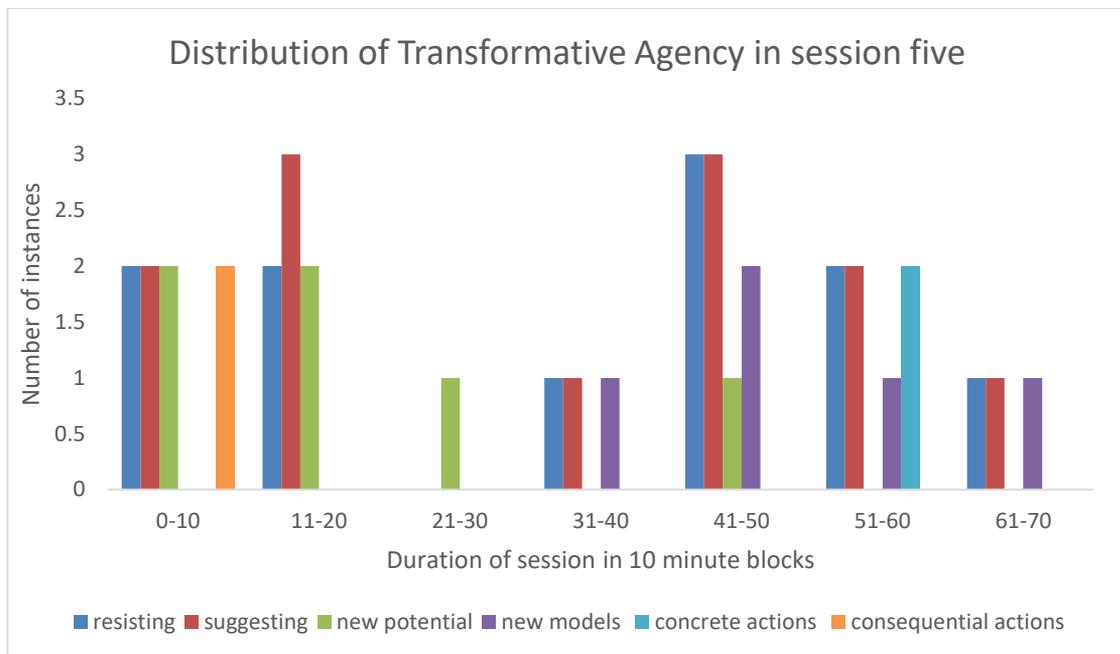


Figure 5-31 Transformative agency distribution in CL5

Ideas for new models occurred extensively in the latter half of the session, for example the paired class reading development (purple columns). There was one consequential action, mapping the simple view of reading (orange column), which impacted the rest of the session, and Phil's changes to spelling groups was the one concrete action (light blue column). The session was largely driven by Sharon's pivotal suggestions which occurred throughout the session and are analysed in more detail in chapter 6.

CL6 (figure 5.32 below) was agentic with Joe's suggestion twenty minutes into the session stimulating modelling from the group, once he had described the potential of the VIPERS approach. Considering involving support staff and exploring the relations between elements of the activity system enabled the group to move towards a reframing of the object. Potential was a recurring theme, for instance of VIPERS and thematic reading comprehension (green columns).

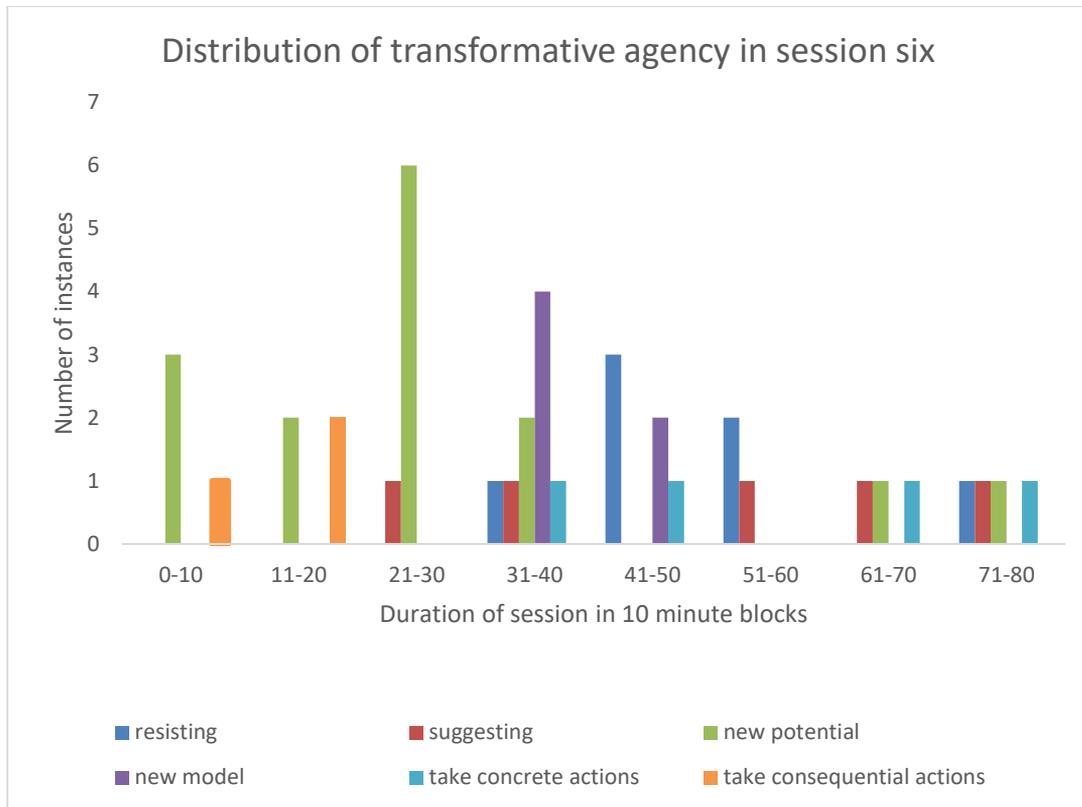


Figure 5-32 Transformative agency distribution in CL6

Some resistance surfaced towards the end as the group considered the practicalities of staffing the initiative, but the overall tone was positive (blue columns). The group refined the VIPERS model (purple columns) and reported on the actions (trailing model) they had undertaken (orange columns) before committing to continued trials (light blue columns).

5.5 Implementing and Consolidating phase: CLs 7-8

5.5.1 Overview Sessions Seven and Eight

Although I originally planned *session seven* as a *process reflection* expansive learning action (see Table 4.8), as the group had not progressed sufficiently with the model, I decided to retain an *implementation* focus (table 5.7 below).

CL7 15.6.17	Present n.6, (joined by Sharon after 30 min)	Time: 56m video/ audio recorded	Researcher's original intention: Review mid-stage implementation; relational aspects Key: change in shaded Boxes			
Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Docs	Record: artefact photos
Implementation	Task 1 <i>Children's stories</i> (product)	Photographs of whole class approach presented by Sarah		Individual feedback and group discussion		
	Task 2 <i>Mapping changes</i>		Large blank activity system to annotate	Group		Updated activity system (n.1)
	Task 3 <i>Revisiting the disturbance field</i>	Original disturbance field	Update Original field	Group		Updated disturbance field (n.1)
	Task 4 <i>Revitalising the action plan</i>	Original Action plan	Update Original Action plan	Group		Amended action plan (n.1)
Between-session tasks: a) apply VIPERS to a picture-based or text-based comprehension task b) design a combined skills prompt sheet and assessment sheet					Returned documents: n/a	

Table 5-7 Actual session seven

The session built on CL6 by examining first phase implementation of the model taken to Senior Leadership. The proposal had been postponed twice and it was notable that the others did not contribute in Joe's stead when he had had no time to prepare. Joe presented the following week, by which time

Senior Leadership had prepared a response, which focussed on the new model's assessment implications, which changed the model's remit.

This was one of the shorter sessions at 56 minutes, with six teachers present initially. *Children's stories* (CL7: task 1) was designed to allow the participants to reflect on the model(s) being trialled. Sarah shared the latest version of her thematic model linking children's reading and writing (figure 5.33 below).

Mapping changes (CL7: task 2) then enabled the group to refocus on the object and although they were reluctant to start the activity, they recognised the changes that had occurred so far in their conceptualisation of the object (figure 5.34 below).



Figure 5-33 Viewing footage of implementation of thematic model:CL7

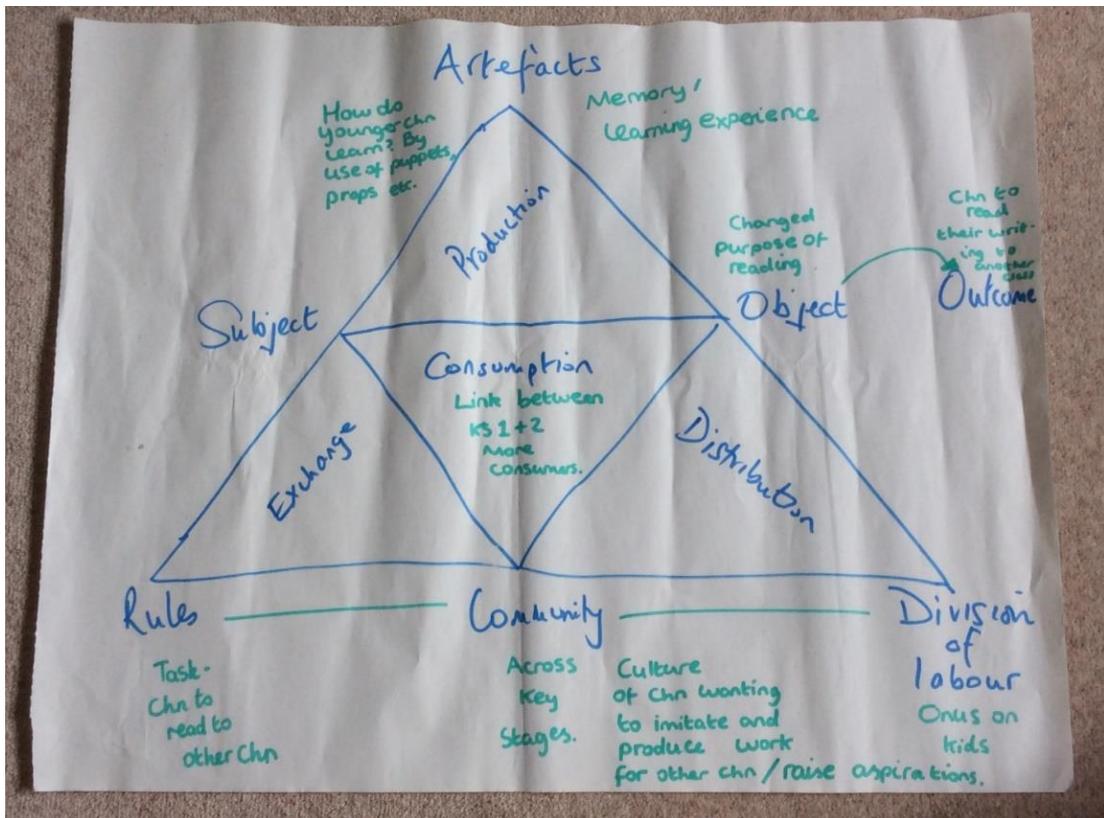


Figure 5-34 Reconceptualising the object:CL7

Sharon joined the group after 30 minutes in time for *Revisiting the disturbance field* (CL7: task 3), which generated more discussion and provided context for *Revitalising the action plan* (CL7: task 4). This task set *between-session* actions for amending the model before the next session (figure 5.35 below).

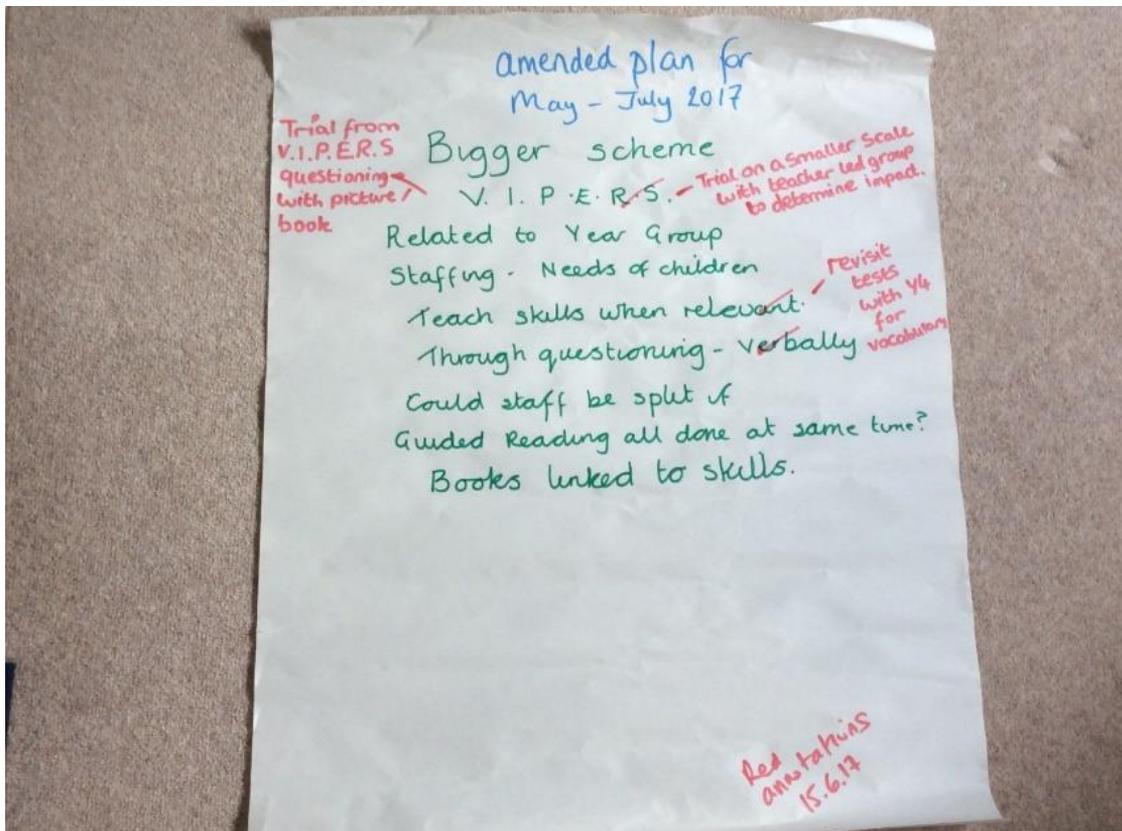


Figure 5-35 Amended action plan: CL7

Session eight (table 5.8 below) focussed on the expansive learning action of *consolidation* as planned in the original design. It built on CL7 as participants had carried out their intended tasks and developed a comprehension model linked to a writing task. There were minor practical amendments as the division of tasks during the session changed owing to two teacher absences. Timescales were tight, as I only had 45 minutes of consolidation before the group proposed the final model to the Deputy Head for incorporation into a new Reading Week.

Evaluating participant models (CL8: task1) enabled the group to evaluate the final version through Phil's audio-recorded comprehension activity. I then ran two parallel groups *Developing a reading scheme* and *Reading Statement*

simultaneously (CL8: tasks 2 and 3), electing to defer a discussion of the training support staff model owing to absences.

CL8 6.7.17	Present n. 6	Time: 64m video/ audio recorded	Researcher's original intention: Consolidate different iterations into one cohesive model to be implemented in September. Produce a practical scheme of work etc Key: change in shaded Boxes			
Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation	Docs	Record: artefact photos
Consolidation	Task 1 <i>Evaluating participant models</i>	Audio clip of 2 nd Iteration of Phil's model - reading linked to writing task Artefacts	audio transcript	Whole group		Sample of child's written work; responses to a pictorial stimulus
	Task 2 <i>Developing a reading scheme</i>	Annotated activity system and disturbance fields displayed	Summary of ideas produced by CLs; read-write-perform scheme	Parallel group (4)	Flip chart	Reading week/ 2 nd week plans (n.2),
	Task 3 <i>Reading Statement</i>			Parallel group (2)	Flip chart	Reading statement (n.1)
	Task 4 <i>Critiquing each other's plans</i>			Brief group discussion		
	Task 5 <i>Presenting ideas to senior leadership</i>	Produced reading week plans and reading mission statement				
Post session task 1.To complete documentation drawn up in session- scheme of work to be incorporated into new English policy 2. Reading 'Mission statement'					Returned documents: none	

Table 5-8 Actual session eight

Before the fifth task *Presenting*, I established time for *critiquing* each group's ideas (CL8: task 4), so that the most developed version was presented to Senior Leadership. The presentation had originally been planned as an action outside the CL session.

The group's *post-session* task was to finalise documentation and the researcher placed typed versions of figures 5.38-39 (see p.206) in a shared network area for participants to amend or annotate. The documents remained there untouched until the end of term and were not implemented at the start of the next academic year.

5.5.2 Transformative Agency Manifestations in Sessions Seven and Eight

A full range of manifestations were present in CL7, with an overall focus in CL8 on potential and new models

5.5.2.1 Resisting new model trials

Resistance mostly occurred between CLs6-7 when the group had been reluctant to speak to Senior Leadership in staff meetings about change, although there were indications of private conversations about change (Research diary 8.6.17). The VIPERS model suggested in CL6 had not been implemented by anyone and discussions in CL7 showed their continued reluctance, although a partial trial eventually became an action from CL7. By CL8 teachers merely resisted the time needed to plan or implement activities in the new Reading Week.

5.5.2.2 Pedagogical Suggestions

CL7: task 2, mapping on to the activity system, stimulated richer pedagogical suggestions, such as being explicit about teaching children comprehension *skills*, so they would employ these skills with unfamiliar texts when tested.

Sharon and Rosie, who worked with younger children, suggested teachers in older classes should see them teach as they focussed on understanding story structure, a basic skill.

5.5.2.3 Suggesting a change of culture

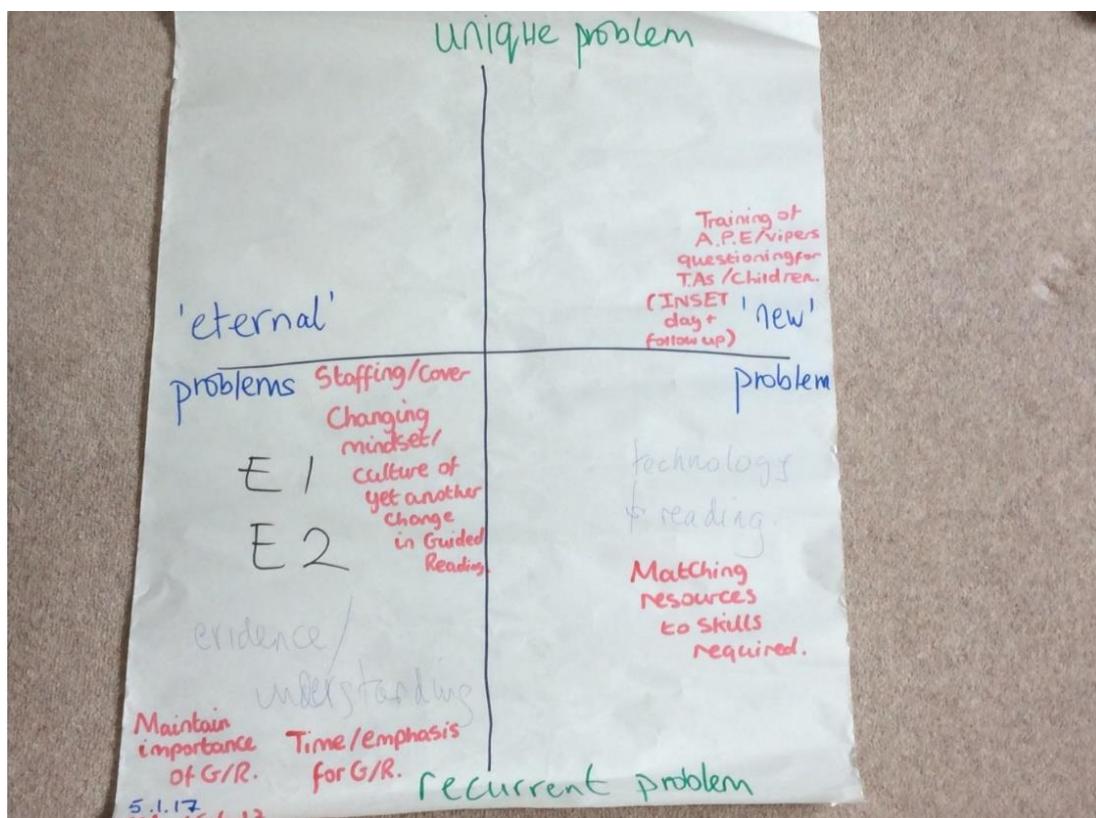


Figure 5-36 Revisiting the disturbance chart to examine recurrent problems: CL7

Laura had been speaking to the Deputy Head about how reading was being assessed and she wanted to get more information from the support staff when they heard children read, advocating a change of culture (figure 5.36 above). Similarly, in CL7, Joe suggested focussing on how support staff could be trained; this suggestion became a fully-fledged model of support staff training which they wanted to implement (see 5.5.2.7). These suggestions linked to a move in CL8 to involving parents in reading comprehension policy changes.

5.5.2.4 Potential to raise aspirations

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 2 <i>Mapping changes</i>		Large blank activity system for annotation	Group
Laura	Using puppets and things like that, especially down in Key Stage 1.		
Joe	And subtly teaching a bit of grammar because, I don't know, it's the way you read using punctuation I suppose.		
Vicky	Oh yes.		
Phil	And then your consumption is, well there's more isn't there because Years 1 and 2 are lapping it up as well as the kid that's brought it to the table, so you've got more consumers then.		
Laura	Yes, you've got like a link haven't you now between Key Stage 1 and Key Stage 2.		
Joe	I don't know, does that then change the community within the school more so? I don't know. Do then those children start to look up to those children more? Do you think they take more interest in what we do? I don't know.		
Phil	They could do, because if an older child has come to read to you, you might then want to up your game and think 'Well when I do my writing next, is there a chance that I can return the favour?' Yes.		
Joe	Can I go to Year 5 and read them a story? I don't know.		
Phil	So, like culture.		
Joe	I suppose if everyone turns around and goes 'That's fantastic Year 5, hopefully one day you'll write like that.'		
Phil	Raising aspirations.		
Vicky	That's true, yes.		

Box 5.26 Stimulating an analysis of the thematic model:CL7

By using the activity system diagram, the group saw the potential of employing Sarah's model across the school (box 5.26 above). Phil saw the potential in the VIPERS mnemonic for making an accessible assessment sheet for teachers and support staff (see Appendix 4). When Sharon joined the group later, she saw the potential in Early Years' processes which could be applied to older classes. She spent time detailing how she used

assessments to monitor children's progress and demonstrated how it could be applied to the older children's reading comprehension development.

5.5.2.5 Reading workshop potential

In CL8 the group saw the potential in Phil's amended model: link VIPERS reading comprehension skills to a later piece of children's creative writing. The teachers began to look ahead to a medium-term plan where comprehension texts would be linked to the English scheme, rather than kept separate and English brought into all aspects of the curriculum across all year groups.

The earlier suggestion of increased parental involvement gained momentum here: Sharon reinforced the benefits of reading workshops for parents, which all the teachers wished to hold. The teachers wanted parents to understand the reading ethos outlined in the Reading mission statement (figure 5.37 below).

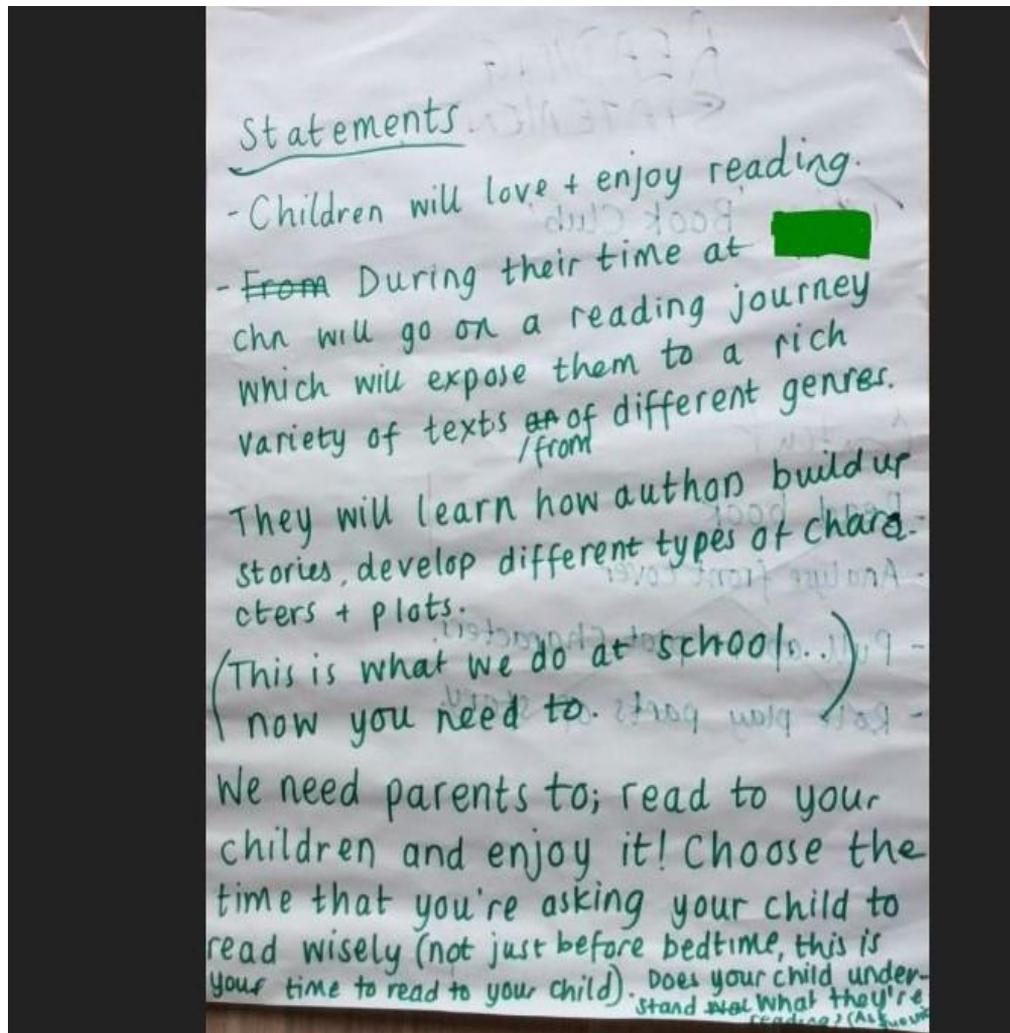


Figure 5-37 Reading 'mission statement': CL8

5.5.2.6 Envisioning a pupil independence model

The VIPERS model previously envisioned was refined in CL7: the group intended to trial the generic questions to check that they could apply them to any text. They wanted children to be proficient in various question styles, to work independently and not rely on teacher support. The other element of the refined model was to train the children in prediction skills (P in the model) and see what children could deduce and infer from a book cover or a newspaper report, to which Joe committed.

5.5.2.7 Envisioning a model for support staff training

The participants also envisaged in CL7 how to involve support staff in implementing the new VIPERS model, through a full-scale training programme. Here the focus was on supportive peer observations (box 5.27).

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 3 <i>Revisiting the disturbance field</i>	Original disturbance field	Update original disturbance field	Group Key: TA teaching assistant, also known as support staff
Researcher	How do you think that the TAs might learn better about how to deliver a slightly different approach?		
Joe	I think initially giving them the resources to be able to, because you're bound to get some who are more confident than others in any subject, so it's just giving those ones who might be a bit more reserved in doing it tools to actually give them confidence.		
Laura	And let them observe us as well I think for the less confident ones, it might be that the teacher needs to model it and they're part of that session.		
Joe	They do a whole class session or teach reading each week maybe, once a week in your class as a whole and just say to your TAs 'Well support but watch how I'm questioning or, allow them to make notes, say 'It's fine, observe me.' To see maybe the phrases you use or the way you pitch things or do it a different way for them.		

Box 5 27 A new support staff model: CL7

5.5.2.8 A progressive model

By CL8, Laura recognised that the model would have to account for a child's progression through the year, as children's ability to respond to questions would be more advanced in the summer than the autumn term. They started to think about broadening children's discussions, through a 'wonder wall' (box 5.28 below).

First-stimuli	Mirror-data	Second-stimuli	Social organisation
Task 2 <i>Developing a reading scheme</i>	Annotated activity system and disturbance fields	Summary of ideas produced by CLs; read-write- perform scheme	Parallel group (4)
Vicky	And they can have like post-it notes for the wondering thing, you could have like a little wonder wall couldn't you about the book.		
Laura	Yes, you could even have a word wall.		
Phil	A wonder wall, I love that. Same context, different example --		
Vicky	Like a picture of a different example.		
Phil	Yes.		
Vicky	So, it could be a little text or it could be a picture or something couldn't it? Or it could be a video clip.		
Laura	Yes, video clips work well.		
Phil	So, wonder wall, group work to be displayed.		

Box 5 28

The wonder wall:CL8

By rehearsing their arguments earlier in the session, the group presented clear models to Senior Leadership at the end of the session (figures 5.38-39 below).

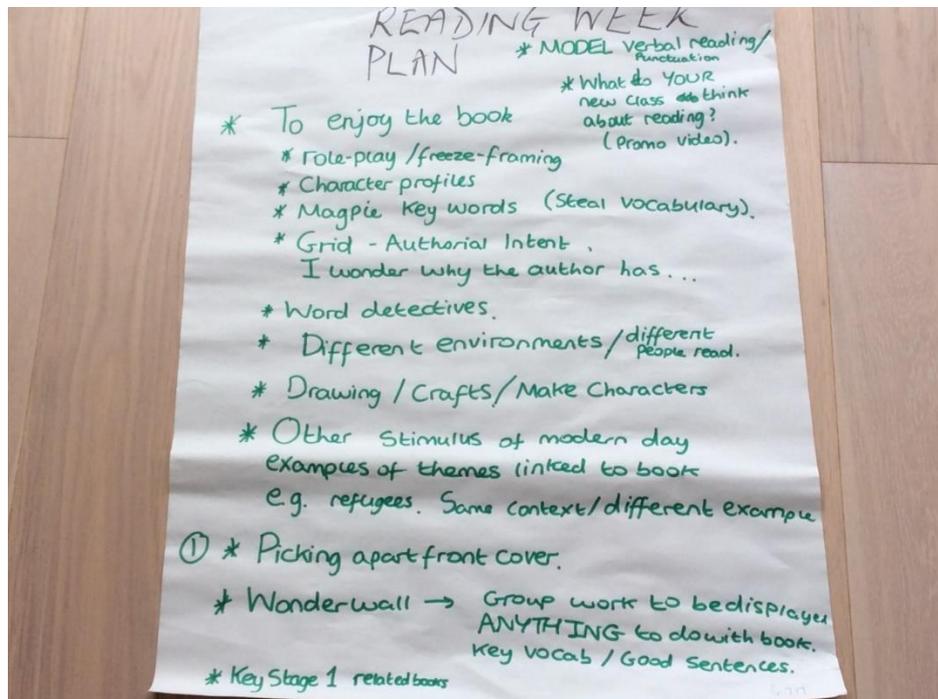


Figure 5-38 Reading week plan:CL8

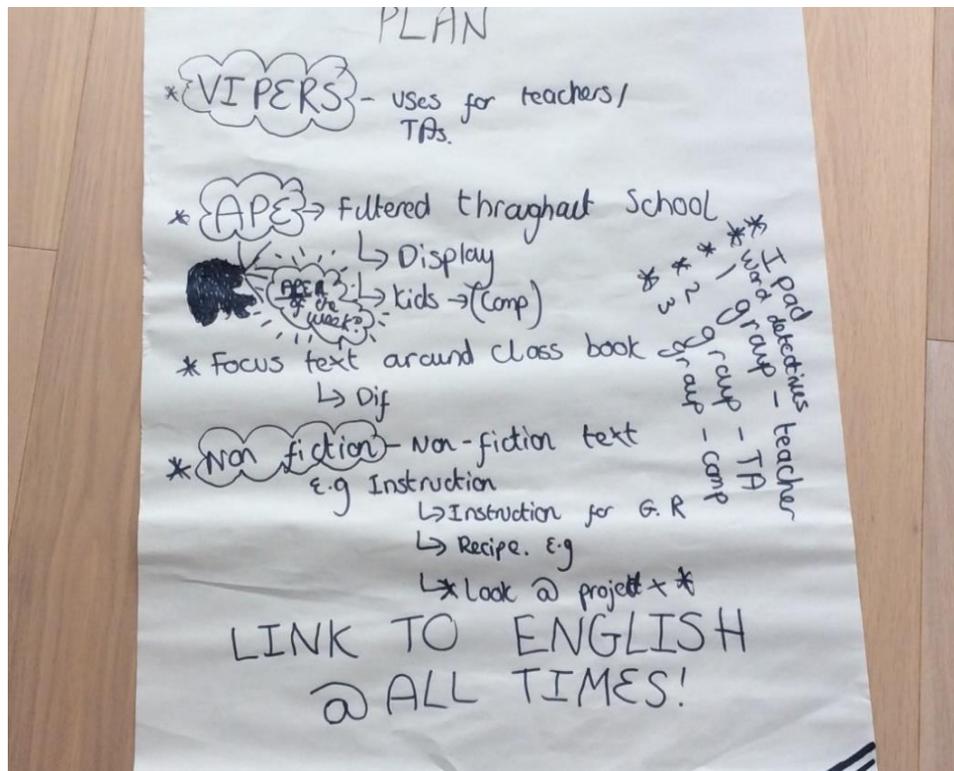


Figure 5-39 Expanded plan for subsequent weeks

5.5.2.9 Committing to the redesigned assessment and the reading week plan

In CL7 Phil agreed to design an assessment sheet that could be linked to the VIPERS model and to do a further implementation of the refined model (see Appendix Four). In CL8 committing related to the plans for the reading and subsequent weeks (figures 5.38-39 above).

5.5.2.10 Reporting model Implementation

Sarah was the only person taking consequential actions between CL6 and 7, on which she reported in this session, where she noted that linked reading had given the writing purpose. As researcher-interventionist, I observed

Sarah's model being delivered in two classes and noted the children's level of engagement.

Joe's *between-session* task had been using a pictorial stimulus (book cover) to prompt greater comprehension (figure 5.40 below). He was absent from CL8, but the group evaluated the sample evidence he provided. In between CLs 7 and 8, Phil had implemented his final version of the reading model which linked through to developing writing. He evidenced the model with an audio clip (he used the VIPERS mnemonic to structure his questioning for the children) and shared a sample of a child's work with the group.

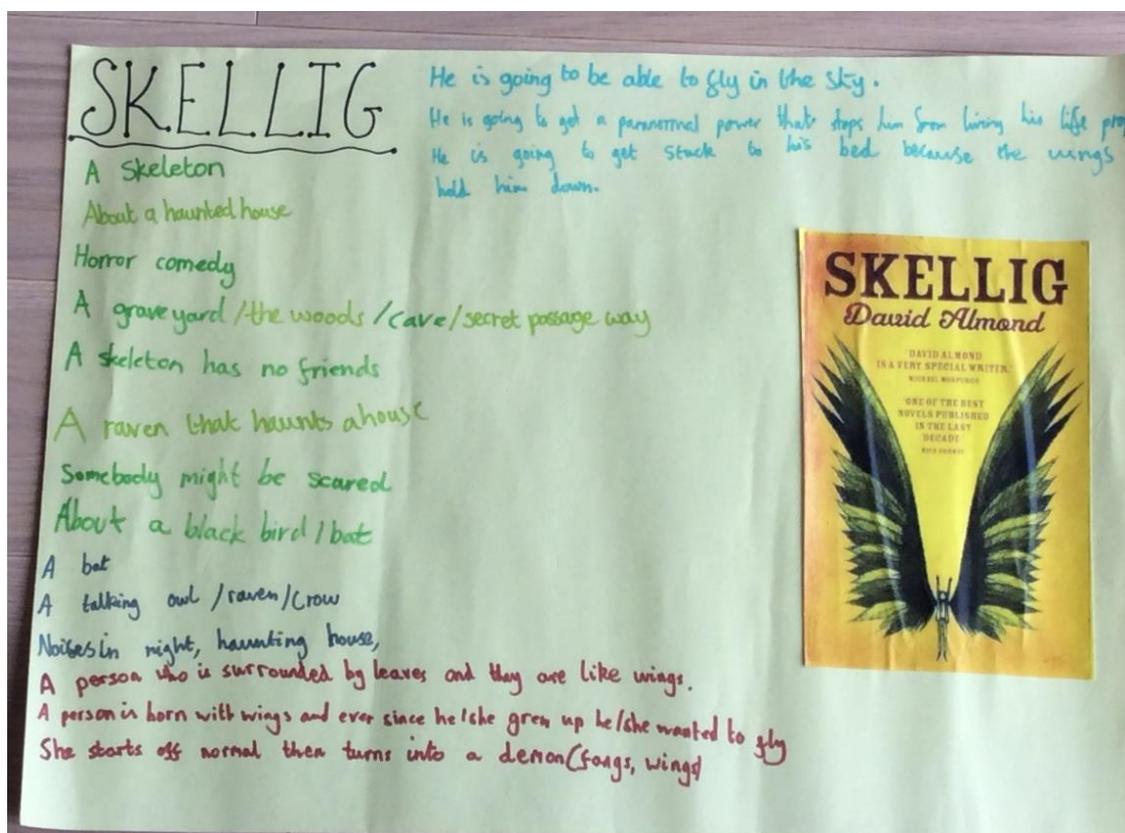


Figure 5-40 Picture-based comprehension model:CL8

5.5.3 Summary of Sessions Seven and Eight

Session seven was positive (figure 5.41 below), with an early focus on pedagogical suggestions and advocating change (claret columns). Similarly, new potential occurred throughout the session, with development around raising aspirations (green columns). There were frequent references to new models, for example envisioning pupil independence or developing the support staff training programme (purple columns), despite minor resistance to trialling the new model (blue column). The group reported consequential actions, for example linking reading and writing (orange column). There was developing commitment through Phil's redesigned assessment (light blue column).

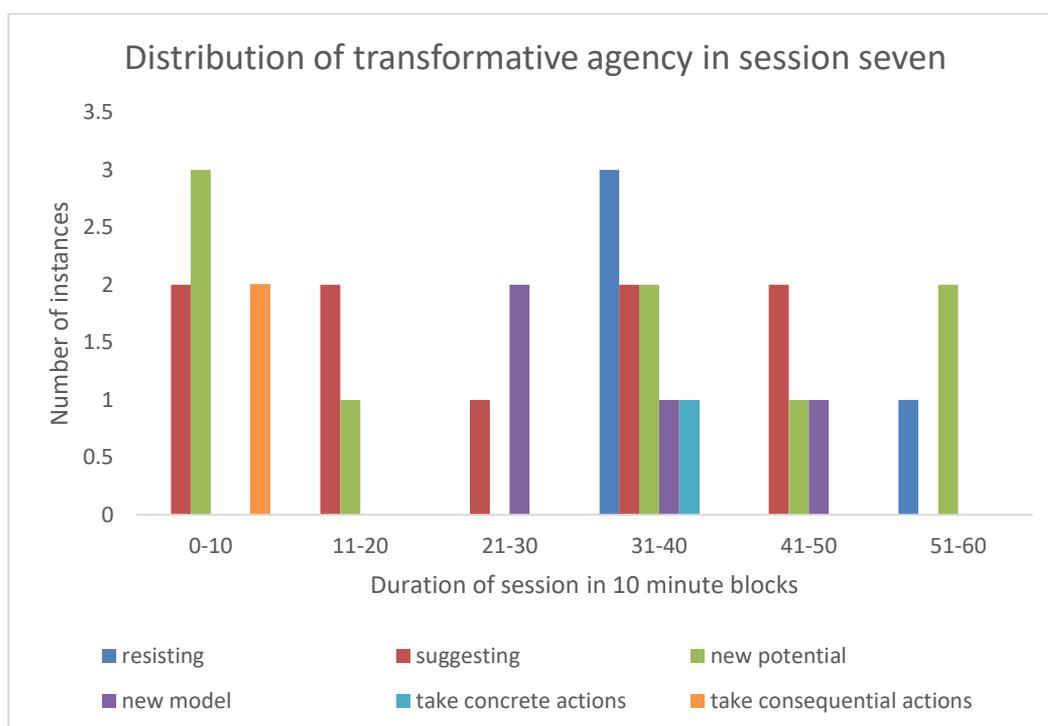


Figure 5-41 Transformative agency distribution in CL7

As *session eight* (figure 5.42 below) was concerned chiefly with consolidating models to present to Senior Leadership, participants demonstrated fewer instances of transformative agency, although all aspects were represented. The group happily reported implementing their comprehension models (orange columns). Whilst there was resistance to new planning (blue columns), suggestions centred around involving parents (claret column), which led to a discussion of the potential of reading workshops (green column). Modelling featured strongly where they outlined a version which accounted for reading progression (purple column), before committing to the final reading week plan (light blue column).

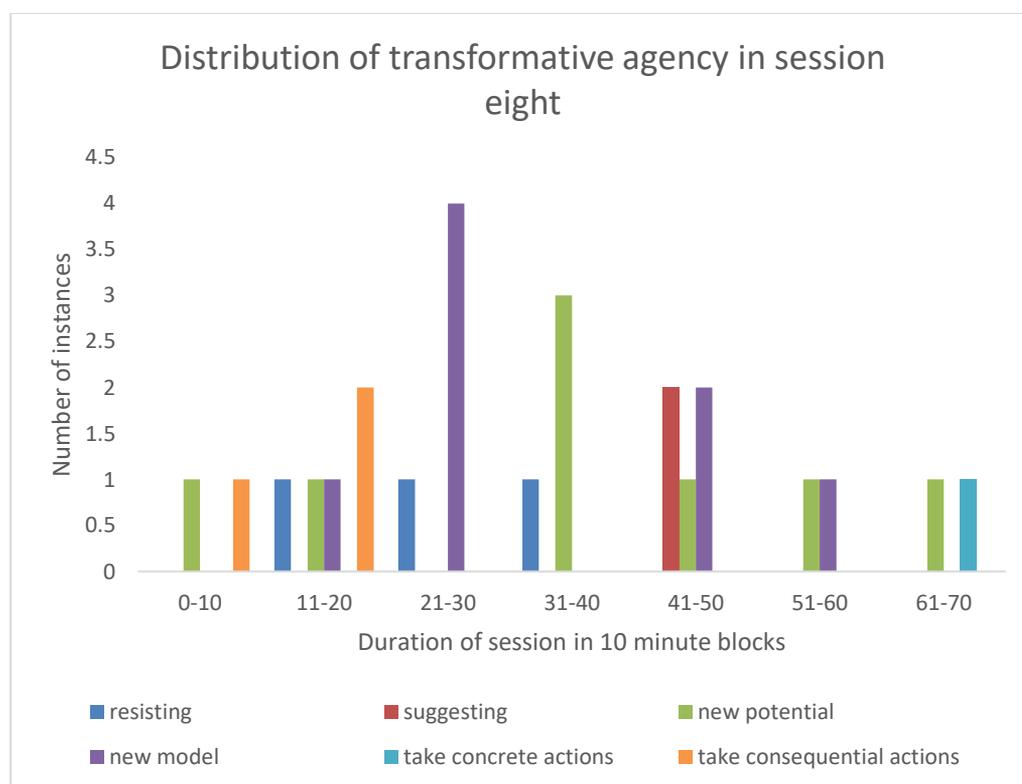


Figure 5-42 Transformative agency distribution in CL8

5.6 Chapter Summary

The data presented in Chapter 5 demonstrates the range of transformative agency revealed in discussions held across sessions which I summarise in figure 5.43 below. Instances of *resistance* to change were greater in earlier CLs, peaking in CL4; similarly, *suggestions* were greater in earlier CLs such as CL2 and CL5, with few suggestions in later CLs. The identification of *new potential* (which under Virkkunen and Newnham's 2013 definition includes present practice limitations), tended to mirror resistance in CLs1-3 by foregrounding the negative aspects, before focussing on potential in CLs5 and 6. Whilst ideas stemmed from several individuals, collective discussion refined initial concepts.

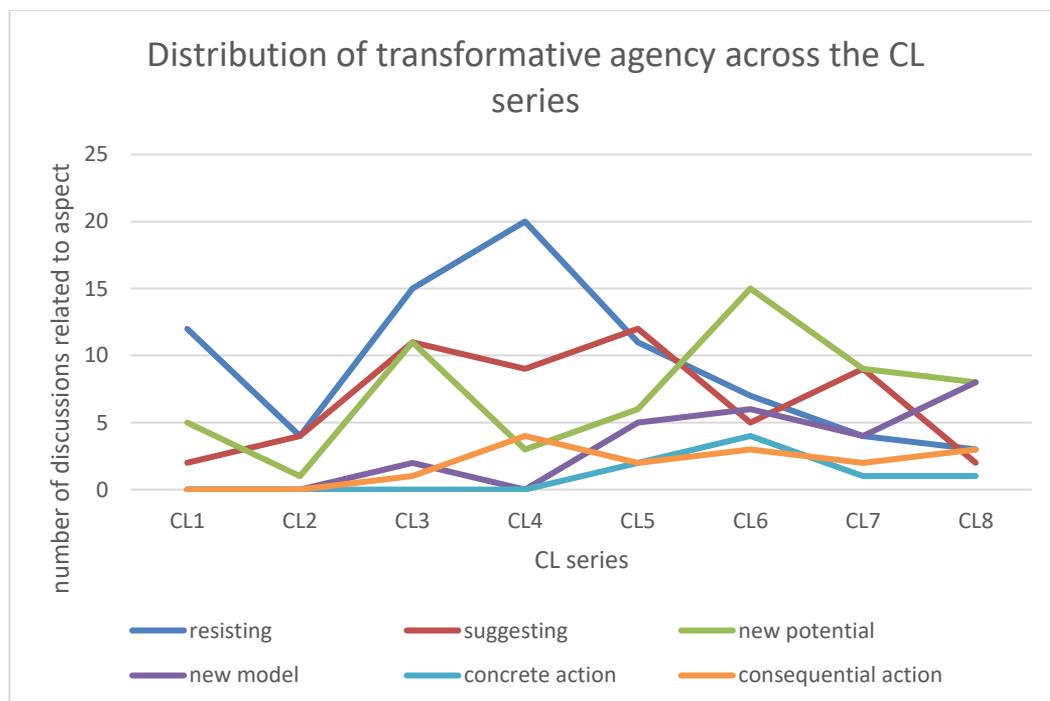


Figure 5-43 Transformative agency distribution across the CL series

The creation of *new models* which could be implemented across the school appeared to develop slowly, with no major activity until CLs5 and 6, however some new models reoccurred up to and including CL8. *Concrete actions* were

rare: there were no instances before CL4, but the more active period of CLs5-6 also had low levels and instances levelled out thereafter as actions were undertaken by the same individuals. *Consequential actions*, which included reference to actions between CLs, reflected activity by one or two individuals from CL3 onwards, with little indication of forward momentum.

This chapter reveals an active and engaged group of participants, some of whom experienced expansion as individuals and at different times across the sessions. Transformative agency was evident throughout the intervention although it was not as collective as I expected. In Chapter 6, I analyse interactions between practitioners by juxtaposing *relational* with transformative agency to gain a deeper understanding of professional learning.

6. Chapter Six Analysis

6.1 Introduction

The purpose of this chapter is to show how the data analysis responds to my research question

1. How can a Change Laboratory formative intervention stimulate transformative and relational agency for professional learning amongst in-service primary school teachers to develop a reading comprehension pedagogy?

Chapter Five has already interpreted actions within the Change Laboratory through the lens of *transformative agency* (see section 3.5) and has illustrated how manifestations of transformative agency arose during the intervention.

Chapter Six builds on the previous chapter by focussing on *relational agency*, *relational expertise and common knowledge* (concepts discussed in section 3.6) and shows how examining the intersection of the relational and the transformative within the Change Laboratory process furthers interpretations. I ask particularly how relational agency unfolds as participants:

- 1.1 Take actions to resist the direction of the change process?
- 1.2 Suggest tasks or objects of discussion?
- 1.3 Explicate new potential in the activity under discussion?
- 1.4 Envision new models for the activity under discussion?
- 1.5 Commit to concrete actions that support change of the activity?
- 1.6 Report taking consequential actions to change the activity?

The agency of participants is important to this professional learning study, because changing practices requires interaction and collaboration; therefore I focussed on *intra*-professional relations, by which I mean how the teachers across the various age phases in a school setting learn from one another's expertise and how they reconceptualised objects of activity. My aim is to discover the extent to which agency has been stimulated by the Change Laboratory formative intervention and whether the process has changed these in-service primary school teachers' conceptions of reading comprehension pedagogy.

Firstly, in section 6.2, I analyse whether relational intersections can be found between *common knowledge, relational expertise and relational agency* and the aspects of *transformative agency which I presented in Chapter Five*. My purpose is to analyse the *individual* nature of relational agency in contrast with the *collective* concept of transformative agency, as section 1.4 suggested that the juxtaposition of collective and individual agency is under-researched. General examples are provided to establish and illustrate the nature and distribution of intersections.

Secondly, in section 6.3, I select and present pivotal moments of intersection between relational and transformative agency, which emerge during the intervention. The selected moments demonstrate a departure from expected organisational norms or an opportunity to expand learning for the collective. They illustrate participants' perceptions of organisational change, their adaptive attitudes and receptivity

Thirdly, I analyse participants' reflections in the review process, which illustrates issues of sustainability in professional learning, a key concern highlighted in section 1.1; before summarising the nature of these agentic illustrations and their stimulus for change.

6.2 Intersections of relational and transformative agency

The ebb and flow of *transformative agency* summarised in section 5.10 led me to consider how *common knowledge, relational expertise or relational agency* intersected with *transformative agency* manifestations to produce a different form of agentic activity (see table 6.1 below for brief definitions). Table 6.1 (p.213) notes the frequency with which *transformative agency* manifestations intersect with *common knowledge, relational expertise or relational agency*, whereas table 6.2 (p.214) exemplifies the intersections.

Common knowledge co-occurred most frequently with resistance and suggestions, *relational expertise* appeared strongly related to the explication of new potential, whereas *relational agency* co-occurred more frequently in envisioning new models (table 6.1 below). *Common knowledge, relational expertise and relational agency* co-occurred least often in concrete and consequential actions, which manifested less frequently (section 5.10).

Common knowledge seemed more likely to occur when individuals argued for resisting change to current pedagogies; *common knowledge* appeared to be invoked to maintain the status quo. For example, when discussing peer observations, common knowledge was invoked as a tool for resistance (see section 5.3.2.1/table 6.2, example 1). Whilst the group acknowledged the

benefits of observing other teachers, they still actively resisted observations, revealing a disparity between putative and concrete practice.

Manifestations of transformative agency	Agentic Communication		
	Common Knowledge: <i>what matters professionally to an individual</i>	Relational Expertise: <i>joint interpretation & mutually aligning motives</i>	Relational Agency: <i>working with others to expand the 'object of activity' & aligning one's own responses</i>
Resisting: <i>criticising, questioning, opposing or rejecting either the intervention, the system or management</i>			
Suggesting tasks <i>to undertake or an object to discuss</i>			
Explicating New Potential <i>of positive past experiences, or the negative effects of current activity, in problematising the object</i>			
Envisioning New Models <i>as preliminary sketches or more comprehensive representations</i>			
Committing to concrete Action: <i>intentions being expressed specifically</i>			
(Report) taking consequential action: <i>more likely to occur between CLs and characteristically involves experimenting with new tools or practices.</i>			

Table 6-1 Patterns of occurrence in agentic intersections

Key: number of occurrences	5<	5-10	11-15	16-20	21-25	
----------------------------	----	------	-------	-------	-------	--

Many individuals drew on *common knowledge* to reinforce arguments for a new approach they espoused, where *common knowledge* seemed more dynamic.

	Common Knowledge	Relational Expertise	Relational Agency
Resisting	1. Vicky, Hannah, Laura, Sarah, Sharon, Phil, Joe Resisting observations by casting doubt on their value to teachers (Hannah, CL2).	2. External to the group Acting as expert/ encouraging group to resist CL project and accept an imposed reading comprehension model (Deputy Head CL3)	3. Rosie Aligns herself with new object to encourage others (Rosie CL6)
Suggesting tasks	4. Sharon, Phil Adapting strategies and tasks used for younger children to older classes (Sharon, CL3)	5. Joe, Rosie, Sharon Acknowledging that the teachers are busy but suggesting it would be beneficial to focus on just one group of children to develop their skills (Sharon, CL5)	6. Joe, Sharon, Rosie Working together to suggest simpler pupil RC record, based on their understanding of the object of assessment (Joe and Sharon CL3)
Explicating New Potential	7. Sylvia, Rosie, Sharon Realising that there was not enough Reading Comprehension (RC) work across the school (Sharon, CL5)	8. Joe, Vicky, Phil, Laura, Sharon, Sarah Joint response to the difficulties of working with support staff in current RC model (Joe, Vicky, Phil, Laura, CL1)	9. Sharon, Rosie, Joe Explaining to group the potential/value in support staff using one assessment sheet for whole school (Rosie and Sharon, CL7)
Envisioning New Models	10. Phil, Joe Using knowledge of what was relevant to the teachers to suggest method of implementing model (Joe, CL6)	11. Joe, Phil, Vicky, Laura Joint interpretation of RC model (Joe, Phil, Vicky, CL6)	12. Sharon Advocating a new model of teachers as innovators, using professional judgement to encourage group (Sharon CL5)
Committing to concrete Action	13. Phil, Joe, Vicky Reinforcing the ease and speed of the Answer-Prove-Explain (APE) approach which she had promoted (Vicky, CL6)	14. Phil, Joe Working together to outline a model of VIPERS approach with pictures or text (Joe and Phil, CL7)	15. Rosie, Sharon, Phil & Joe Committing to working together to implement the model, realising that trying new approaches means new skills (All, Review)
(Report) taking consequential action	16. Sarah, Phil, Vicky Implementing an early comprehension model of APE, having judged Phil's account of the approach as valuable (Vicky, between CL3 and 4)	17. Sharon and Laura Laura accepts Sharon's offer to observe her RC practice, leading to joint interpretation (Sharon and Laura between CL5 and 6)	18. Phil, Vicky, Laura, Sharon Working together to trial early version of model (Phil and Vicky, between CL3 and 4)

Table 6-2 Illustrative examples of intersections between relational and transformative agency

Phil deployed *common knowledge* most frequently (table 6.2 above); he investigated, trialled and developed models, drawing on his own experience to influence collective practice (see section 5.5.2.6.) Phil used *common knowledge* as a springboard to relational expertise, where he actively developed joint models. He and Vicky recorded comprehension sessions between CLs3 and 4 (Consequential Actions) which provided a strong second stimulus for a change to practice (table 6.2, example 16). The frequency and nature of the illustrations above tend to reinforce *common knowledge's* ancillary role regarding *relational expertise*, as argued in section 3.6.

Not all participants were confident enough to draw on *relational expertise*. *Relational expertise* was mostly related to experience, so was often adopted by Sharon; however, equally experienced teachers, such as Sylvia and Hannah, chose to develop children's reading comprehension through the lens of their individual practice alone. Like Sarah, they were less frequently involved in collective actions (table 6.2 above).

Relational agency was instigated by individuals. Rosie assumed an agentic role to confront Joe's negativity about trialling the new model (table 6.2, example 3). However, she did not act alone as I, as researcher-interventionist, also wanted to secure the model: our motives aligned as we worked towards solutions, suggesting *relational agency*. Rosie's ability to communicate agentially enabled her to challenge the argument despite being a recently qualified teacher. Working separately from the other teachers, may have allowed Rosie to align with a new object unimpeded by existing practices.

6.3 Reflections on pivotal moments in the agentic communication process

I have shown that *common knowledge* supported individuals' agentic actions in the previous section and that *relational expertise* and *relational agency* characterised cooperative and collaborative efforts. Following the second-order analysis of the data (see section. 4.10.4), I selected pivotal moments for analysis which suggested how obstructions and instabilities were negotiated by participants. I conjectured whether intersections and coherences between *transformative* and *relational agency* might suggest a different quality of relational activity.

I focus firstly on *relational expertise* occurrences where it facilitated change or where opportunities were lost; secondly, I focus on *relational agency* occurrences and its role in expanding the object of activity. Throughout, I draw attention to instances where occurrences cohere to suggest a new conceptualisation.

6.3.1 Relational expertise turning Resistance to Suggestions

Where resistance was met by relational expertise amongst participants, resistance turned to suggestions.

In the data analysis I noticed that *transformative agency* manifestations of resistance or suggestions did not always occur singularly, but the two might be enmeshed. For instance, in CL2 in the intervention's early stages, suggestions were met by resistance (see section 5.3.2.1). However, by CL4 (see section 5.5.2.1), stimulated by a video clip of their own discussions in

CL3, plus a second stimulus of the activity system diagram, the group turned initial resistance to change related to poor resources, to suggestions on how to exploit existing resources. Phil, Joe and Laura created a joint interpretation of the required outcome and aligned motives for a more pedagogical approach (box 6.1 below).

Phil Because they annotate it, I completely forgot about that, but we were reading Christophe's Story today and I was thinking how good would it be if they just focused on a page and pulled it apart and –

Alignment 1.

Laura Scribbled all over it and --

Joe Yes.

Phil And link it back to their sentence types that they've got to know so that when they come to do it you get –

Alignment 2.

Joint interpretation

Joe And that could be like an easier way of doing it couldn't it? Imagine you had those two pages and maybe the group who sits out just prepped and looked at stuff, looked at language or something.

Box 6.1 Joint interpretations bring change

6.3.2 Relational expertise explicating New Potential

Relational expertise occurred when participants aligned motives for changing practice and relational expertise added weight to the new object's potentiality.

Where *relational expertise* was underpinned by *common knowledge*, it was easier for the group to see a reason for changing practice, but it might also reveal the practice's limitations. In CL5, the group reviewed Talk for Writing, a commercially available model for developing primary children's writing skills (box 6.2/figure 6.1 below).

Researcher	... is that something that we want to think about for this next term? Have you tried doing anything in your class?	
Phil	No. I just know that [friends] did it, that's where I've got it from, but then I know that other schools do it differently, like Talk for Writing, that's another thing isn't it?	Acknowledgement
Sharon	That's what we're using Talk for Writing. Yes, it's really good.	Potential
Vicky	I love Talk for Writing, it's amazing.	
Phil	But that should go all the way through shouldn't it?	
Vicky	We should just do it.	Aligned motive /qualified support
Sharon	The only problem with, I mean I do like the Talk for Writing very, very much, I'm quite an advocate from what I've seen of it, however it is extremely prescriptive and if you are going to take it on board as a whole school, I worry about whether by the time they get to Year 3 or 4 they're absolutely fed up of the structure and system, because it is the same --	
Phil	Yes, process all the time.	
Sharon	So, I don't know, it's like anything.	

Box 6.2 Relational expertise assesses potential: CL5

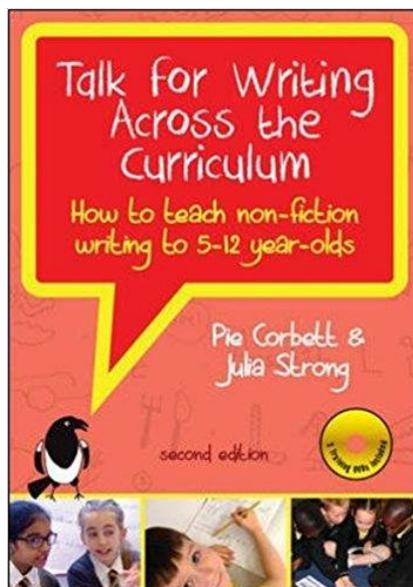


Figure 6-1 Sample pedagogical material discussed by group

Transformative agency in CL5 was characterised by suggestions, models and *new potential* and was stimulated by discussions around the reading diaries (see section 5.6). Vicky's 'amazing' in box 6.2 implied that the suggestion

might have been accepted in an unqualified way, however it was put into perspective by Sharon's relational intervention. Firstly, *common knowledge* might be inferred in the way she explicitly acknowledged the method's potential, but relational expertise enabled her to qualify her praise and imply that the implementation process needed more thought, whilst simultaneously accepting their point of view. Sharon did not appear to position herself as an authority and by leaving the discussion open - 'I don't know, it's like anything'- she continued to align herself with the collective.

At this stage in the CL, suggestions were not yet coalescing into a concrete joint response, but the group appeared more open to ideas. The intersection between relational expertise and potential through reflective communication began to expand the object.

6.3.3 Relational expertise developing New Models

Relational expertise enabled the group to interpret the object jointly and to align motives for new model construction.

CL6 represented a very productive phase for the new model, following Joe's introduction of a second stimulus- a new website (see section 5.7.2/ figure 6.2 below). Initially, Phil aligned himself with the group's desire for a straightforward solution by adopting the new VIPERS model. However, he realised the pedagogy was more complex, as he needed to return to elements like prediction (box 6.3 below). Comments from Joe, 'Maybe we could just...' moved the model to Phil's 'as and when' concept where their points of view aligned, indicative of relational expertise.

Phil	Is it too prescriptive to suggest that there's six weeks in a half term on average and there's six letters? Do you know what I mean? I'm just trying to think of ease of, but then you're going to need to predict in other moments, away from your predicted lessons.
Vicky	I mean would you be able to get around everyone in those, or that week?
Joe	Yes, I don't think it needs to even be that prescriptive does it? It doesn't need to be that predicted lessons maybe. Maybe we could just
Vicky	Just take one from each.
Phil	Hammer it as and when.
Joe	What's relevant, when it's relevant, like when they're starting a new book prediction, but then when you get to a new chapter it's predicting again isn't it?

Relational expertise

Aligning

Changing model

Box 6.3 Relational expertise influences model:CL6

Relational expertise acted as a stimulus for the group to collaborate on the object of activity (reading comprehension skills development), adjusting to a pragmatic pedagogical model. The interchange was framed by reflection and collective development of the model.

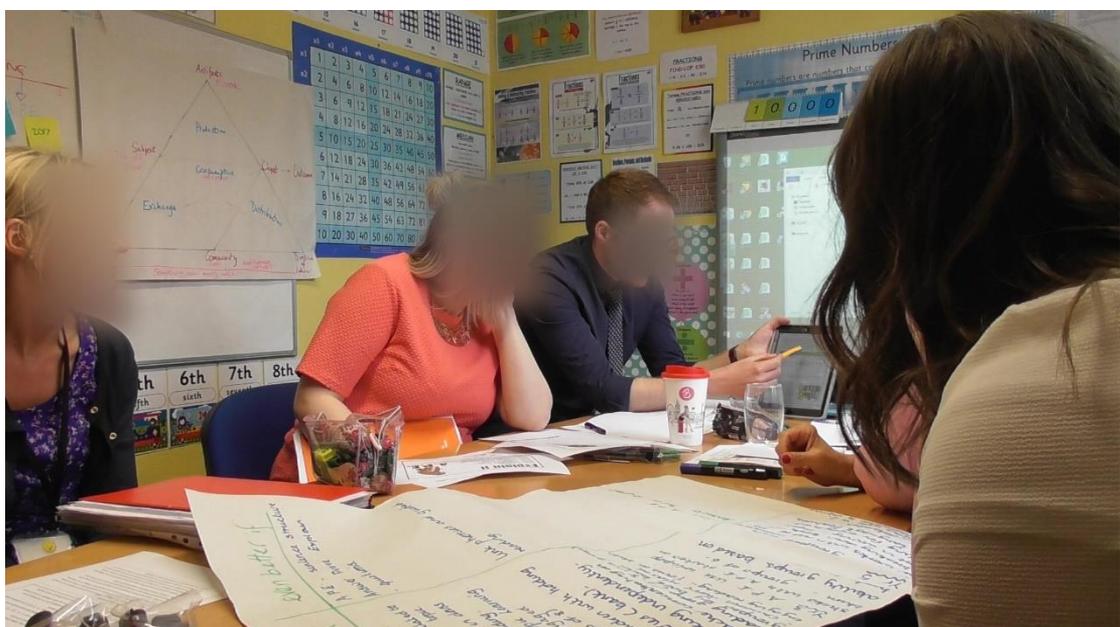


Figure 6-2 New website stimulus in CL6

6.3.4 Relational expertise obstructed by common knowledge

Common knowledge, harnessed by one individual obstructed the new model, indicating individual agency's role in tempering the joint efforts and positive collaborations which illustrated relational expertise, leading to conflicting motives.

The Deputy Head had an ambiguous role as English subject lead with Leadership responsibilities. Whilst he brought *common knowledge* to discussions when invited to sessions, there may have been disturbances when he attempted to be part of the collective effort.

The Deputy Head positioned himself as gatekeeper: teachers waited to see what 'he' wanted, rather than act (section 5.3.2.2). His attempt to introduce a unilateral reading comprehension approach in CL3 was nonetheless resisted by the group (see section 5.4.2.1) and his reading guidelines were similarly resisted in CL5, suggesting conflicting motives.

Phil	...we'd like to just enjoy the books but also consolidate their understanding of it through these means, not just write it down and answer the questions.
Expanded object	Actually, make it come to life because if they've experienced it and they've spoken about it in a more relaxed way then hopefully it will then transcend onto future work.
Deputy	Yes. I think it's an opportunity for you guys to model as well how to actually read in the sense of how do you use commas and full stops and use of question and different bits of punctuation as you said. (...)
Return to reified pedagogy	
Phil	Yes.
Deputy	And it's whether you want to take it as far as, do you want me to create something in the sense of questioning and taking things apart or prompt book, so at the beginning of the book do you want certain prompts like from the Viper sheet and putting it all together. So, it's just an easy thing to pick up and go with really.
	Aligning own motives?

Box 6.4 Conflicting motives

Similarly, at the end of CL8, when the Deputy Head accepted the group's reading week plan (section 5.9.2.5/box 6.4 above), he had already drawn up a plan himself, so the group's plans perhaps became redundant. Hence whilst appearing to align himself with the object motives, suggesting *relational expertise*, the Deputy Head's actions subverted the focus in school on the group's collective actions. By taking control of sanctioning the final version, he may have validated his own *common knowledge* (supporting a reified pedagogy) and strengthened personal motives, at the expense of the collective.

6.3.5 Relational agency developing a New Model

As the formative intervention progressed, relational agency was no longer merely indicative of an individual influencing the group: collective reflection

enriched the process of collaboration as participants expanded the object and aligned their responses.

Here the research design might have stimulated a more collective use of *relational agency*. In CL7, I reintroduced the disturbance field of eternal-new/unique-recurrent problems (section 5.8.2.3) and asked them to re-evaluate their position on support staff (section 5.8.2.6).

The participants advocated a training model where support staff would observe the teachers to understand how to implement the reading comprehension model (figure 6.3 below). The teachers had aligned responses to the object motive: they regarded observations as a means of empowering the support staff to deliver the model (box 6.5 below).

They envisaged observation as an ‘informal’ approach: interestingly, this was a different joint interpretation to previously (see Table 6.2, example 1), as observations were no longer regarded as performative. Reflection developed a collective, empathic notion of formative feedback, which represented an expanded object (box 6.5).

Researcher	How would you give them feedback, because that's got to happen hasn't it?
	Collective action
Joe	And that's why I think they'd have to buy into it as well though. It's not a –
Vicky	I think it would be better to do like an informal watch of them not a video, because if it was a video you'd be like, whereas if you just say 'Oh that was really --, maybe next time try this' or whatever and not like a 'I'm going to write up all your feedback and everything.'
	Aligning with expanded object
Researcher	Right okay.
Laura	Like more of an informal one.
Vicky	Just like, because you're working together as a team, aren't you? So maybe 'We could try this.' and whatever. It's to make it better for your class isn't it? Or whatever –
	Collective concept

Box 6.5 Collectively developing support staff training:CL6



Figure 6-3 Sketching the support staff model in CL7

6.3.6 Relational agency modifying Concrete Actions

Relational agency had limited capacity to provoke or modify concrete actions.

Chapter Five suggested that commitment to concrete action was rare and early concrete actions were driven by object motives related to personal practices. Actions were not always sustained and experiences between the early CLs suggested that commitment was variable (see for example section 5.3.1).

In this example, the researcher-interventionist devised a *between-session* task (CLs6 and 7) where the group presented the new model to Senior Leadership (see section 5.7.1). The presentation should have been the stimulus for collective action; however, the group's response was ambivalent (see box 6.6 below).

Researcher	So that's what we want to do? Well let's see if I can get... the first thing to do is get a time isn't it?
Joe	That's as long as everybody is happy to do that.
Vicky	Well we don't know what, yes.
Researcher	Everybody's quite happy to do what?
Laura	Is that what we're saying? I feel like I don't know what we're --?
Joe	Yes, rather than being, saying that's what we are, this is what people want to do.



Box 6.6 Reluctance to act collectively: CL6

Joe made the commitment to action, though he appeared to seek reassurance from the group that this was a collective decision. Reluctance to commit may have been reinforced by Sharon's absence, who appeared skilled in *relational agency*.

Weak commitment meant that the VIPERS model was underdeveloped, supported by certain individuals only, who seemed content to allow confident communicators Phil and Joe to act for them. Even though this task was suggested by the group, I noted in my research diary that it was only carried out after I prompted Joe (see figure 6.4 below), which suggests that the association between *relational agency* and a commitment to concrete actions was tenuous.

8/16/17
group due to report to senior management
in staff meeting. Almost lost the
opportunity - when asked if anything else
any wanted to do today, silence! I had to
say - weren't we going to look at the
reading proposals? HT asks what this is -
again hardly any response, I look at Yr 6
teacher (to whom I had spoken in week and
he said he'd take this on because no one
else volunteering). So he ran quickly
through proposed idea.
with ideas - incl putting questions on flashcards
children in upper KS2 doing the questioning
exercise as reading pairs. (don't think this was
part of the discussion). Includes getting TAs
involved. He stresses that it's not onerous,
use it to another mnemonic (APE) and to
assessment - 3 mark question in SATs. HT

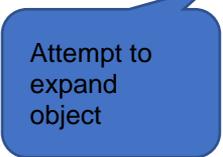
Prompt
required
for action

Figure 6-4 Research diary entry 8.6.17: weak commitment to concrete action

6.3.7 Relational agency *not* explicating New Potential

Relational agency did not affect outcomes if colleagues did not recognise the messages being conveyed.

Stimulated by the *reading experience* review in CL5 (see section 5.4.1), Sharon attempted to expand the object to whole school reading pedagogy. Joe, by focussing on outdated *resources*, did not grasp the significance of teaching *methods* and responded emotionally instead (box 6.7/ figure 6.5 below).

Joe	When you dig deeper, they're just dreadful at comprehension, they just can't relate the two things.
Sharon	Is that the same experience in other classes? Maybe that's an issue in school that we're not doing enough comprehension work from –
	
Joe	Well I just found that they like to read, I've got loads of children who love to read in my class but it's their own books, they hate guided reading because they see it as boring, they see the texts as old here, they've just got no connection to them. As soon as there's something which is engaging, like Jurassic Park we did something on, they loved it and all of a sudden, they'll come to life.
	

Box 6.7

Missing an opportunity to align motives: CL5



Figure 6-5 Missing an opportunity to align motives in CL5

In this instance, Joe missed an opportunity to align his motives with Sharon's and to build a joint response to a recognised disturbance and practice did not expand. The messages might not have been clear, or Joe, usually receptive to *relational expertise* or *relational agency* might have been constrained by his own *common knowledge*.

6.3.8 Relational expertise supporting relational agency to challenge Resistance

Relational agency was more powerful when it intersected with resistance, the resulting tension being instrumental in provoking change. Moreover, where relational expertise supported relational agency, relational expertise underlined the mutuality of the effort, which became a joint enterprise.

In CL5, experienced teacher Sharon challenged the prevailing resistance to change. *Revisiting the timeline and planning a new model* tasks in the session

design stimulated Sharon's statement of intent (see section 5.4.1/box 6.8/ figure 6.6 below).

Sharon's comments reflected her greater experience and her understanding of reflective teacher actions- 'make sure we feed back to each other'; trialling ideas became part of a professional dynamic- 'innovation comes by trying'. By questioning practice, Sharon encouraged participants to reflect on the new object, hoping to counter resistance and align their responses to the object. The call to mutuality underlined the *relational expertise* that Sharon drew on to suggest a joint interpretation of their professional learning. Her expansion of the object of activity from the specific (reading comprehension model) to the general (professional dialogue) demonstrated her adroit use of *relational agency*. The 'sorry' at the end of her speech indicated her awareness that such an impassioned plea was not welcomed at this point but appeared to be embraced by the time of the review (see section 6.4).



Figure 6-6 A plea for action in CL5

Vicky	I feel like I can't tell you a model because I don't know.
Phil	Yes, I don't trust myself to, because we could get a tent and then that might not work. I want to know what --
Sharon	But if it doesn't work, it doesn't work and then you try something else. You don't know things unless you try them.
Phil	But I've been here three years and in the last three summer terms I've just heard 'We'll try this for the summer term.' and then it just, the rugs been pulled.
Sharon	That's down to us isn't it? If you're saying that we're going to try something then it's down to us to have a real try of it and to make sure we feed back to each other and say: 'Look this has/hasn't worked, let's roll it out or let's change it or whatever.'
Agentic speech	It's as much us taking on ownership for things, we're teachers and that's our job, is to work out the right way to do it. It's not always necessarily that you've got to pick up from something someone else has done, I'm not saying there's anything wrong in that and I'm not saying there's anything right, I'm just saying, you know, we've got a lot of skills in this school, we're very, very talented and we need to use them and trust our own judgements.
Call to mutuality	I think the government and the way we've gone with education has taken away a lot of that from us, saying 'Oh we don't trust you teachers, we're going to give you this test to make you prove that you're doing things right.'
Expanded object	Let's take it back and let's start saying 'Well no, we're the teacher, we know what our children need, we know what they want, let's have a go and do it.' It's having that confidence to step out and try it. You're not going to do any damage by it because you're only doing it for a short time, if it doesn't work it doesn't work and we go back to the old model or you change and try a new model, but innovation comes by trying, it doesn't come by 'Oh I'll wait for somebody to tell me what I've got to do.' Sorry.

Box 6.8 Relational agency supported by relational expertise challenges resistance: CL5

Sharon's argument revealed agentic communication: she used collective pronouns ('we' 11 times, 'us' 4 times and 'our' 2 times) and commands which suggested reflection ('let's' 5 times) as she encouraged them to collaborate

(box 6.8 above/figure 6.8 below). Sharon countered the others' self-doubt with strongly agentic language: 'have a go and do it' and 'step out and try it', indicating the depth of her passion and her desire for them to recognise their own potential.

6.4 Participants' reflections on the research process

Review processes served as stimuli for reflection and consolidated reflective communication.

Creating opportunities where participants came together to articulate their understanding of the processes involved in expansion served as a stimulus to further expansion and underlined the study's credibility.

6.4.1 Reviewing during intervention

A brief opportunity to review the theoretical process occurred in CL7 when the group was prompted to return to the activity system diagram to discuss changes to outcomes. Their reflections demonstrated theoretical confidence and appeared to show a group self-concept (box 6.9 below).

Joe	So, you've changed the outcome and you've also changed the community haven't you because you've made the school intertwined with one another- -and that's given them a purpose.	Developing group self-concept
Rosie	It can be linked to most things can't it?	
Joe	Yes, it's gone like that hasn't it at the moment?	
Phil	And you've changed the rules haven't you? You've said that this is --	
Laura	Yes, we've not done it before.	
Phil	You've changed the rules where you've said 'We're doing this.'	
Laura	And they've maybe never done that before.	
Sarah	Yes, that's true actually because it's not, I guess what we're talking about as well, linking Key Stage 1 and 2, they're working together and that doesn't happen often does it, we don't do that?	

Box 6.9

Developing collectively:CL7

6.4.2 Post-intervention review

The review of the intervention in July 2017 was a further opportunity for the group to talk about the professional learning project and discuss their reactions. I continued to use double stimulation principles in the review and the discussion of motives was prompted by a post-it task, requiring their responses to the following: 'What did you think the research process would be like?' 'What did it turn out to be?'(box 6.10/figure 6.7 below).

Phil	I put that, I envisaged that we would work together to solve the issues surrounding reading in this school, however I feel that we've got to the point that we have but there's still a long way to go and everyone needs to be on board, in terms of like your parents, writing up that policy for them. Your support staff need to be trained and, like we've all just said the word, it needs to be consistent. Because if it's not, it's not, it just won't work.
Joe	Yes, I said similarly. I said initially I was quite negative towards it, if I'm being perfectly honest, because I just thought it was extra to an already busy workload and I thought it was going to be really time-consuming. When I first started, I couldn't really see an end goal, a purpose, I wasn't entirely sure what it was.
Rosie	I put something a bit similar to that, I put that I didn't think it would have as much an impact as it has.
Joe	Yes.
Rosie	On like reading. I didn't think that people would be on board as much as --
Joe	Yes. But then as it developed, I had a more positive experience because I thought we found a solution, however I've still got quite negative feelings about it because I'm still not entirely sure whether it's going to be implemented right. I think we've a solution and I think everybody has come on board as teachers, but then I'm not sure it's going to come through to fruition because, well yes.
Sharon	I think that's a bit down to us isn't it, to make it work, to push for --
Joe	Yes. No, but I mean I think we need to --
Sharon	I don't mean us personally, I mean to push --
Joe	Yes, push them to make sure the training happens early doors and we push it across the line almost, so that they listen, and they think
	'Actually let's go with this.

Limitations to collaboration

Sustainable?

Push for collective

Aligned motives

Box 6.10 Close alignment of motives: Review, July 2017

Whilst their vision for the future incorporated the new object of activity, its implementation was uncertain. The participants aligned their motives as teachers showing close collaboration. Joe clearly differentiated between the collective actions of the teachers and Senior Leadership or 'them' (box 6.10 above).

Sharon continued to deploy relational expertise suggesting explicit collective action, by not waiting for Senior Leadership to enact change. Joe echoed Sharon's 'push', with similarly agentic comments and forceful language. Initial negativity about a professional learning project was honestly acknowledged (figure 6.7 below), showing individual concerns being overshadowed subsequently by positive group experiences.

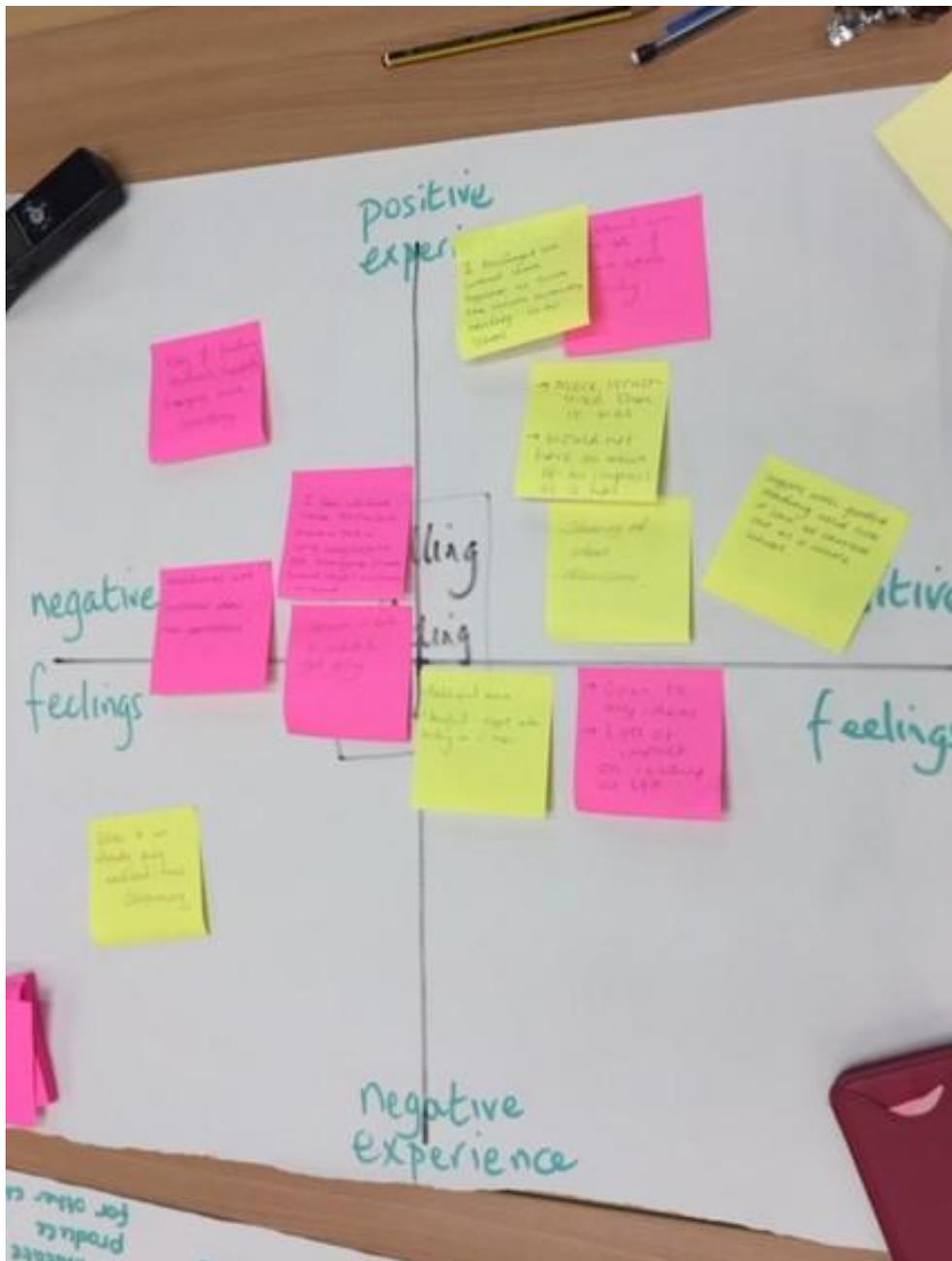


Figure 6-7 Feelings and experience grid: Review, July 2017

However, the group expressed concerns about the project's sustainability. Phil acknowledged continuing negative feelings (figure 6.7 above): he feared that, despite the teachers developing a collective new object, Senior Leadership would continue to impose solutions as before. Sharon continued to argue for the expanded object of activity despite potential barriers to implementation.

At review, barriers to collaboration appeared temporary and the group appeared integrated as a teaching staff, suggesting a continued degree of agentic communication.

6.4.3 Follow-up review

Given my concerns about a lack of full implementation, I carried out a further short (13 minute) review at the end of March 2018, two terms after the CL series review. The group appeared subdued and not particularly engaged: the teachers did not appear to align motives or continue to expand the object of activity.

The new library had been completed in November 2017, but the reading mission statement was not displayed, as it remained incomplete (see section 5.9.2.3). However, the teachers had found the new library was a positive influence on children's book choices. Some individuals were using some strategies from the model, with subsequent improvements in children's engagement and understanding. Yet the proforma for reading comprehension assessment and delivery, a concrete product of the project, was not being used.

The model for Support Staff training was not implemented by Senior Leadership in September 2017, as the group had hoped, confirming fears of a return to the status quo. The group appeared to want to focus on the agreed object, as they still wished to have support staff trained and have a discrete reading lesson once a week dedicated to reading skills, which would represent an evolved model. However, these ambitions appeared modest with little evidence of collaboration. Given that Phil had decided to take up a post in another school because ‘things don’t get done here’ (Research Diary 15.2.18), it seemed likely that any changes would be small and incremental and there remained no collective or explicit implementation of the new model.

6.5 Chapter summary

Pivotal moments described in this chapter reveal how the intersection of *relational expertise* and *relational agency* with various aspects of *transformative agency* supported the development of participants’ reflective assessments of their own practice. As the series of CLs progressed, intersections tended to depart from individual actions illustrative of *common knowledge*, to participants working together collaboratively through *relational expertise* or *relational agency*

In this study, *common knowledge* supported *resistance*, enabled individual actions and equally obstructed the influence of *relational expertise* (section 6.3.4). It was enacted by all group members during the CL, when they felt their individual professional experience or other sources of knowledge could

be harnessed to demonstrate what mattered in a professional context and reflected individual readiness to change.

Relational expertise proved foundational for turning *resistance* into *suggestions, explicating new potential and developing new models* (sections 6.3.1-3). There were fewer intersections with *concrete* and *consequential actions*, perhaps because there were fewer instances of these manifestations. *Relational expertise* transpired where individuals used their expertise to bring suggestions or models to the group, whom they encouraged to align with the new model, so that the activity became collective. Discussions around the process produced joint interpretations which developed professional learning: practitioners gained confidence and conviction, despite relatively little experience and they urged one another on to more collaborative approaches.

Relational agency appeared less prevalent; it was most effective around the development of *new models*. *Relational agency's* congruence with other aspects of *transformative agency* is limited (see section 6.3.6). Indeed, if *relational agency* passed unnoticed, then opportunities for deeper agentic communication were missed. However, where *individual* conceptions of *relational expertise* and *relational agency* cohered to support *collective* activity, then resistance was countered, and change enabled.

Relational agency appeared to be founded on the previous use of relational expertise: having encouraged one another to align motives, a clearer vision of the object could be developed. *Relational agency* was more likely to stem

from experience; the more active practitioners became the main promoters of collective action.

I have shown that organisational and pedagogical change may be stimulated through the intervention research design, but also by participant-introduced artefacts (section 6.3). In-session stimuli were the most effective, but between-session stimuli such as the reading diaries also supported change. Stimuli brought a collective expansion of the object, as practitioners collaborated in the development of a contextualised reading comprehension model.

Whilst intersections between *relational* and *transformative* agency during the project indicated responses aligned to the new object, the alignment may not have been sustainable as the model was not implemented, to the frustration of some individuals. The review process provided space for reflection: whilst participants recognised the collective nature of their actions, a non-sustainable model suggested that collective agency was more precarious than individual agency. A continued, explicit means of communicating agentially may be necessary to sustain collective enactment of activity over time.

Chapter Seven returns to my research questions and discusses how this study can contribute to the literature concerning teacher agency for professional learning; perceptions of organisational change; teachers' pedagogical beliefs; all by exploring the quality of relational activity at the intersection of *transformative* and *relational* agency.

7. Chapter Seven Discussion

7.1 Introduction

This thesis seeks to examine whether the intersection of transformative and relational agency in a Change Laboratory formative intervention can stimulate professional learning amongst in-service teachers in order to develop a reading comprehension pedagogy in a primary school setting. Here, I turn to the contributions this intervention has made to the literature, concerning aspects of teacher professional learning which I identified in Chapter Two as relevant to its effectiveness; namely agency in teacher professional learning, teachers' perceptions of organisational change and teachers' pedagogical beliefs.

In Chapter Six I demonstrated that both transformative and relational agency occurred throughout the intervention process as participants worked together to produce a revised pedagogy for reading comprehension in their school; trialling and refining a new model to be applied across ages five to eleven, with modifications for the younger children. Early enthusiasm for the model dissipated across the summer holidays and with little active support from Senior Leadership, the model was not sustained once the professional learning study ended. In terms of the *process* of professional learning, the two *collective* concepts of relational agency and relational expertise, underpinned by *individual* common knowledge were found alongside recognised manifestations of transformative agency; all of which indicated that expansive learning had taken place *during* the intervention.

In this chapter I discuss how this study contributes to the literature concerning teachers' professional learning under the three headings identified in Chapter Two. Firstly, I refer to agency in teachers' professional learning, where the chief shortcoming in the literature was to focus mostly on individual agency which I address by highlighting collective teacher agency, showing that the individual's role was central to stimulating collective agency development. Secondly, I refer to teachers' perceptions of organisational change, where the chief shortcoming was a focus on individuals' perceptions and readiness for change, which I address through an analysis of collective perceptions showing that sustainability of school organisational change was the key issue. Thirdly, I refer to teachers' pedagogical beliefs where the chief shortcoming was a focus on deep-seated, context dependent beliefs and deficit pedagogies, which I address by showing that professional learning can be designed to potentially stimulate belief change, however sustainability of collective and individual belief change is more problematic. Finally, I reflect on the Change Laboratory process before drawing my interpretations together.

At the start of each major section I identify my contribution to knowledge, before exemplifying my contribution through a summary of core findings in the selected aspect of teacher professional learning, reflecting on commonalities and highlighting differences with the established literature.

7.2 Agency in teachers' professional learning

In section 2.3 my review of teachers' professional learning showed that teachers' *agency* in professional learning activities was under-investigated, compared to professional development studies. In the evidenced studies,

investigations related to individual agency predominated, for instance in connection with professional identity (e.g. Day and Gu 2007; Hsieh 2015).

There was a smaller literature exploring collective aspects: through concepts such as professional agency (e.g. Holmqvist and Olander 2017; Pietarinen, Pyhältö and Soini 2016; Toom Pyhältö and Rust 2015) and professional learning communities (e.g. Cherkowski and Schnellert 2017; King and Nomikou 2017).

My contribution to the literature indicates that strong collective agency may be developed during teachers' professional learning activities, which was both supported and challenged by strong individual agency. However, such developments may be temporary in nature. In section 7.2.1 I show how this research contributes to the field by taking Edwards' (2011, 2012) relational concept of *common knowledge*, and demonstrating how practitioners' constructive (supporting change) and obstructive (resisting change) use of *common knowledge* represents a more nuanced conception. This also appears to be the first time that the way individuals employ Edwards' *relational expertise* and *relational agency* together, to provoke collective actions, has been considered, as shown in section 7.2.2. In section 7.2.3 this research contributes to the literature by showing that a dialectic perspective can consider the alignment between the individual and the collective, rather than just individual to individual.

7.2.1 The individual perspective in professional learning

Core contributions: individuals in this professional learning group acted in ways which were sometimes in tension with the collective. Commonalities with

the literature reviewed in Chapter Two are seen in the divergence of views and strong individual agency; however, in my study *common knowledge* becomes a tool for reinforcing individual agentic actions and where an individual employs *relational expertise* and *relational agency* to provoke collective actions.

My analysis reveals similarities with findings reviewed in section 2.3.3 where some individuals exhibited strong agentic characteristics and resisted collaboration (Ketelaar et al. 2012; Maclellan 2016; Sannino 2010). This suggests the research design allowed participants to make choices about their own professional learning (cf. Billett 2004; Tao and Gao 2017) and that teachers in the same setting held divergent views. Divergence may have derived from positioning within the organisation (see Charteris and Smardon 2015; Tao and Gao 2017).

Further similarities lie in participants' *common knowledge*, what 'mattered' to an individual, being enacted constructively to make suggestions and promote potential (cf. Edwards 2011, 2017). However, despite trialling models and creating artefacts which could have enabled the group to enact an enhanced pedagogy, Phil's proposals were not always taken up collectively (see section 5.5.2.6). Contrary to previous findings that creating artefacts enables collaborative actions (Reeves and Anson 2014, see my review of *enabling factors* in section 2.3.4); here artefacts being ignored in fact suggested that artefacts or models supported through common knowledge *alone* did not result in sustained change, illustrating some tension between the individual and the collective.

My findings differ from previous findings of Edwards (2011, 2012), (reviewed in section 3.7), as my research suggests that *common knowledge* appeared *obstructive* when individual agency was instrumental in tempering joint efforts and positive collaborations (see section 6.3.4). It may have been that those individuals who resisted the collective outcomes wished to establish their own ideas instead or reinforce their position in the organisation.

I also diverge from previous findings in noting that, whilst strong *common knowledge* might support model *development*, without espousing relational expertise it appeared more difficult to achieve new model *enactment*. The group might not perceive the practice as mutually beneficial or relevant. Mattering here appeared to be an individual position, rather than a collective motive.

This research contributes to the field by showing how an individual can work agentially *to provoke the collective* into action. Where *relational agency* is supported by *relational expertise*, the agentic communication which develops around this intersection appears to be quite powerful as it can counter resistance, the most common transformative agency manifestation in this study. In Chapter Six I analysed a pivotal moment where the prevailing climate of resistance was interrupted by an experienced teacher's agentic intervention (see section 6.3.8). The interruption occurred at a point when the designed stimuli were not provoking progress from the questioning and analysis phases of expansive learning to the modelling phase (see section 3.2.1). The teacher's questioning of practice encouraged others to recognise the potential for change in the object rather than accepting its current nature.

This was an emotional and conflictual experience for the group (cf. Engeström 2007b; Sannino 2010), mediated by the relational agency of the experienced teacher.

7.2.2 The collective perspective in professional learning

Core contributions: collective agency for professional learning showed growth in collegiality, identity, and interest in new pedagogies, with largely applicative knowledge creation. Findings remained commensurate with the literature reviewed in section 2.3.4 but differed in recognising *relational expertise's* specific role in identifying potential in new models and in encouraging their collective implementation.

My results reveal commonality with previous findings on *collegiality, sense of purpose and identity in professional learning*, as reviewed in my discussion of professional learning design in section 2.3.2. The group's greater sense of collegiality derived from involvement in workplace learning (cf. Imants, Wubbels and Vermunt 2013) and collective agency developed through *collaboration* as reviewed in section 2.3.4 (cf. Charteris and Smardon 2015; Cherkowski and Schnellert 2017; Concannon-Gibney and Murphy 2012b; King and Nomikou 2017). For instance, joint interpretations and a joint response led to collaborative modelling which was more likely to be adopted (see section 6.3.3), suggesting the enactment of relational agency (Edwards 2011). The group developed a renewed sense of purpose (cf. Cherkowski and Schnellert 2017; King and Nomikou 2017; Wood 2007): intervention sessions provided space and time for pedagogical discussions between teachers who had rarely discussed practice previously (see section 6.4.2). Professional

processes of change were enabled (e.g. Butler Schnellert and MacNeil 2015; Carse 2015; Goodnough 2016; King and Stevenson 2017; Latta and Kim 2009) and the self-named 'study group' reflected a new collective identity developed during the research.

My findings resonate with Bodman Taylor and Morris's (2012) contention that most professional learning is concerned with *replicative and applicative knowledge*, which I first reviewed in section 2.3.3. Ultimately, the group chose not to be involved with the more interpretive knowledge base to which the expanded object had given access. Even though the stimuli provided in the Change Laboratory were an opportunity to move beyond a relatively limited conceptualisation, it appeared that beyond the sessions there was little collective adherence to the new knowledge. Knowledge produced in the Change Laboratory tended to be practical, centring on new strategies, proformas and assessment approaches (cf. Gibbons et al.1994).

Contrary to previous findings (see Avila et al. 2011; Charteris 2016), reviewed in my discussion of *professional agency* under section 2.3.4, the group did not appear to exercise agency by seizing opportunities to implement changes. Therefore, whilst Vähäsantanen et al. (2017) found that a group's affinity could support a collective identity which enhanced agency, my study suggests that the 'study group' agency may have been limited to individuals and to the intervention period and as such was not cohesive.

My research built on existing ideas of learning leading to expertise (see my review of King 2016 and *transformative professional development* in section

2.3.2) or relational expertise's importance to professional learning (e.g. Ellis et al. 2015; Edwards 2017). The way the group worked together revealed the importance of *practitioner expertise*.

I diverge from previous findings in that *relational expertise* occurred when practitioners aligned motives for changing practice which *in turn* led to an understanding of the new potential in an object of activity (see section 6.3.2) or to develop new models of activity (see section 6.3.3). By juxtaposing relational agency and transformative agency in the interpretation, this research contributes to the field by showing that a more complex interpretation of the object can be achieved (see section 5.4.2.6). *Relational expertise* was thus complemented by its intersection with the manifestations of transformative agency seen in the recognition of potential or model development.

7.2.3 The individual | collective dialectic in professional learning

Core contributions: I contribute to the literature on the individual | collective dialectic in formative interventions (see Lee and Roth 2007) by suggesting that motive alignment and intervention length both influence outcomes.

Whereas my review of professional learning design in section 2.3.2 and of relational agency in section 3.7 suggests that previously studies considered *either* individual relational agency *or* collective agency (e.g. Butler, Schnellert, and MacNeil 2015; Edwards 2011; Hopwood and Edwards 2017), this study considers both through the role of misaligned motives in the individual | collective dialectic.

In this study, the individual | collective appeared aligned *during* CL sessions, particularly where *relational expertise* was no longer the individual's relationship with the social, but a mediating activity which impacted the collective (section 7.2.2 above). Yet *outside* the sessions the tension between the individual and the collective was clearer and whilst I would agree that the individual | collective opposition within the object of activity mirrored dialectical interaction (see Lee and Roth 2007), I would not agree with Lee and Roth's contention that the two *coincide*. In this study Ollman's 'interpenetration of opposites' between individual and collective actions was evident (2003:15), yet with individual actions sometimes out of *alignment* with the collective (figure 7.1).

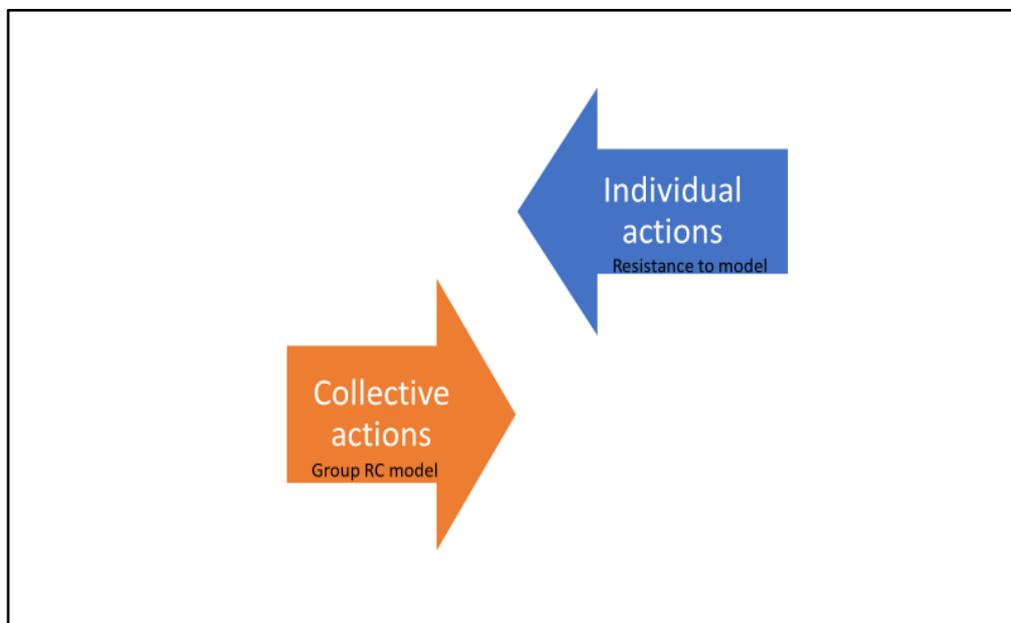


Figure 7-1 Dialectically convergent, but misaligned, actions

My research complements previous findings by suggesting the fragility of collective actions may have become more apparent in a lengthier project. Whilst 'collective reconceptualization' may be 'possible' (Virkkunen et al. 2012:18), this study shows it may in fact be temporary or unstable,

comparable to Virkkunen et al.'s (2012) assessment of a condensed intervention with early stage expansion. Newnham also questions the idea that individual participation coalesces with the collective, arguing that individuals' participation in interventions is not all 'at the same level in relation to the activities object' (Newnham 2012: 225).

7.3 Teachers' perceptions of organisational change

The literature review in section 2.4 suggested that *perceptions of organisational change* remained a key area. Change depended on perceptions of Senior Leadership's support for change, as well as space to experiment. Individuals' receptivity to change was a factor alongside accepting the legitimacy of presented change or trust in promoters of change. Organisational readiness was also a strong determiner of change. The most common approaches to change implementation involved coaching and mentoring or building teacher learning communities; however, a growing body of formative interventions in schools also provide such opportunities to practitioners.

This research makes moderate contributions to the general perceptions of organisational change literature. My core findings in this section are in line with the literature in terms of *individual and organisational change readiness* and also with *receptivity to change*, (both highlighted in section 2.4.2 in teachers' perceptions of change). However, when considering *intentionality of change* my research appeared to indicate that intentionality was a characteristic of individual rather than collective agency, which has been the subject of some dispute (see Moroz and Waugh 2000; Pyhältö, Pietarinen,

and Soini 2014; as highlighted in perceptions of change section 2.4.2 and relations between teachers and leaders section 2.4.3).

The research makes a greater contribution to knowledge in its understanding of the role played by relational agency in enabling an understanding of the mutual benefits of a particular change. The research suggests that this role is supported by a framework of agentic communication, drawing on the skills of individuals to develop collective change. The level of agentic communication appears to affect the level of practice change. Practice changes should also be seen in the context of the *sustainability* of practice change, as reviewed under section 2.4.4, to which this research makes a substantial contribution. One interpretation for teachers not sustaining change readiness can be seen in the tensions in the collective between *transformers* and *preservers* of practice where individuals may be more or less open to intentional agentic activity. My contribution to the teacher professional learning literature suggests that the value of the professional learning process had to be understood collectively for it to be sustained. If changes were fragile, then communication at an agentic level might offset encroaching scepticism.

7.3.1 Individual and organisational change readiness

Core contributions: individuals were initially reluctant to be involved in change processes, mirroring other studies reviewed in sections 2.4.3/4 (e.g. Botha 2017; Helstad and Møller 2013; Mayer, Woulfin, and Warhol 2015). However, by the third or fourth session, the teachers were mostly working collaboratively, planning changes to practice and trialling models of pedagogic

change. The intervention thus provided a safe place to discuss professional learning (cf. Higgins et al. 2012).

My findings resonate with the literature on *change readiness* as highlighted in the review in section 2.4.2 (Kondakci et al. 2017; Rafferty Jimmieson and Armenakis 2013; Zayim and Kondakci 2015) (see section 6.2). Certain individuals demonstrated change readiness, yet once the intervention was completed there appeared to be little incentive or relational *prompt* by individuals to retain changes. Others resisted change by calling on *common knowledge*- their way was the way that ‘mattered’ (see section 6.2); they were not interested in change (cf Doppenberg, Bakx, and Brok 2012) .Such reluctance formed secondary contradictions (Engeström 2011; Virkkunen and Newnham 2013), which proved difficult to dislodge for some teachers (see section 6.3.8). Such dialectical tensions, particularly as seen in CL5, could nonetheless be interpreted as productive when change occurred (see Sannino, Engeström, and Lahikainen 2016).

My findings on *the importance of trust* in engendering change accord with previous papers highlighted under readiness to change in section 2.4.2 (see Charteris and Smardon 2015; Kondakci and Zayim 2015; Newnham 2018; Vennebo and Otteson 2015). Some individuals’ perceptions and actions gained precedence in the group over time: where a colleague was trusted, and his perspective as a practitioner in situ was regarded as legitimate, his practice was adopted (see section 5.4.2.6).

My findings are commensurate with previous formative interventions which suggest that the whole organisation is required to support expansive learning and subsequent change (Engeström, Engeström and Suntuo 2002). The school appeared less ready to change than I had previously thought, as the earlier 'referent shift' was not sustained (Rafferty, Jimmieson and Armenakis 2013: 120, as reviewed in section 2.4.2). The school appeared more inward than outward-facing and was perceived as less dynamic by certain teachers which in turn influenced their own workplace learning (cf. Hoekstra et al. 2009). Subsequent staffing changes to Senior Leadership diminished their influence, indicating the importance of organisational readiness to change (Weiner 2009).

7.3.2 Individual intentionality of change

My findings resonate with the literature reviewed in section 2.4.2: *intentionality* appeared to be linked to individuals, akin to Moroz and Waugh's (2000) findings, rather than Pyhältö, Pietarinen, and Soini (2014) who regarded intentionality as an indicator of professional (collective) agency. In this study participants became committed to some changes as the intervention proceeded and they took intentional actions, but they did not pursue change afterwards. It may have been that by not pursuing long-term change they possessed less intentional readiness, which may have been related to decreased trust (see Kondakci and Zayim 2015). I would argue that if change

is by nature intentional (cf. Cooper et al. 2016; Vennebo and Ottesen 2015), then it is also precarious.

Participants' reluctance to be observed, as they believed *observation was a performative tool*, replicated tensions found in the review of teachers' pedagogical beliefs in section 2.5.4 (Ball 2003; Concannon-Gibney and Murphy 2012b; O'Leary and Wood 2017; Wood 2007). A compromise of self-videoed or audio-recorded content did allow the group to conduct a peer observation (CL4: section 5.5.1). Yet there appeared to be insufficient relational agency to make self-videoing a feature of the model and new practice. As O'Leary and Wood (2017) found, the perceived performative nature of observations undermined trust and made change less likely (see discussion in section 5.3.2.2).

7.3.3 Mutuality of change

Core contributions: relational agency plays a role in enabling practitioners to recognise *mutual benefits*. My findings suggest that *agentic forms of communication* may support practice change.

My research contrasts with the literature for change implementation, as reviewed in section 2.4.4, by suggesting that where *relational agency* was enacted, change in the shape of new models appeared to be accepted *during* the intervention as teachers recognised *mutual benefits* to the model (see section 6.3.8). Reflective discussions enabled the group to recognise contradictions and reconceptualise the object, such agentic communication supported an adapted and collective Reading Comprehension pedagogy

(figure 7.2 below). Figure 7.2 shows the extant activity system at Highway School on the left; it shows the contradictions that the practitioners identified, for example between themselves as subject and their understanding of the objective motive, i.e. their preferred reading comprehension pedagogy. It also shows contradictions between themselves and the community and between the community and division of labour, as well as the latter's corresponding contradiction with the object; for example, when the nature of tasks and who should do them was contested. Understanding the object proved problematic at the early stages of the intervention.

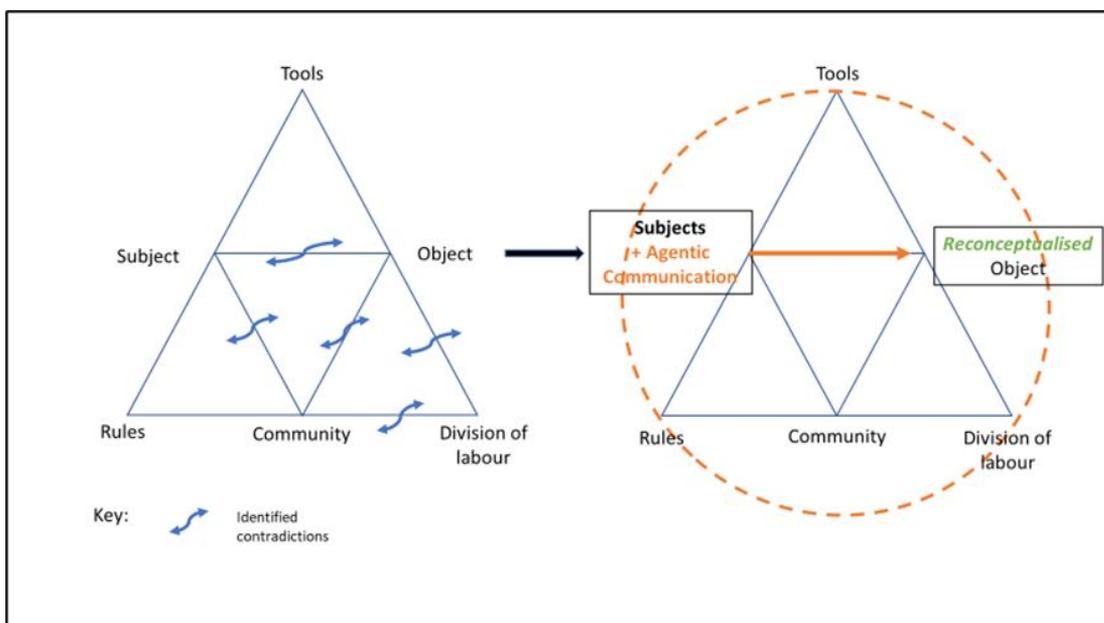


Figure 7-2 Agentic communication aids a reconceptualised Reading Comprehension object

The image on the right of figure 7.2 above shows how agentic communication – the actions and discussions which are engendered when practitioners use relational expertise to align those motives which have been previously problematic, and relational agency to understand the corresponding mutual benefits– acts upon the whole of the activity system (as encircled by the

orange dotted line) to bring about a newly reconceptualised object. It appears that agentic communication supports practice change.

Agentic communication does not presume that agency is uncontested, the intersection between relational and transformative agency remains dynamic and changeable. Where a strong relational agent was absent, the expanded notion of the object might dissipate or be taken up by another strong relational agent (see section 6.3.3), or a better communicator (cf. Zuckerman 2017).

This appeared to underline *the importance of mutual responsibility*, although deciding whose knowledge was most relevant could be destabilising (cf. Edwards 2017). Such destabilisation was evident in the fluctuating predominance of different practitioners' expertise (see section 6.3.2).

There remained a divide between those who favoured facilitative, and those who favoured transmissive, approaches, with cooperation more likely to engender change (cf. Weiner 2009). Where *relational expertise* was expounded but contested, or even rejected and therefore experienced by the expounder as a limitation of their professional beliefs (cf. Oolbekkink-Marchand et al. 2017) (see section 6.3.4), the group did not appear to see the mutuality offered within a new object of activity; adding to understandings of contested agency as already highlighted in section 2.3.4. Mutual benefits may have abated when changes were not sustainable.

7.3.4 Sustaining change readiness

Core contributions: my research differs from the literature as it reveals the *tensions within the collective* between those practitioners who adopted change and those that did not.

If authoring change is recognised through artefacts produced, or by fixing upon a 'germ cell' (i.e. emerging concept), then acknowledging that reading comprehension pedagogy should have the pupil at the centre of any approach became the germ cell. Taking and adapting ideas that the participants had found online was both aspirational and inspirational for them and represented collective learning (cf. Sannino, Engeström and Lahikainen 2016). Despite envisioning and trialling change, participants did not implement change afterwards; the tensions identified were not addressed collectively, leaving a few agentic individuals to attempt concrete change. It was not an organic process of change (cf. Durrant 2012). This suggests that, in this instance, the germ cell was not fully evolved despite the length of the project or that some teachers chose not to - or could not – accept the expansion that occurred within the intervention.

The dialectical tensions between the opposing forces of those teachers who wished to *transform* practice and those who wished to *preserve* existing practices were evident during the intervention, but it was in the post-intervention period that it became clear that change was dissipating. Whilst temporary or superficial changes were made such as adopting and adapting artefacts from the web, these were led by the same adaptive individuals (cf. Fairbanks et al. 2010; Ghitulescu 2012, as reviewed in section 2.4). I did not

find that younger teachers were necessarily more adaptable as Hargreaves (2005) suggests, adaptability depended instead on their agentic approach and was seen in their use of relational expertise. Yet, as the group did not appear to align their practice to the new model, the object remained unchanged in the following year. It remained unclear whether this was due to a lack of *relational expertise*, as discussed in section 7.2.2, or that individuals were unwilling to change. My findings therefore confirm the difficulty of making actual changes to practice, as found in the review of professional learning design in section 2.3.2 (Bakkenes, Vermunt, and Wubbels 2010).

Some teachers may not have been able to unlearn practices and make changes (cf. Newnham 2018). The tensions revealed in the intention | implementation divide may have been one reason why a *transforming* individual should choose to move to a different school where he believed he could implement change.

The fact that the expanded object was not sustained suggests that *contradictions were not fully overcome* (see Newnham 2018). Whilst a new tool was found (the combined APE-VIPERS model), the distribution of labour within the community (how to pass new pedagogy on to support staff) was not fully addressed. The simpler version - the APE approach - was still adopted by some, which suggests that not all participants accessed a deeper, dialectical interpretation of contradictions in the system and this resulted in a situation where some participants remained out of step, and they did not move forward collectively. They experienced a conflict of motives (cf. Haapasaari and Kerosuo 2015).

It may be that having reviewed the use and the exchange *value of the professional learning process*, some teachers found that the exchange of the familiarity, and therefore reliability, of their known practice was not worth the uncertainty of the new practice, despite its potential benefits in improved student outcomes. There must have been short-term use value when the new model was trialled during the intervention and several teachers acknowledged exchange value in the July 2017 review, but this value appears to have been transitory.

7.3.5 Recognising the fragility of change

Core contributions: my research revealed new understandings of the fragility of change. Whilst one or two agentic individuals may have provoked expansive learning in the bounded setting of a formative intervention, they appeared unable to sustain change over time without the cooperation of colleagues, that is without *communicating* in an agentic manner.

The group's review of the research process revealed doubt alongside a sense of progress, as well as incompleteness. The group were sceptical about generating change (see 6.4.2). The *scepticism* appeared more entrenched once they moved out of the enabling orbit of the intervention, or the researcher-interventionist's tasks. The fragility of the changes was confirmed by the follow-up review in March 2018 when several teachers had made instrumental changes, but only two teachers had focussed on building reading comprehension skills (see 6.4.3). It appeared that in resisting the changes in their own later practice, some teachers reverted to previous beliefs, a tendency revealed elsewhere (Shachar, Gavin, and Shlomo 2010). Unlike

findings in Horn and Little (2010) and Hardy, Rönnerman and Edwards-Groves (2018), (reviewed under *enabling and constraining factors for collaboration* in section 2.3.4), some practitioners did not challenge normalised practices. So, once the intervention ceased, there was no vehicle for continuing collaboration.

7.4 Teachers' pedagogical beliefs

The review of pedagogical beliefs literature in section 2.5 established understandings of beliefs as context-dependent, tightly connected to practice and often deep-seated. Beliefs may be subject-dependent and reading comprehension studies reveal beliefs centring on lack of confidence in ability or over-reliance on certain approaches leading to reduced implementation fidelity. My review of the limitations of current practice in section 2.5.4.2 identified the problem of deficit or reified pedagogies where teachers were risk-averse and disinterested in improvements. Although the review of reading comprehension pedagogy in section 2.5.4 revealed a growing literature concerning the benefits of targeted professional development. I therefore wanted to discover if such findings were replicated in a study focusing on teacher agency and whether participants were more adaptive as a result.

Teachers' pedagogical beliefs have been extensively researched and my core findings are in line with the literature reviewed in section 2.5.2, in terms of the tenacity of pedagogical beliefs and the strong links between beliefs and practice. However, my research makes a contribution to knowledge where it examines how *relational agency* may or may not support *belief change*, which appears not to have previously been investigated. In addition, by considering

whether my conceptualisation of *agentic communication* can support teacher belief change, I also make a context-specific contribution to the literature.

7.4.1 Deep-seated pedagogical beliefs

Many of my results were in line with the literature reviewed in section 2.5.2, as I found that pre-existing pedagogical beliefs were *tenacious* (cf. Pajares 1992; Sullivan and Conway 2016) and less experienced teachers were still reliant on a tried and tested pedagogy (cf. Sullivan and Conway 2016) (see section 5.2.2.2). Teachers in the study resisted change by calling on *common knowledge*- they believed their way was the way that 'mattered' (see section 6.2). There was therefore general reluctance to modify beliefs, which brought the group into tension with individuals who had adaptive pedagogical beliefs (cf. Fairbanks et al. 2010). Where there were attempts to dislodge tenacious beliefs, there was mixed success (see section 6.3.8). Such dialectical tensions, particularly as seen in CL5, could nonetheless be interpreted as productive as some beliefs were changed (cf. Sannino, Engeström, and Lahikainen 2016).

In line with the reviewed literature in section 2.5.3, I noted the deep *connection between beliefs and practice* (cf. Fives and Buehl 2014; Handal and Herrington 2003; Lotter et al. 2016; Ní Chróinín and Sullivan 2014). I noted in sections 7.2.1 and 7.3.4 that changes to practice were not always sustained; this may have been due to entrenched beliefs amongst certain teachers (cf. Pajares 1992), strong professional histories (cf. Priestley, Biesta and Robinson 2015), or simply that practices are 'emotionally freighted' and not lightly relinquished (Edwards 2011:33). For instance, beliefs about the

performative nature of observations did not change (see discussion in section 7.3.2), however practitioners did see pedagogical benefits in discussing the videoed reading comprehension session. Nor did teachers' beliefs in research evidence change: practitioners maintained beliefs in the irrelevance of academic literature to their own practice, dovetailing with findings from my review of the limitations of current practice in section 2.5.4.2 (Concannon-Gibney and Murphy 2012a; Ciullo et al. 2019; Hilden and Pressley 2007; Jayanthi et al. 2018) (see review, section 6.4.1). Such a finding suggests that the 'research to practice gap' identified in the section 2.5.4.2 review may remain (Accardo and Finnegan 2019; Ciullo et al 2019; Feiker Hollenbeck and Kalchman 2013; Klingner et al. 2010), even in professional learning designs which give practitioners space to engage with research.

However it was interesting to note that the strategies that teachers believed they preferred and had adopted from personal recommendation, on-line sources, professional platforms, such as the use of inference or prediction, were founded in fact in existing research, even though the practitioners did not recognise it as such (cf. Klingner et al. 2010). Perhaps it is the perception of research rather than its promulgation that needs to change regarding practitioners' beliefs.

7.4.2 Professional learning developments influence beliefs

Core contributions: collaborative, teacher-led professional learning may change collective practices but may make only minor, temporary changes to collective beliefs. There is some evidence for individual belief change.

As discussed in section 2.5.4.1, conceptual change can be problematic as it involves a practitioner recognising that s/he is dissatisfied with current beliefs (Feiker, Hollenbeck and Kalchman 2013). Regular discussions in the Change Laboratory provided opportunities to explore beliefs for reading pedagogy, where dissatisfactions were recognised as disturbances in the activity system (see section 5.4.2.2). Professional learning sessions were interactive and teacher-led and therefore personalised and aligned with teachers' goals replicating findings reviewed in section 2.5.4.4 (cf. Anderson and Gallagher 2019; Clark, Schoepf and Hatch 2018; Jayanthi et al. 2018). There was evidence of some individuals developing intuitive conceptualisations quite early in the sessions (see section 5.3.2.4) and a more collective shift in assessment conceptualisations (see section 5.3.2.6). There was evidence of both 'idiosyncratic' and 'common' impediments to conceptual change as in Feiker, Hollenbeck and Kalchman's (2013) findings (e.g. section 5.4.2.1).

None of the practitioners mentioned beliefs explicitly during sessions; however, they recognised that a change of *culture* might help implement change, which appears akin to the notion of beliefs (see section 5.5.2.3) and a collective belief in the self-concept of 'study group' grew over the sessions (see section 6.4.1). Practitioners became more confident, collaborative, and developmentally focussed (cf. Griffin et al. 2010); strategy development reflected reviewed literature in section 2.5.4.3, where the practitioners adapted strategies or persisted with a line of enquiry (cf. Kim et al. 2017; Taylor et al. 2005).

As I discussed in section 7.4.1 above, it was the adaptive individuals like Phil who changed beliefs, for example moving to a pedagogy that was more child-led (see section 5.3.2.6) and more complex (cf. Silver, Kogut and Huynh 2019). In Phil's case, enacting changes to practice through the professional learning study supported changes in beliefs.

7.4.3 Sustaining changes to pedagogical beliefs

Core contributions: changes to the group's collective pedagogical beliefs occurred in the short-term, but differences which may have been suppressed during the intervention re-surfaced later, rendering changes to beliefs less durable.

Once the intervention was complete, participants may have succumbed to *normative pressures*, returning to a status quo (see Coburn 2001), as they were no longer obliged to reconcile previous beliefs with a new pedagogy (cf. Porath 2016). The literature reviewed in section 2.5.4.4 suggested that extended studies led to greater fidelity (Collins et al. 2017; Rennie 2011; Silver and Png 2017), however my findings as confirmed by follow-up reviews do not corroborate this.

Where belief change occurred, individuals within the collective remained at different stages of pedagogical belief development (see Newnham 2018). If beliefs were unsustainable, they may have been linked to *unsustainable changes*, as I noted in section 7.3.4: the less experienced teachers may simply not have believed themselves capable of maintaining change (cf. Lotter et al. 2016).

As I argued in section 6.3.3, relational expertise may have been able to support changes in practice, however changes in beliefs do not appear to be supported by the alignment of motives in relational expertise and an individual does not appear to be able to influence another's beliefs (see Sharon's exhortations in section 6.3.8). Therefore, agentic communication as I argued earlier may influence practice, but does not appear to influence more entrenched beliefs. Those who did not change beliefs (see section 6.2), may have been strong individual agents whose autonomy resisted change (cf. Day 2020; Southerland et al 2011). My follow-up review would suggest that there were no subsequent belief changes following the practice changes which confirms previous findings (cf. Fullan 2000; Guskey 2002).

7.5 Agency and Change prompted by research design

In section 3.2.3 I sketched out an agency|change framework: my findings underline the complexity of the relationship between agency and change. In section 3.2.1 I conceptualised agency as a process, in my discussions in this chapter the fluid nature of agentic processes has been underlined as the intersections of relational and transformative agency supported practitioners' movements towards educational change. Whilst the research design was set up to promote collective agency, my findings suggest that individual autonomy often maintained beliefs which in turn led to less sustainable practice changes. Likewise, the process of educational change conceptualised in section 3.2.2 appeared somewhat fractured, with material and practice change being easier to stimulate, and then sustain, than belief change. The agency|change framework enabled me to consider the interplay of agency

and change in the design, in the agentic activity which occurred, its nature as collective or individual agency, and the sustainability of the resultant change, which I evaluate below.

Earlier Change Laboratory designs privileged a collective conceptualisation of the object (Engeström et al. 1996; Engeström 2001), whereas recently individual conceptualisations of the object have been recognised in interventions (Haapasaari Engeström and Kerosuo 2016; Sannino 2008, 2010). My research reveals both individual conceptualisations resulting from relatively strong individual agency, as well as moments where collective reconceptualisation of the object occurred, all of which brought about change (see section 7.3.2). Findings from this study pointed to a fragile collective object of activity, with some participants being more involved than others, and thus more fragile change. Perhaps having followed the full intervention sequence with its designed series of stimuli, expansion was still incomplete for some individuals.

I found agentic activity was slow to develop: this may have been partly as participants initially found the activity triangle depiction somewhat complex and inaccessible (cf. Ellis 2010; Newnham 2018), unlike other studies where the activity system was readily discussed (Haapasaari, Engeström, and Kerosuo 2016). It may also have stemmed from the elongated nature of the intervention, longer periods between sessions may have meant the study lost momentum as suggested by Virkkunen and Newnham (2013). A lack of momentum may in turn have affected sustainability.

Contrary to previous studies (Engeström 2001; Engeström, Rantavuori and Kerosuo 2013), these results suggest that the collective agency that developed in the latter stages of the intervention may in fact have been temporary or fragile and that factors outside the intervention such as pedagogical beliefs and (organisational) readiness to change may influence Change Laboratory outcomes. The participants' collective agency was evidenced in some respects when they chose *not* to continue to focus on their own reconceptualised object of activity after the intervention came to an end. As Newnham (2018) reflects, I could not presume to transfer knowledge in a conception that was my own, if the participants did not concur. Indeed, my findings show knowledge production to be a questioned and contested activity (cf. Engeström 2008a; Kuusisaari 2014).

The interplay between the individual and the collective has been revealing in this study; it would seem that collective changes in practice do occur but that often it is the individual's meaning-making relating to beliefs and practices that determines whether those changes progress as permanent collective change.

7.6 Chapter Summary

My research makes a modest contribution to the literature by suggesting that a consideration of how relational agency intersects with transformative agency does enrich understandings of teachers' agency for professional learning.

Where teachers collaborated and reflected (cf. Kramer 2018), that is communicated on an agentic level, it seemed to be a dynamic process; teachers acted both individually *and* collectively throughout the project, with individual agency operating more strongly. Such findings compare with

previous studies of individual professional agency (see Edwards 2011) where personal benefits to the individual drive actions (MacLellan 2016). The project showed a growth in applicative knowledge rather than a fully expanded interpretive knowledge concerned with developing possibilities in the longer term (cf. Bodman Taylor and Morris 2012; Kramer 2018).

Results demonstrated collaborative professional learning (cf. Cloonan, Hutchison, and Paatsch 2014; Goodnough 2016) and the evolution of a collective 'study group' identity *during* the intervention (cf. Vähäsantanen et al. 2017). The group did not appear to replicate the durability of other professional learning communities (e.g. Butler, Schnellert and MacNeil 2015; Cherkowski and Schnellert 2017; Dougherty Stahl 2015).

This research makes a principle contribution to the literature in its consideration of agentic communication as a stimulus for practice sustainability. Whilst collective agency may have been stimulated by one or more teachers employing relational expertise and/or agency, there did not appear to be sufficient, sustained Agentic Communication in this setting to support a cohesive, collective and durable professional learning process. The group may have required additional stimuli post-intervention to enable them to continue collective agentic activity (cf. Haapasaari and Kerosuo 2015). The learning process appeared dependent on different individuals using relational expertise to greater or lesser effect to align motives (Edwards 2011) and reconceptualise the object of Reading Comprehension pedagogy. As such, the collective object motive towards a renewed Reading Comprehension pedagogy appeared weak in the long term: motives became misaligned, with

the new pedagogy no longer mattering to the group. Overall, collective learning was not homogenous and contemporaneous but reflective of individuals' motives and agency within the collective.

Practitioners displayed different levels of receptivity to change in line with previous findings, although I did not find that attitude to change was influenced by age (cf. Collins and Waugh 1998; Moroz and Waugh 2000; Waugh 2000). The object may have been sustained if all participants had felt mutually responsible for the outcomes, developing shared understanding, trust and a willingness to change their pedagogical beliefs (cf. Edwards 2012; Holmqvist and Olander 2017; Pyhältö, Pietarinen, and Soini 2014). My study indicated that this was a challenging and contested process, with somewhat fragile outcomes.

This research makes a modest contribution to the literature regarding school-based Change Laboratory interventions, particularly regards the framing of actions during and beyond the intervention and the intervention being led by an insider research-interventionist. Receptive individuals could take intentional actions to encourage the collective to generate change. However, I suggest that practice changes had a transitory use-value to practitioners: whether teacher or senior leader, many found change difficult to sustain. There was a tendency to look at internal relations rather than the external relations of the wider activity system and to revert to familiar practice. Actions appeared misaligned and whilst reconceptualisation of the object *in* the Change Laboratory could produce change intentions, in this case they were not sustainable *beyond* the Change Laboratory.

Change and beliefs appeared to be closely connected (Buehl and Fives 2009; Fives and Buehl 2014). Like Fives and Buehl, I found that teachers in this small organisation valued knowledge differently, and whilst the Change Laboratory facilitated the conceptual understanding and exchange supportive of knowledge production (see Tillema and Westhuizen 2006), a collective concept of knowledge required to bring about change was not sustainable. Nonetheless a few practitioners displayed adaptive beliefs which supported change, dovetailing with my finding that agentic individuals appeared to stimulate learning in the collective.

In this section I also evaluated my agency|change framework's potential for considering the relationship between agency and change in the workplace.

8. Chapter 8 Conclusions

8.1 Introduction

In Chapter One of this thesis I noted the importance of professional learning to the teaching profession, as taking responsibility for developing their own knowledge might encourage teachers to remain in the profession and address current education policy concerns over falling retention rates. I characterised teacher professional learning as learning which occurs in schools and which enables teachers to collaborate, drawing on collective knowledge and experience to respond to workplace problems. The thesis has reflected my professional interests, as I have long been involved in teacher training, and has mirrored my wish for teachers to be involved in developing their own practice. I noted earlier the growth in research into collaborative teacher professional learning in America, Australia/New Zealand and Europe, and its relative insignificance in England. This study has enabled me to explore the relevance of setting and activity, the interplay of agency and change, the nature of teacher agency in its individual and collective forms, the enabling factors (e.g. adaptive behaviours and beliefs, readiness to change) and constraints (e.g. low receptivity to change, deep-seated professional beliefs) to change sustainability; all of which underpins conceptions of expanded learning as a form of teacher development.

In Chapter Eight I summarise my original contribution to knowledge; then I return to the original research question to report my findings relating to agency in teachers' professional learning, their perceptions of organisational change, and changing teachers' pedagogical beliefs. I consider implications

for policy and practice; reflect on my personal role and motivation and acknowledge the study's limitations. I conclude by suggesting avenues for future research.

8.2 Original contributions to knowledge

By developing a research design to stimulate professional learning, this study contributes to a greater understanding of professional learning for in-service teachers, acknowledging the constraints and enabling factors in developing agency for one's own learning. It also makes modest contributions to the methodological literature concerning interventions conducted by insider research-interventionists. Previous professional learning studies have focussed on either collective or individual teacher agency; by juxtaposing transformative agency with relational agency, I have extended conceptualisations of agency amongst teachers and have explored how the individual influences collective agency enactment. I have made a modest contribution to teacher agency literature, where I argued in section 7.2.1 that whilst Edwards' (2005, 2011, 2012, 2017) previous conception of *common knowledge*, a feature of relational agency, is used constructively in professional settings, I suggest that common knowledge can also be employed obstructively. Likewise, examining how *relational expertise* is employed with relational agency to provoke collective action, has expanded the use of relational concepts in the professional learning literature, as I shall elaborate in section 8.3.1.4.

My contributions to the wider field of organisational change are moderate yet provide greater insight into intentionality of change which my research shows

to be an individual characteristic. As I argued in section 7.3.3, where relational agency was employed to enable practitioners to see mutual benefits then practice change occurred. The concept of agentic communication thus developed from my interpretations of such practitioner actions in Chapter Seven. I shall conceptualise agentic communication in section 8.3.1, which I argue is a more significant contribution, as it considers how individuals may draw on different forms of transformative and relational agency to successfully promote change in the workplace and whether that change is sustainable or not.

Regarding teacher pedagogical belief change, I make modest contributions to the literature regarding relational agency's ability to support belief change in a professional learning study. I argued in section 7.4.3 that different stages of belief change development amongst practitioners as individuals may have affected sustainability of belief change in the collective. There is also some indication of the limitations of agentic communication, where the ability to affect changes to practice does not appear to extend to changing beliefs. In section 8.3.3 I shall elaborate on the complexity and limitations of collective belief change.

8.3 Main research findings

My research question was as follows:

How can a Change Laboratory formative intervention stimulate transformative and relational agency for professional learning amongst in-service primary school teachers to develop a reading comprehension pedagogy?

In this study the European notion of transformative agency (see Haapasaari, Engeström and Kerosuo 2016; Haapasaari and Kerosuo 2015; Sannino 2015; Virkkunen 2006), was further expanded by introducing concepts of relational agency, perhaps more familiar to English contexts (see Edwards 2005, 2010, 2011, 2015). This merging of European and English conceptualisations is a timely project which facilitates a reconceptualisation of professional learning elements of in-service teacher development (see Cordingley 2015).

The study reported findings in three areas: teacher agency in professional learning, teachers' perceptions of organisational change and teachers' pedagogical beliefs.

8.3.1 Teacher agency in professional learning

This section summarises my conceptions of agency and change as informed by the study findings, looking at the individual and the collective before discussing the role of the individual in the collective.

8.3.1.1 *Conceptualising agentic communication*

Engeström (2008) makes a distinction between coordination, cooperation and communication amongst collaborating colleagues. Coordinated actions occur in scripted interactions with numerous tacit conventions and codified procedures, all of which are inward looking; whereas cooperative actions allow colleagues to focus on a shared problem, which might not be explicitly questioned. However, once practitioners engage in reflective *communication*, their interactions support reconceptualisations of the shared object.

My findings explored the intersection between transformative and relational agency during collaboration, which provided enriched understandings of teachers' agency for professional learning and supported a focus on individual agentic aspects *within* the collective (see section 6.2). I found that the intersection between individual (relational) and collective (transformative) agency was characterised by a level of interactive reflection that I have called *agentic communication*, drawing on Engeström (2008) and Edwards (2011, 2015). This concept draws on a dialectical understanding of agency and change, whereby agency-as-process (cf. Ashwin 2009; Emirbayer and Mische 1998; Haapasaari, Engeström and Kerosuo 2016) may be simultaneously supportive and obstructive of all dimensions of change. The level of reflection that is encouraged by agentic communication allows beliefs and practices to be confronted (cf. Fullan and Hargreaves 2014). I have noted that relational agency and expertise appear to be used dynamically by individuals to communicate 'prompts' for transformation, which I argue results in the enriched notion of *agentic communication*.

8.3.1.2 *Individual agency*

Commensurate with the literature are my findings for *agentic individuals* who act to benefit their own professional learning (Edwards 2011; Maclellan 2016), and limit collaboration (cf. Hökkä and Eteläpelto 2014).

My findings differ regarding the identification of *agentic individuals*, who employ *common knowledge*- knowledge which matters professionally to individuals- as a tool to both obstruct, as well as enable, change (see section

7.2.1). These individuals appear to use - or recognise the benefits of - agentic communication to bring about change. Obstructive individuals may be characterised as preservers of practice.

8.3.1.3 Collective agency

Commensurate with the literature are my findings for *collective agency*: illustrated by increased collaboration and collegial activity *during* the intervention (cf. Cloonan, Hutchison, and Paatsch 2014; Goodnough 2016). Teachers worked together to author practical changes over a six-month period (cf. Sannino, Engeström and Lahikainen 2016), having initially questioned practice and resisted change to reified practices, before producing a reconceptualised reading comprehension pedagogy.

My findings differ regarding the fragility of *collective agency*, where insufficient momentum was maintained *beyond* the intervention. On completion, there was little cohesion or collective adherence to the new model and there was no collective exercise of agency to implement changes post-intervention (see section 7.2.2). As this was a lengthier project, collective actions may have become more fragile (see section 7.2.3)

8.3.1.4 The individual in the collective

Commensurate with the literature are my findings for *individuals within the collective*, where mutuality was supported by the trust they had in their colleagues (cf. Edwards 2012; Holmqvist and Olander 2017; Pyhältö, Pietarinen, and Soini 2014).

My findings differ regarding the *agentic activity of individuals within the collective*. Where strongly agentic individuals enacted *relational expertise* – characterised by aligned motives and joint interpretation - they supported and encouraged collective model development which transformed conceptions of the object of activity. Such individuals also enacted *relational agency* - working with others to expand the ‘object of activity’ and aligning their own responses- thus enabling collective change (see section 6.3.8). These agentic communicators may be characterised as *transformers* of practice (see section 7.3)

8.3.2 Teachers’ perceptions of organisational change

Commensurate with the literature are my general findings *for perceptions of organisational change*: there were differences between individual receptivity - and readiness to - change (cf. Moroz and Waugh 2000; Zayim and Kondakci 2015). The organisation appeared to lose incentive to change, the ‘referent shift’ was not sustained (cf. Rafferty, Jimmieson and Armenakis 2013). There may have been a lack of trust and mutual responsibility (cf. Edwards 2012; Holmqvist and Olander 2017; Pyhältö, Pietarinen, and Soini 2014). Whilst conflicts of motives are understood as part of an expansive learning process, motives appeared to change as problems were resolved (Sannino 2015; Sannino, Engeström and Lemos 2016).

My findings differ in discerning *tensions within the collective* between practitioners who *preserved* practice and resisted organisational change and those who *transformed* practice and supported organisational change (see

section 7.4.3). I find that these practice changes are supported through agentic communication (see section 7.3.3).

My findings also differ regarding the stability of changes; there was little *relational prompt* to maintain change once the intervention finished and previous agentic communication was not consolidated (see section 7.4.1). I found that intentionality of change related to agentic *individuals*, contrary to a collective conceptualisation (cf. Pyhältö, Pietarinen, and Soini 2014) (see section 7.4.2). I noted the fragility of organisational change in a school setting; temporary alignments of motives through the enactment of relational agency produced temporary change, but it was not sustained (see section 7.4.4).

8.3.3 Teachers' changing pedagogical beliefs

Commensurate with the literature are my general findings for *individual beliefs*. Strong individual agency linked to embedded beliefs (cf. Fives and Buehl 2014, Pajares 1992) and reliance on applicative knowledge (cf. Bodman Taylor and Morris 2012). However, individuals who took intentional actions (Moroz and Waugh 2000) were strongly relational and communicative, and displayed adaptive beliefs (cf. Fairbanks et al. 2010). Returning to previous beliefs post-intervention, suggests individuals succumbed to normative pressures (see Coburn 2001).

Also commensurate with the literature are my findings on the problematic nature of conceptual change (cf. Feiker, Hollenbeck and Kalchman 2013).

My findings differ regarding evidence of *collective change to beliefs*. During the intervention practitioners began to see potential in colleagues' suggestions for new models, yet whilst short-term collective pedagogical belief changes were possible, they were not sustained (see section 7.3.3). Where relational agency was enacted to reinforce mutual benefits, acceptance was greater, however if strong relational agents were absent, conceptions dissipated, suggesting a fluctuating predominance of different pedagogical beliefs (see section 7.3.2).

My findings differ in noting that agentic communication can support practice change but not belief change. However, an individual who practises agentic communication is more likely to experience conceptual belief change which is sustainable (see section 7.4.2).

8.4 Policy implications

Professional learning appears to offer opportunities for teachers to take ownership of their learning process, despite policy environments which appear unsupportive of teacher agency. It may be beneficial to follow a model closer to Scottish policy which recognises the agency of teachers in their own learning (Baumfield 2015) or a Finnish model predicated on research-based innovative and autonomous school communities (Niemi 2015).

This study contributes to the professional learning landscape by showing that formative interventions are productive professional learning vehicles; conducting a formative intervention through a Change Laboratory in a school setting can stimulate both individual and collective agency. Sitting firmly in the

tradition of collaborative teacher learning (e.g. Dougherty Stahl 2015; Liu, Miller and Jahng 2016; Philpott and Oates 2017), as the Change Laboratory evolved my study became increasingly teacher-led, suggesting that policies supporting practitioner inquiry could be a viable professional learning option for all schools (see Charteris and Smith 2017; Groundwater-Smith and Mockler 2009).

The present study took place in teachers' allocated staff meeting time; normalising professional learning within teachers' allocated workload may be one way to ensure professional learning sustainability. However, my study suggests that other enabling conditions are required for sustainability such as a proactive school leadership and teachers who are ready to change (Butler, Schnellert and MacNeill 2015; Kondakci et al. 2017; Rafferty, Jimmieson and Armenakis 2013; Zayim and Kondakci 2015). Generative solutions, practical changes initiated by schools at system-level to respond to localised problems, may then follow (see Sannino, Engeström, and Lemos 2016).

8.5 Practice implications

This study suggests that a formative intervention format can be an effective means of stimulating practice change. However, sustaining practice change in this school setting was problematic: the teachers' motives were not necessarily aligned with my motivation as researcher-interventionist to see sustained change implementation. The study reported several changes in the short term:

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- A new reading comprehension pedagogy was developed which responded to curriculum and children's needs. The teachers' new approach was skills-based, allowing children to understand how to build comprehension skills, but contextualised in reading content that interested the children; the approach included a simplified assessment of children's skills.
 - Teachers had more confidence in their knowledge base, and many were keen to apply their new learning.
 - Senior leadership provided a new library with cosy reading corners (figure 8.1 below). The physical environment underpinned changes to the activity.



Figure 8-1 Highway's new library

The knowledge produced collectively above is largely applied and replicative, whereas conceptual knowledge production appears to centre on the

individual. The lack of collective conceptual knowledge may explain difficulties in maintaining practice changes: whilst Senior Leadership agreed to incorporate the new approaches into the school curriculum, a change agenda was not pursued once the Head Teacher took a position elsewhere. The teachers were no longer encouraged to implement reading comprehension pedagogy changes; the proposed support staff training was not realised (see section 6.4.3); teachers did not actively seek to implement changes themselves at the start of the next academic year.

Despite the only concrete, sustained changes being the new library and a new-found teacher confidence, the study suggests that schools could benefit from incorporating the Change Laboratory model into workplace teacher professional learning:

- Regular group research time could become part of a school's professional learning agenda
- Schools could support staff development by encouraging teachers who are strong relational agents to lead research projects
- Schools could build teacher agency by focussing on teacher-instigated objects of activity.
- Understanding which forms of knowledge are valued by teachers could enable schools to develop pedagogy for collective rather than individual benefit.

There have been calls for Change Laboratories to be run by the collective itself as an *intravention* (see Sannino, Engeström, and Lemos 2016), however my research would indicate that without a research-interventionist as

provocateur, sessions may lose momentum or teachers may settle for easy answers rather than understanding the contradictions at the heart of practice. Future research could investigate whether teachers, particularly those with strong agentic communication, could become provocateurs themselves, or whether continued school-university partnerships are more practical.

8.6 Personal reflections on being an insider researcher-interventionist

In section 1.3 I speculated on the potential difficulties I might face as an insider researcher and the expectations that staff might have of me (cf. Greene 2014; Mercer 2007; Merriam et al. 2001). This was occasionally problematic, and I was pleased that I had decided to maintain a reflective research diary as recommended by Engeström (2005) (see section 4.4). The diary enabled me to analyse what was happening and provided space to consciously reflect whether I was demonstrating bias or taking actions which took advantage of my position within the activity system and to amend actions if necessary. Like Kuusisaari (2014), I frequently faced the dilemma of just how much guidance an insider researcher-interventionist should give: I did not want to prejudge or predetermine a situation and had to acknowledge that this was how practitioners wished to conduct the research (see section 5.2.2). As someone who was passionate about life-long learning, I nevertheless accepted that not everyone regarded learning as an ongoing process and researcher-interventionists could not impose professional learning on practitioners.

One of the benefits of designing a research study which set out to facilitate collective agency was that practitioners embraced this approach and felt able

to disregard suggestions which did not match their own motivations. However, having established a collaborative stance at the outset, misunderstandings could be raised and discussed within the Change Laboratory setting (see section 6.4.2) which benefitted both the practitioners and me. In that sense, I found the boundaries to my insider-ness could be blurred (cf. McNess, Arthur and Crossley 2015) and that my relative positionality could change based on my actions in designing research or practitioners' growing trust (cf. Milligan 2016). My greater understanding of situated learning during this study made me consider the context and nature of learning communities and the boundaries associated with them, bringing the relations between the insider researcher-interventionist and practitioners into focus.

My insider role allowed me to contribute to the formative intervention literature by unpicking the sustainability of interventions: being still on site I could readily assess practice change and identify influencing factors for sustainable change. Secondly, by documenting in some detail the practicalities of running an in-service teacher Change Laboratory as a sole researcher, I have shown that it is possible and practicable for an individual to conduct this form of research.

In terms of responding to my original motivation, this study empowered me to support teachers to expand their learning and make concrete changes to their practice. As a researcher-interventionist I encouraged activity in the workplace and endeavoured to use my own relational expertise and agency to provoke change. I enabled agency development amongst some in-service teachers where professional learning may become an on-going process.

8.7 Limitations

There were practical limitations to this study which I sought to mitigate, as described in the methodology chapter; some pertained to limitations encountered before the intervention, others during and yet others after completion.

8.7.1 Before research started

The size of the school determined the study's scale, so my findings should be regarded as particular to my setting (see section 4.3). Its authenticity lies in its localised problem-solving (Engeström, Sannino and Virkkunen 2014b). By tracing the development of this setting's activity system, the study may be regarded as a 'theoretical generalisation' (see Virkkunen and Newnham 2013:43).

Being a sole researcher limited the study's scope, as I had to conduct preliminary data analyses between sessions (see section 4.10.3); whereas conducting a Change Laboratory intervention with the aid of a research team would have enabled me to increase the amount of ethnographic data collected and to conduct supplementary interviews. Another researcher may also have overcome teachers' resistance to being observed which in my case influenced the research design.

Being an insider-researcher meant that I had to be mindful of the school's dynamics, as I negotiated the intervention's scope (see section 4.3). The head

teacher was very supportive, other senior leaders and staff were less enthusiastic at times, which I had to manage carefully.

8.7.2 During the research

There were limited opportunities for intervention sessions, which were resolved by holding sessions at times allocated for staff meetings (see section 5.2.1).

As the intervention became more teacher-led, the research design was likely to change; therefore, I amended the indicative outline as the intervention proceeded (see section 5.4.1).

Fixed video camera data collection might have reduced the data scope, which I mitigated by photographing individual artefacts (see section 5.2.1).

Some practical limitations, such as the long gaps between several intervention sessions due to school holidays and prioritised school events, were unavoidable (see section 5.5.1).

Being a sole researcher, I had no other colleagues with which to discuss categories for data analysis; the Change Laboratory design helped here, as bringing data into subsequent sessions acted as member checking and concepts could be discussed, for example, I could determine reasons for resistance between CLs 3 and 4 (see section 5.3.1). Having a strong form of data analysis also helped me at this stage as I worked through the stages of Qualitative Text Analysis (see section 4.10.1), as well as discussions with my supervisor.

8.7.3 After the research

Change Laboratory interventions have a finite life which may curtail professional learning. My research indicates that transformative agency is sustained during the intervention's lifetime by certain individuals, who use relational expertise to drive forward changes within the activity system. However, once the Change Laboratory, the transformation vehicle, is no longer active, transformations appear less likely to continue, as indicated by concerns about implementation on review (see section 6.4.2) and confirmed in the follow-up review (see section 6.4.3).

Diminution of activity is exacerbated where there are changes in personnel or teachers revert to previous activities; despite having identified contradictions inherent in previous work practices, they no longer exert agency to sustain practice changes (see section 6.4.3).

8.8 Future research

As not all teachers responded to opportunities to exert agency, my future research lies in further investigating the use of relational prompts to promote agency and why some teachers may be reluctant to respond to prompts. A second possibility is the development of a normalised professional learning model where teachers would regularly engage in research into their own practice. I would also like to work with in-service teachers to develop their role as provocateur in an intervention process, perhaps through school-university partnerships, with the aim of more sustainable practice change. Finally, I

would like to investigate whether developing an increased sense of collective agency influences teacher retention.

8.9 Summary

In-service teacher professional learning in this study can be characterised as an embedded, localised process which responds to a co-constructed object of activity, namely developing a pedagogy for reading comprehension in the primary phase. Teacher learning was expanded through a series of Change Laboratory sessions: most teachers moved from an individualised conception of pedagogy where they relied on tried and trusted methods to a greater awareness of pedagogical possibilities and to increased confidence in developing a collective pedagogy which responded to children's needs in their school.

The collective impetus, which was apparent during the intervention process, was not reproduced in the subsequent academic year. Readiness to change proved fragile as a collective concept. Belief changes were confined to more adaptive individuals, with collective belief changes being fragile- beliefs did not appear to be affected by agentic communication. However, individuals who developed strong relational agency (based on aligned relational expertise and supportive common knowledge) continued with some aspects of the expanded object of activity, whilst others drew on common knowledge to reinforce previous practices. The collective professional identity was not sustained beyond the life of the intervention, which suggests that collective professional learning remains elusive, especially where there is insufficient or fragile agentic communication.

This study suggests that professional learning programmes which are designed to support the development of agentic communication in the school setting may be more effective in bringing about practice change. A teacher-instigated focus for professional learning may lead to greater sustainability.

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Appendix One

Extract from Response to ethics committee 22.05.15

The workshops are intervention workshops, the methodology taken from the Change Lab concept (Virkkunen and Newnham, 2013¹) (...)

In a Change Lab, interventions are trialled by the group, who then make more suggestions, until they arrive at possible working solutions. The interventions may be suggested by the researcher originally, however as the Change Lab progresses these are more likely to be made by the workshop participants themselves. The process begins by understanding what teacher training has been like in the past by looking at different stakeholder perspectives. For example, by looking at a video of students discussing course changes, hearing a teacher educator talk about their role, or discussing a pictorial representation of a student teacher. These stimuli are known as mirror material (...). As the group proceed through the series of workshops, they might collect additional mirror material themselves, through observations or videoing, or just noting down discussions that take place during initial teacher training (...).

Data collection pre-workshop

The videoed mirror material cannot remain anonymous to the participants in the workshop, however the participants in that mirror material will be aware of this as they will have opted for audio recording (transcript made available to workshop) or video recording on the consent form (see amended forms). Data within the workshop will be kept confidential. Any mirror data which forms part of any future dissemination (thesis/ journal articles etc) will be anonymised (...). The amended and separated Participant Information Sheets (attached as requested) will make this clear, so mirror material participants will have a clear frame of reference for the use of their data in Change Lab workshops only.

Data collection during Change Lab workshop

As the workshop proceeds, they will be videoed to record the expansive learning (Engestrom, 2001²) of the participants (see new indicative schedules for all workshops, as requested) which forms part of the ongoing data set. This data set may also include interviews with Change Lab participants (see existing interview schedules) and may also include observations of working practices if the participants so request. Change Lab participants will be institutional insiders (as teachers or educators) and they will be working with institutionally available information.

Appendix Two

Project Outline Document

Preliminary definition of the need for the intervention and its object	The need for professional development is established within school. Lesson Study has been chosen as a staff development vehicle for 2016-17. Anecdotal evidence suggests that staff are a bit uncertain about the process as it involves observations which they find stressful. Object may relate to staff seeing this as viable and beneficial. Suspect that first round of lesson study may not be fully completed, so an intervention could be used to establish protocols and encourage participation
Explaining principle of development in CL	Discussed in scoping meeting above and have given staff a very brief outline of intended research back in September. Theoretical underpinnings and concepts to be tackled in CL 1 and 2 (see session outline)
Selecting the intervention unit	Have selected the lead school in the teaching school alliance where the head is receptive to research. Head in very secure position, small number of staff who are largely co-operative. If the intervention is successful, the head would then promote a modified lesson study model, suited to local circumstances, as potential professional development across the alliance. Staff in the school are relatively young and inexperienced and are open to professional development. Researcher interventionist also based in same school, so efficient choice as time not wasted visiting participants on different sites, so more likely to be successful in meeting planned schedules. Also has a suitable venue (meeting room) with appropriate technology which can be used throughout the sequence of CLs.
Selecting participants for change lab	Will involve all staff as already engaged in existing lesson study project; the CL will not add to workload. Not so large that CL would necessitate sub-groups.
Defining scope and timing of the intervention	Set up scoping meeting with head teacher (and potentially deputy head depending on paternity leave) to establish historical background to activity, object of intervention. Plus establishing the benefits of carrying out a Change Lab: will discuss the how and why of the lesson study process, evaluate how it benefits staff development, rather than just following the process. Questions to ask <ol style="list-style-type: none"> 1. Tell me about the decision to introduce the lesson study process into school (influence of past events or future development plans)? 2. What was the objective for you as head teacher? 3. Was there any specific induction for staff- input from HEI/ practitioners outside school? Which model of lesson study do you use? 4. What were intended outcomes for staff- as group or as individuals? 5. How do you think the process has gone this term- any difficulties or hindrances? 6. When is review of the lesson study process to be held this term? 8.12.16 Agreement required: Frequency and duration of CL. Allow sufficient gap between labs once programme established to allow for rounds of observations, so that everyone involved either as observers or observee before the next lab.
Connecting CL process to management of activity	Will discuss with head teacher in scoping meeting, what level of involvement he wants- brief minutes of each session seems likely; a steering group doesn't seem necessary when it's a small organisation and short chain of command. Already planned to have head teacher involved in feedback/evaluation CL but can also brief him on vision of new model and on new tools, as Virkkunen and Newnham suggest.
Generating mirror data	Mirror data will consist of video footage, (CL sessions and lesson study teaching) interviews and a seminar (see session overview), the schedule allows time for researcher interventionist to collect data. Audio data will be professionally transcribed in order to keep to the timetable and in view of there being a sole researcher. Transcriptions will be checked against video footage by the researcher interventionist to verify accuracy before being presented as mirror data.

Appendix Three

Activity System elements: a quick guide

Subject	<p>A subject is a “thinking mind” that acts with some benefit of prior experience, motivated by pursuit of an object. A subject might be an individual or a group of people; a subject can in some sense be thought of as responsible for some actions (and <i>held</i> responsible: practically, ethically, morally, traditionally, legally, or otherwise). When mapping an activity system, we <i>choose</i> the subject based on wanting to emphasise a particular vantage point for looking at the activity. An activity system may look very different depending on whose vantage point is chosen (e.g., the staff vs. the students in a particular module). The rest of the activity system aims to understand how <i>that</i> individual or collective subject has agency (acts and makes decisions) within the activity. Changing the subject means changing the ‘point of view’ of your analysis (which might sometimes be necessary for better understanding). An example of a subject might be a student, a student group, a teacher, or an institutional committee.</p>
Object	<p>An object is an entity found in the world outside the activity system that has a constructed meaning for those within it. An object has a complex duality: a material existence <i>and</i> a subtle, contextual, meaning. Subjects are motivated by a desire to transform the material object as it has been found into something idealized (sometimes called the <i>concept</i>).</p> <p>Identifying an object can be very difficult since subjects might not be very consciously aware of the real object. Yet identifying the wrong object will mean misunderstanding the activity.</p> <p>A teaching activity system might have <i>students</i> as the object; yet it might instead have some <i>syllabus</i> that needs to be taught to a particular standard of accountability. We have to be realistic (cynical?) and ask what the subjects are <i>really</i> pursuing in the activity.</p>
Outcome	<p>This is what the activity system actually achieves. The outcome may be quite different in some ways to what was desired or imagined.</p>
Artefacts	<p>Subjects use artefacts to pursue their objects. Artefacts might be obviously material (e.g., a scalpel), or apparently less material (e.g., words) or a combination of both (e.g., signs in corridors/policy documents).</p> <p>Artefacts mediate the relationship between subject and object. That means to ‘come between’ them, so that the relationship is not <i>immediate</i>. Examples: artefacts might help guide processes and procedures, provide a vocabulary for people to use, explain properties of objects, help people to imagine how the object might be different, and so on.</p> <p>Sometimes artefacts become so important that they become the object of activity themselves (object-artefact reversal).</p>
Community	<p>Subjects participate in activity systems alongside other people, who are generally organised into groups for some reason. That reason may be some perception of common identity, the possibility that people can help each other, or the possibility that people feel they have something to offer. Communities are formed as a ‘side-effect’ of activity. Activity systems take advantage of the communities developed by earlier activity.</p>
Division of Labour	<p>Activity systems are social and involve different people completing different tasks. The division of labour involves power and authority. The division of labour usually involves some degree of agreement but also may involve forms of conflict and coercion. We usually talk about a horizontal division of labour, where people have different forms of expertise derived from their participation in earlier activities; and a vertical division of labour, where people have different roles in some kind of authority structure.</p> <p>Divisions of labour exist <i>within</i> activities, but also <i>between</i> activities. We shall focus mainly on those within an activity system here.</p>
Rules	<p>Activity systems involve many interlocking rules. Some are more explicit (e.g., institutional policies or national laws) and others less so, such as community norms of behavior or long-held traditions. Some rules may be so implicit that people are not consciously aware of them. Some rules may contradict others, leading to dilemmas. Not all rules will be adhered to.</p>

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Appendix Four

Highway School VIPERS planning & assessment template

Date _____	Reading Group _____	Book Band Ability _____	Teacher _____			
Text/Visual stimulus explored _____		Chapter _____		Pages _____		
Reading Skill	Name	Name	Name	Name	Name	Name
<p>V - Vocabulary</p> <p>What do the words... and ... suggest about the character, setting and mood? Which word tells you that...? Which keyword tells you about the character/setting/mood? Find one word in the text, which means... Find and highlight the word that is closest in meaning to... Find a word or phrase which shows/suggests that...</p>						
<p>I - Inference</p> <p>Find and copy a group of words which show that... How do these words make the reader feel? How does this paragraph suggest this? How do the descriptions of ... show that they are... How can you tell that... What impression of ... do you get from these paragraphs? What voice might these characters use? What was ... thinking when..... Who is telling the story?</p>						
<p>P - Prediction</p> <p>From the cover what do you think this text is going to be about? What is happening now? What happened before this? What will happen after? What does this paragraph suggest will happen next? What makes you think this? Do you think the choice of setting will influence how the plot develops? Do you think... will happen? Yes, no or maybe? Explain your answer using evidence from the text.</p>						
<p>E- Explain</p> <p>Why is the text arranged in this way? What structures has the author used? What is the purpose of this text feature? Is the use of effective? The mood of the character changes throughout the text. Find and copy the phrases which show this.</p>						

<p>What is the author's point of view? What affect does have on the audience? How does the author engage the reader here? Which words and phrases did effectively? Which section was the most interesting/exciting part? How are these sections linked?</p>						
<p>R – Retrieve How would you describe this story/text? What genre is it? How do you know? How did...? • How often...? • Who had...? Who is...? Who did...? • What happened to...? • What does..... do? How is? What can you learn from from this section? Give one example of..... The story is told from whose perspective?</p>						
<p>S – Summarise Can you number these events 1-5 in the order that they happened? What happened after? What was the first thing that happened in the story? Can you summarise in a sentence the opening/middle/end of the story? In what order do these chapter headings come in the story?</p>						
<p><u>Additional Comments</u></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; background-color: #e0f2f1;"> <p style="text-align: center;">Reading Vipers</p> <p>Vocabulary Interpret Predict Explain Retrieve Sequence or Summarise</p>  </div>						