Humanities doctoral education for a relational future: a Change Laboratory research intervention

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

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Abstract

Pressure to change the design of the doctorate is increasing, causing a tension between a politically driven emphasis to prepare PhD researchers for mobility beyond academia and current, scholarship-oriented, practices of traditional doctoral education. Research typically advocates that doctoral students need support to mobilise their expertise across boundaries, but there is a paucity of empirical studies investigating how such support could be provided and how different aspects of the required expertise might be developed. In this thesis, I therefore seek to understand and intervene in the development of boundary crossing collaborations, focusing on developing the forms of expertise required to prepare students for a relational future.

My analysis draws on data from an 8-month long *Change Laboratory* research-intervention, which brought humanities doctoral students from a university together with non-academic professionals working for a UK charity. Applying *relational working* as an analytical framework, I trace the extent to which *common knowledge*, *relational expertise* and *relational agency* developed over the course of the intervention and highlight aspects of the intervention design that were most influential on that development.

The findings suggest that incorporating additional practitioners, external but connected to the host organisation's activity system, stimulated the development of common knowledge. Additionally, introducing the mediating stimulus of an activity system model, which participants perceived to be a 'neutral' focus for discussion, supported relational applications of individual expertise. Furthermore, the shared responsibility for producing data encouraged throughout the intervention seemingly fostered the internal and external verification of researcher expertise. Overall, I propose that interventions of this kind have the potential to become a new pedagogic medium, the *Relational Change Laboratory* (RCL), whose aim is to stimulate accelerated reciprocal learning within humanities doctoral education. Such an intervention, I argue, can alter the boundary crossing practices and outcomes for both students and host organisations.

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One of the most valuable lessons that I have learned during my PhD studies is the need to have a strong support network. Joining 'Cohort 20' was the best decision I could have made – we have shared every step of the way together and I have enjoyed every minute. The team of academics and professionals supporting our posse played a central role too, with special thanks to Alison Sedgwick and Dr Ann-Marie Houghton for their constant encouragement and advice. It has been an absolute privilege to meet you all and I hope we will be friends for life.

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1 Introduction

1.1 Introduction

Increasingly, the higher education research literature deliberates the significance of boundaries, from their existence and structure to how they might be bypassed or bridged (Akkerman and Bakker, 2011). A common narrative within that frame is the need for fluidity across boundaries to pursue agendas as diverse as the democratisation of knowledge, employability and social innovation (Kelly, 2016). Nevertheless, while the scholarship considers national and international structuration, institutional strategies and the lived experience of individuals, it is comparatively subdued about how these boundaries are actually dealt with by multifarious practitioners at ground level. How do practitioners collaborate across the boundaries of academia, and how can educators intervene to stimulate equitable, productive interactions? It is on this question that the thesis will concentrate, with a particular interest in the context of doctoral education within the humanities cluster of subjects.

The findings are intended to contribute new knowledge about the potential fusion of Relational Working theory (Edwards, 2010) and the methodology of the Change Laboratory (Engeström, 1987) to facilitate boundary crossing learning. The ability to prepare researchers to work relationally across practices is increasingly important and Edwards' theory brings to the fore conceptual tools that might help to make visible and enhance that additional layer of expertise (Edwards and Stamou, 2017). Stemming from the same epistemological fold, the Change Laboratory is a methodology that provides a

structured framework for researchers to stimulate learning through collaboration.

Regarded as ‘embryonic but promising’ within the field of higher education, the Change Laboratory is potentially useful in connecting distanced practices across boundaries (Bligh and Flood, 2015, p. 142). It has been applied successfully to a variety of real-world contexts but there is no evidence of such a study that examines the practices of doctoral education within the humanities. Both theories will be explained in more detail in chapter 3, but I suggest that a Relational Change Laboratory (RCL) offers a new form of doctoral education pedagogy, with the potential to stimulate mutual learning between doctoral researchers and non-academic practitioners. Critically, I also introduce the potential that such an intervention offers to penetrate discussion about the humanities trained researcher by tracing the contribution of expertise.

1.2 Personal motivation

My interest and motivation for undertaking this research stems from my work, developing doctoral education within a research-intensive institution that delivers a traditional PhD. Employed to fulfil UK research council ambitions to broaden the horizons of doctoral students, I have become increasingly aware of the often unjustified presumptions about the ‘value’ of humanities trained PhD researchers within and beyond academic boundaries. The pivotal point came when I listened to recordings of an interview with a senior leader from a

UK consultancy firm, as part of an earlier research project within my PhD. That leader, Thomas, problematized the lack of understanding about the potential contribution of humanities trained thinkers beyond academia.

> I think it's that point that any kind of organisation will probably have the same problem in terms of what value can I get from someone who is studying medieval poetry? So I think having those kind of concrete examples of things they can do, that would be useful.

Right or wrong, the gap in understanding is one that I have become all too familiar with and as I looked to the literature, I found a paucity of scholarship informing stakeholders through pragmatic, balanced interactions beyond the academic boundary. My intention is therefore to develop new knowledge about relational working and its potential to be applied within higher education, specifically to the context of the humanities.

1.3 Political and institutional context

Debate about the purpose and form of doctoral education has evolved over the past thirty years with political intervention shifting from a focus on research skills to a drive for doctoral graduates to have impact beyond their university (Enders, 2005).

The current vision of a blurring of boundaries and fluidity of movement is not always reflected in the doctoral education regimes of the 'traditional' doctorate

within the research-intensive institution at the centre of this study, with its focus on the magnum opus of an 80,000-word thesis. In 2013, however, the Arts and Humanities Research Council (AHRC) announced a new tranche of PhD funding framed within an economic narrative and designed to train PhD students as highly skilled researchers able to achieve impact across the whole economy. The University successfully applied for funding and was immediately required to comply with the AHRC 'Research Training Framework for Doctoral Students' (AHRC, 2014). The document cites the specific skills 'most frequently desired' from the employers' perspective but is less prescriptive about the pedagogy of doctoral education.

My current role, connecting the researchers with non-academic organisations was soon established, working within flexible parameters in a reflection of the autonomous culture of the University. This requires supporting humanities students across a broad range of disciplines including archaeology, architecture, art history, classics, cultural and media studies, education, gender studies, history, human geography, international relations, language, law, linguistics, literature, music, philosophy, and religious studies.

Globally, this investment in the humanities is not universal but the economic frame of discussion is familiar. Indeed there is evidence that governments actively intervene to determine the purpose of the PhD with some diverting investment away from doctorates that they regard as low in economic value, a trend described as a 'war against humanities' (Preston, 2015). At the extreme, a missive from Japan's Education Minister requested that Higher Education

Institutions (HEIs) take ‘active steps to abolish’ humanities and focus on disciplines that ‘better meet society’s needs’. As a result, 26 of the 60 Japanese Universities are reducing or eliminating those subjects altogether with the risk of leaving humanities subjects as a token treasure within HEIs (Grove, 2015, Prioleau, 2001).

It is therefore the intention of this thesis to consider a fresh, empirical approach to stimulating the practice of boundary crossing within humanities doctoral education. One that cuts through the debate about the intrinsic versus economic value to consider the relational, practice level of interaction for the benefit of student researchers, practitioners and policy makers.

1.4 Research context

As I go on to explain in section 1.6 and later in Chapter 2, scrutiny of the scholarship suggests that incongruities exist between empirical approaches to considering doctoral education. Studies seek to inform the political, institutional and individual perspectives, at the macro, meso and micro levels of society, with direct consequences that buffet doctoral design, often pulling in different directions simultaneously. However, there does appear to be agreement that the status quo of doctoral education cannot be preserved.

The literature suggests that attention should be given to supporting student researchers to bridge multiple boundaries, including the institutional, disciplinary and non-academic, in order to mobilise their expertise to achieve

impact, reflecting the policy direction discussed in section 1.3. Edwards and Stamou (2017, p. 280) articulate this as the need to prepare researchers for 'the relational work they are likely to undertake as part of their work as researchers'. The central tenet of my thesis is therefore to inform the potential for an outward looking, relational form of doctoral education that engages multiple practices.

1.5 Practice context

I suggest that the humanities offer a cluster of disciplines that are commonly misunderstood, misrepresented and marginalised, and therefore offer a sound basis for exploring approaches to a new collaborative, relational engagement. It is important to explain that this study does not argue that the humanities should be treated as a separate disciplinary entity; on the contrary, I would argue that humanities scholars contribute most when embedded within the societal frame. For that reason, once established, the approach taken by this study may also inform those working to foster relational working within other disciplines or transdisciplinary collaborations in the future.

At the selected University research site, pre-existing doctoral education practices are such that there are limited opportunities for humanities doctoral students to interact and collaborate as a group with non-academic professionals. Nonetheless, there are clear signals that this dynamic is expected to occur post-doctorate, through research collaboration, knowledge exchange, research impact, and future employment. Whilst there are

opportunities for doctoral students to engage with professionals, these interactions are limited to half-day masterclass workshops connecting senior leaders from organisations to discuss the role of research in their organisations; short-term internships; and student organised symposia.

A test study, completed during my early PhD studies, applied the proposed methodology, adapted to meet the needs of students and non-academic professionals, and uniting their interests through a shared object of mutual intelligibility. The programme involved a series of intense three-hour sessions spread over a five-week period. In this instance, the focus was the design of a multi-million pound building proposed as the centrepiece of a substantial new university site, with ambitions to design a ‘magnet’ building for students, staff and visitors. The project was designed to be an innovative hub to stimulate new patterns of connecting across academic and non-academic boundaries and it sparked my interest in relational working theory. Although small in scale, involving only four PhD students, three members of an architectural practice, and four University professionals, the pilot study identified pragmatic challenges that inform this study, particularly the need to concertina some of the stages of the CL methodology.

1.6 Locating the project

There are three proximate areas of scholarship in which I will locate my thesis with the intention of both informing this project and contributing to the literature, which I will expand on in Chapter 2. The first area of literature

considers how the practice of the PhD is framed in empirical studies at three levels: the political and societal; the institutional; and the individual level of student experience. I perceive a clear consensus suggesting that doctoral researchers require some form of preparation to cross academic and non-academic boundaries over their lifetime. The current empirical approaches seemingly construct a rigid, often uni-dimensional perspective to illuminate that challenge. It is therefore my intention to design a dynamic study that engages a multiplicity of perspectives from a range of practices.

The second area of literature considers existing approaches to learning at a boundary. Broadening my search beyond doctoral education studies to the wider literature, I synthesise and name four clusters of practice-level empirical studies, narrowing to highlight a typology of boundary crossing interventions that I term collaborative and agentic, as those with most potential for my study. The review highlights a paucity of empirical studies within the humanities frame, which I intend to redress.

Finally, the third area of literature narrows to examine current approaches to the typology of collaborative, agentic interventions in order to consider the parameters and potentials identified in the literature, which will inform the siting of this present study.

Bringing the strands of the review together strongly suggests that doctoral researchers could be supported through a broader, relational approach to doctoral education practice, which engages a wider frame of epistemologies

and ontologies of practices. My intention is to stimulate a live collaboration between doctoral student practitioners and non-academic professional practitioners through the methodology of the Change Laboratory (Engeström, 1987). Relational Working theory (Edwards, 2010) will be applied as a lens through which to refract relational behaviours, specifically the three concepts of *common knowledge*, *relational expertise* and *relational agency*. Therefore, the research questions defining this study are:

R.Q.1 How can a Change Laboratory research-intervention develop Relational Working by mediating within and across activity systems, in the context of doctoral education in the humanities?

R.Q.1.1 To what extent is common knowledge about motives, purposes and practices of other participants developed through the different stages of the research-intervention?

R.Q.1.2 To what extent is relational expertise, the capacity of participants to work relationally with others on complex problems, developed through the different stages of the research-intervention?

R.Q.1.3 To what extent is relational agency, the capacity to align thinking and actions with others to interpret and act on an object, developed through the different stages of the research-intervention?

1.7 Thesis overview

Beginning with the literature review, in Chapter 2, I set out the three proximate areas of literature that I will draw on, with a brief discussion about the fields that I have considered but not included.

Defining my epistemological position and ontological stance, in Chapter 3, I then discuss the theoretical framework that will act as my lens through which to view the boundary crossing learning.

Through Chapter 4, I introduce the methodology of the study, defending my reasons for choosing this approach rather than simply observing a naturally occurring interaction between participants, and discussing the rationale for selecting participants.

In Chapter 5, I present a natural history of the study data, documenting a comprehensive description of the intervention.

At Chapter 6, I trace the development of the three concepts of relational working across the stages of the intervention and introduce an in-depth analysis of specific sequences in order to answer the research sub-questions.

Chapter 7 presents a synthesis of the previous two chapters to establish the thematic findings, which I then appraise to answer the overarching research question, in light of the literature.

Finally, in Chapter 8, I draw the thesis to its conclusion by reflecting on my contribution to new knowledge, discussing the limitations of the study and the implications for theory, policy, practice and future research.

2 Chapter 2 Literature Review

2.1 Introduction to the literature review

A core purpose of this thesis is to contribute to the academic literature about a relational approach to doctoral education in the humanities. To achieve that requires the careful placement of two fundamental cornerstones: that the study is based on a strong foundation within the literature, and that clear intent for its contribution to that literature is established.

To begin, therefore, section 2.1.1 positions the study at the intersection of three areas of literature set out in the Venn-diagram in figure 2.1 below, and provides a detailed explanation of the decision-making process predicating those choices.

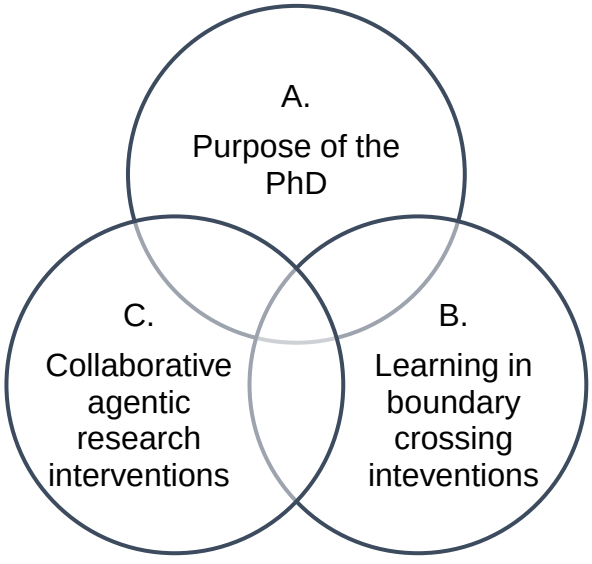

Figure 2.1 Diagram of the literature review areas.

Having established the framework for the review and discussed alternative approaches that I could have taken, I discuss each of the three areas in turn. I set out the tailored search strategies for each, followed by an explanation of the filters applied as analytical foci throughout my reading of the material. I then present my analysis and synthesis of the literature, establishing the themes emanating from my search and presenting commonalities, points of tension and proposed gaps that I intend to inform through the design of this study. Beginning in section 2.2, I synthesise empirical studies that have investigated the purpose and practice of the PhD. Section 2.3 applies the same process to examine approaches to learning in boundary crossing interventions and section 2.4 consider lessons from the literature that might inform my own approach to answering the questions that frame this study. Finally, section 2.5 draws together my conclusions for the literature review and establishes the implications for my own study.

2.1.1 Introduction: locating the thesis within the literature

In order to reach a defence of my contribution to new knowledge, it is essential that I begin with the question, to which academic literature does my research relate? Boote and Beille (2005) argue that within the field of educational research, this is a particularly complex conundrum to unpick and define. The breadth of academic research for this study certainly crosses constantly evolving and networked disciplines, fields and communities so it is important to delineate the research areas that most strongly underpin the formulation of my research project. I suggest that my project sits at the

intersection of three key areas of the literature, identified in figure 2.1, which I will refer to as A, B, and C respectively.

The first area of literature, area A, titled the Purpose of the PhD, is formulated through my synthesis of the inferred or explicitly stated drivers framing approaches taken within empirical studies that seek to research and inform PhD education practice. It takes the reader through three themes that frame empirical studies: first, the political and societal frame of PhD practice; second, the institutional frame; and third the individual level of PhD student.

Despite the often contrasting approaches taken across area A, I suggest that there is a clear consensus: that doctoral researchers require some form of preparation to apply their expertise across multiple academic and non-academic boundaries over their lifetime. I therefore submit that my project can contribute by producing a theoretically framed study that considers multi-dimensional perspectives about the purpose and practice of the PhD within the humanities.

Having established the direction of my study, I then introduce the second area of literature, area B in section 2.3, to consider existing approaches to learning at a boundary. Broadening my search beyond doctoral education studies to the wider literature, I synthesise and name four clusters of practice-level empirical studies. Moving from pre-ordained, passive interventions that consider the outcomes of interactions to be known at the outset, I progress to interventions that I define as collaborative and demonstrating agentic potential

for participants. I suggest that the latter offer a more appropriate frame for my study. Again, however I point to the paucity of studies within humanities-related disciplines and suggest that while this latter form of intervention offers a promising research-design, this study will contribute to the literature by applying it to a new context.

Finally, I introduce the third area of literature, area C in section 2.4, examining current approaches to a typology of boundary crossing interventions that I term collaborative and agentic, thus expanding the focus on interventions that started to arise within my review of area B. I consider parameters identified within such interactions and the potential for siting a new study that addresses the challenges raised in area A of my literature search. Four core themes are identified within the literature, encompassing debates about the timing and sustainability of interactions; the positionality of researchers; the importance of defining a shared, common problem; and the potential to site my study within a 'third space', defined as one that connects practices that would not normally come together.

It is important to acknowledge that, beyond the three bodies of literature identified above, I could have drawn on other areas, for example concentrating on interdisciplinary boundary learning *within* University settings, rather than considering learning at the boundary of PhD and non-academic practice boundaries. Whilst the former is an important issue to continue studying (building on the work of Becher and Trowler, 2001; Trowler, Saunders, and Bamber, 2012), for the humanities, I suggest that the economic

narrative is a potent driver stimulating policy change that should be the focus for scholarly challenge within this study.

I conclude the chapter by summarising the literature review and the implications for the direction and design of my thesis, particularly reinforcing its influence on my choice of theoretical framework and methodology. Whilst current scholarship emphasises the importance of student mobility across boundaries it is relatively subdued about how these boundaries are actually dealt with on the ground, particularly within the vulnerable academic territory of the humanities (Holm, Jarrick and Scott, 2015). Understanding and learning from previous and current approaches will enable me to both position and build on studies through the design of a new study that aims to contribute new knowledge to inform practitioners, institutions and policymakers.

2.2 Area A. Purpose of the PhD: approaches to researching PhD education practice

2.2.1 Search and analysis strategy for the area A literature review

The literature search for area A included the search terms, doctora* and PhD, narrowing to select those texts that included the terms education, training, teaching, learning or practice. I utilised SCOPUS, my home institution and PhD universities' search engines, applying the data parameter 1997 to 2017 to limit the volume of results to a manageable number, with significant historical breadth to reflect the most recent political shifts in the direction of the PhD.

Reflecting on Cooper's Taxonomy of Literature Reviews (1988), and the argument that electronic searches surface a limited percentage of references, I supplemented the search by reading key texts and following references until I was satisfied that a saturation point had been reached. By reading the title and abstract of each book, book chapter, article and conference paper, I then filtered the literature, only including those studies that discussed doctoral education as a central theoretical or empirical concept.

Once I had reduced the appropriate texts to complete my refined data set, I applied a full-text approach (Booth et al., 2012) reading each text in full, copying passages into Nvivo software and applying inductive descriptive codes. I also searched for the data against a set of deductive codes:

- definitions and application of key terms;
- the main claims within the research;
- details of the research site, taking particular note of literature relating to humanities disciplines;
- evidence that might support answering my research questions.

By the end of the process I had built a searchable Nvivo database of sources and thematic 'nodes' relating to specific codes, allowing me to compare and contrast texts, model relationships between codes, and identify patterns across the literature, supported by guidance from O'Neill et al. (2018).

2.2.2 **Area A findings**

Research literature relating to the purpose of the PhD and associated doctoral education practice identifies a contested area, with the motives of policy makers, society, universities and students, increasingly at odds (Boud and Lee, 2009; Owler 2010; Bienkowska et al., 2016). Tensions are triggered by changing expectations from governments, funding bodies, and the values of culturally and historically situated institutions and students (Fanghanel 2012). Although the requirement for original knowledge is still understood to be the distinct contribution of the PhD (Owler 2010) the wider purpose of the PhD has become an increasingly contested issue (Armsby et al, 2017). The following section will bring together those conflicting arguments, highlighting empirical studies, points of consensus and implications for my own research project.

My review of the literature suggests three key narratives that frame empirical studies within this area of literature. These three frames or narratives are,

- The political and societal frame of PhD practice.
- The institutional frame of PhD practice.
- The individual level of PhD practice.

2.2.2.1 **The political and societal frame of PhD practice**

Beginning with the political and societal frame of PhD practice, the literature suggests that there is a global movement from an apprenticeship approach to

doctoral education towards a focus on the contribution to the knowledge economy and internationalisation, the latter referring to pervasive global competition (Chigisheva, et al 2017; De Jager et al 2017). At this level, responses are directed by a strong economic narrative (Bastalich et al, 2014) often mediated by policy 'tools' such as funding for doctoral education and couched in the terminology of skills development. The influential Dowling report (2015, p. 81) for example couches recommendations for doctoral education in terms of developing 'business skills' by spending time 'in business' and industrial placements.

Researchers suggest that this narrow economic view has led to a sharp rise in the number and types of doctorate (Ayers et al 2016) leading to a subsequent reduction in the number of PhD researchers able to continue a career in academia (Barnett et al., 2017). In the same vein, the purpose of the PhD is now directed, globally, towards an envisioned future of the academic as a source of economic exchange and wealth production (Boughey, 2007; Clegg, 2010). As Enders succinctly captures, academics are,

> Increasingly expected to work across disciplinary and institutional divides and to work with practitioners from industry and other public and private organisations, generating external income and producing relevant knowledge. (Enders, 2005, p. 128).

Empirical studies that accept and seek to inform the economic discourse tend to orient towards the practice of the PhD and associated doctoral education,

with an emphasis on evaluative studies, developing ‘skilled human capital’ and entrepreneurial behaviours through economic socialisation (Bienkowska and Klofsten 2012, p. 209). A common assumption across these bodies of literature appears to be an acceptance of the economic frame in directing the purpose and practice of the PhD, for example, Caliskan and Holley’s (2017) comparative study of doctoral programmes in the USA and Turkey, which accepts the purpose of the PhD to support nations’ economies. Frequently such studies are characterised by a deterministic approach to defining commonality and standardisation. For example, a number of papers evaluate doctoral performance against measures set by policy makers or comparing performance with other countries (Humphrey et al, 2012; Barnett et al, 2017). Such authors commonly cite a perceived tension between University-driven, disciplinary knowledge and the described need to develop research practitioners supported by a curriculum that supports the economic agenda (Armsby, Costley and Cranfield, 2017).

There is also evidence of a number of papers seeking to define a competency based doctoral curriculum designed ‘to feed the needs of the global employment market' (Durette et al, 2016 p. 1355). In their extensive study, Durette et al., sought to develop a common vocabulary to bridge an understanding of the practice of doctoral researchers and employers. Although their data set is from a French national survey, they combined their findings with Mowbray and Halse’s (2010) study on Australian PhD students and Cryer’s (1998) UK based study to build a framework of 111 competencies organised into six categories. The scale of the survey makes it an important

source to cite, with responses from 2794 individuals with PhDs, 1783 PhD students and 136 employers from the breadth of disciplines. Although they acknowledge that, ‘the doctoral experience cannot be reduced to a mere list of competencies or skills’ they nonetheless seek to inform the 'needs of the employment market' (p. 1368), which is not the primary objective of my study. Instead, I wish to focus on the practice of the researcher beyond the employability and economic frame towards wider social and cultural conceptions of capability and contribution.

Importantly, a new discourse is emerging within the political context that suggests a degree of pushback against the economically driven design of doctoral education and a movement to boundaries beyond industry to encompass wider social impacts (Kelly, 2016; Samuel, 2016). Within this movement, authors call for an expansion in the practice of doctoral education beyond a prescribed curriculum. Despite that rhetoric, there have been limited empirical studies to investigate a broader range of participants involved in such an exchange (Salimi, 2016). The attempts that have been made concentrate on internal voices within universities, including PhD students, supervisors and researcher developers rather than those they engage with beyond the academic boundary.

Armsby et al., (2017) for example draws attention to the need for greater understanding of the purpose and values of the doctorate beyond academia. Gathering data to support this argument, through workshops incorporating PhD practitioners from across Europe and North America, the study only drew

on the voices of professionals involved in developing doctoral education without reaching beyond to non-academic stakeholders. Affirming this finding, authors such as Raineri, (2013) articulate a need for a PhD model that ceases to penalise 'innovation, unorthodoxy and marginality' (p. 53) for the sake of conformity and performativity but, again, the author is only able to suggest that more empirical work is needed to consider the process and result of research in society.

Critically, in terms of my own research priorities, the significant drawback of these papers stems from the limited range of voices captured in previous empirical studies and the methodological approaches employed. This review of the literature strongly suggests that the majority of research employed survey or interview techniques to gather data. Although perspectives do include more than PhD students alone (Durette et al, 2016) these were not captured in live forms of discourse that allowed for co-construction of understanding the purpose of the PhD (Ashwin, 2009). In effect, they offer a snapshot of perspectives but not within a dynamic frame. Having established the limitations of previous empirical studies that consider the purpose of the PhD at the societal level, I therefore now consider those that frame inquiry from the institutional perspective.

2.2.2.2 **The Institutional frame of PhD practice**

Globally, studies completed at the institutional level appear to be relatively neutral about the economic discourse, tending to concentrate at the practice,

ground level of doctoral education. Jones' (2013), seminal literature review examined 995 papers from 45 journals publishing on subjects relating to doctoral studies between the years 1971 to 2012. The author's thematic analysis identified six themes but seemingly at the practice and experiential level of the purpose of doctoral education:

> These six themes include teaching, doctoral program design, writing and research, employment and career, student-supervisor relationship, and the doctoral student experience. (Jones, 2013, p. 83).

The author encourages future research but concentrating solely on the role of the supervisor in the practice of doctoral education.

A review of more recent literature suggests that empirical studies continue to challenge this perceived 'problem' of the student-supervisor relationship within institutions (Bastalich, 2016, p. 1145; Kelly, 2016; Travaglianti et al 2017). In essence, the key challenge results from supervisors' experience and knowledge of career opportunities no longer matching the reframed context that PhD students face (Sidhu et al., 2014). Without sufficient support and guidance, it is suggested, supervisors may continue to reflect the purpose of the PhD as a discipline based apprenticeship in research, deepening the potential conflict with students who are often under pressure from research councils to broaden their research networks (Bastalich et al., 2014; Blaj-ward, 2011). These findings are certainly valid for the setting and planes of interest of the authors but from my own study setting, this concentration on the role of

the supervisor fails to take into account the widespread institutional practices that extend the provision of doctoral support to include other parties.

Beyond analysis of the supervisor-supervisee relationship, much of the discourse at the institutional level of empirical studies seeks to inform and respond to the reality of doctoral education, regardless of its root cause. Multiple authors cited the apparent reduction in PhD graduates able to continue careers within academia (Barnett et al., 2017; Turner, 2015) presenting the argument that PhD students should be better prepared for an academic career or supported to develop cognitive and spatial mobility beyond disciplinary and institutional boundaries (Bessudnov et al., 2015; Hopwood and McAlpine, 2015).

In response to this perceived challenge, there were multiple examples of empirical studies that sought to evaluate programmes able to prepare PhD students for a plurality of futures. Particularly prevalent are transdisciplinary approaches to doctoral education often with a focus on real-world problems, including work by Boyer, 1990; and Mitrany and Stokols, 2005. Such approaches are commonly researched by doctoral education developers themselves (Esler et al., 2016; Costley and Pizzolato, 2017), through interventionist methodologies that seek innovative ‘objective’, quantifiable and ‘replicable’ empirical evidence but often seeking such evidence from academic participants. For example, Esler et al., (2016) in the context of an interdisciplinary programme, sought learning outcomes from students and

supervisors, rather than the business and farming communities in which the ecological restoration projects under evaluation were embedded.

From the point of view of my own interest in doctoral education within the humanities, empirical studies that consider training within the frame of a single discipline or a clustering of disciplinary groups are of particular interest. This is because I seek to understand how authors interpret and negotiate the singular or clustered disciplines that abound in institutions like my own. Examples of studies that approach training through the disciplinary lens include the social sciences (Bessudnov et al 2015) and biomedical sciences (Barnett et al 2017). Skipper et al., (2016) considers medical training within a narrow frame of specialist, live practice, whilst authors such as (Hopwood and McAlpine, 2015) explore a much broader frame of training of academic practice for geography students. Examples centring on humanities disciplines were less apparent at this institutional level of exploration, with studies relating to anthropology (Marchand, 2017) and linguistics (Pym et al., 2014). Further exploration reinforces the finding that a significant majority of the literature considering interactions at the institutional level between PhD students and 'industry' are based within STEM fields rather than humanities (Thune, 2009; Bienkowska and Klofsten, 2012).

Thune's extensive literature review recognised doctoral students as both 'significant producers of knowledge' in such collaborations and 'a primary vessel of knowledge transfer', (Thune, 2009, p. 637) but acknowledges this as an under-researched area. Importantly, Thune also calls for studies that

consider the perspectives of a ‘broader set of actors’ (2009, p. 648). The author draws attention to the fact that the majority of studies examining university-industry collaborations are carried out in academic fields where such connections are normal practice, specifically within engineering, life sciences and natural science. For a disciplinary group such as the humanities, this lack of ‘normal practice’ of interactions makes it unlikely that findings from such studies are simply transferable. Thune argues, that more informal and project based interactions are under-researched but I suggest that formal interactions within the non-traditional academic fields involved in university-organisation interactions are equally important areas for study.

Turning to those limited studies that do concentrate on the humanities suggests a tension in the degree of mobility across boundaries, by which is meant movement from known to unknown contexts. For example Ensslin and Slocombe’s (2012) study, operating in a context very similar to this study, brought together researchers from multiple academic institutions to deliver a 24-month doctoral training programme concentrating on digital humanities research, designed to support Arts and Humanities Research Council funded students. Their intervention demonstrates a degree of mobility across boundaries but would seem to be limited to scholars from partner institutions rather than from *outside* academia.

Looking to the work of Bienkowska and Klofsten (2012) suggests that this tendency of humanities researchers to limit their mobility is to be anticipated. Although such students may also connect with public sector organisations, the

authors argue that the vast majority ‘are not mobile during their doctoral education’ (p. 217). They go on to suggest that part of the reason for this immobility may arise from a lack of understanding from organisations about the value of such exchanges. They further argue that there is scope for developing opportunities for mobility and collaboration within PhD programmes, a challenge that I propose to address within my own study.

In summary therefore, a review of the literature highlights a gap in empirical studies that concentrate on doctoral education within the humanities and raises a challenge concerning the limited mobility of PhD students within that context. I therefore continue to explore approaches to researching the purpose and practice of the PhD and consider a third strand within the literature, that of empirical studies that centre on the PhD student.

2.2.2.3 **The Individual level of PhD practice**

Research at the individual level of the PhD researcher tends to move away from the economic narrative, placing a strong socio-cultural emphasis at the practice level of what it means to be a researcher, sometimes emphasising a ‘holistic’, ‘whole student’ approach that considers the socialisation aspects of researcher development (Akerlind, 2008; Mewburn, 2011; Durette et al., 2016). The critical point argued for within the literature is the malleability of identity and the potential for identity to be negotiated and challenged (Bossier and Eleftheriou 2015; Brodin, 2016; Duke and Denicolo, 2015).

Authors regard becoming a researcher as an inherently social process but there is a consensus that students should be supported to prepare for multifarious future prospects. Duke and Denicolo (2017) for example, examine the lived experience of researchers and suggest that instead of simply progressing through the academic levels of Masters degree to PhD, students transform; it is 'a state change, a metamorphosis even'. Mantai (2017) pursues this idea of an ongoing dynamic identity. Building on the work of Dowling and McKinnon (2014) the author frames the development of a researcher as a dynamic and fluid process and one that continues beyond the PhD. Focusing on the question of how and when PhD students experience 'becoming researchers', Mantai argues that such developments are socially embedded events that often occur during the routine practices of the PhD by doing and talking about research formally and informally.

It is important to note, however, that the review of empirical studies, undertaken by Leonard et al., (2006) and concentrating on the experiences of UK doctoral students, established that 86 out of the 120 studies, did not apply an explicit theoretical framework. I identified a similar pattern in more recent studies, which suggests a potential lack of explanatory power, which could be regarded as a weakness within this body of literature (Lee, 2012).

Research methodologies tend to concentrate on exploring the lived experience of participants through phenomenological, socio-cultural methodologies and 'reflective life-world research' (Brodin, 2016, p. 974; Holloway and Alexandre, 2012). Cited approaches to supporting the process

of becoming a researcher are, however, varied and thought provoking. The theme of developing students' agency is common across the literature, seemingly responding to the perceived constraints of the economic agenda (Dunlap, 2006; McAlpine 2012). Empirical examples in this frame include Anderson's (2017, p.1) work on supporting PhD researchers to become 'active agents' and Brodin (2016; 2017) who interviewed 28 students across four disciplines in Sweden to explore their learning experiences. Brodin specifically concentrated on the role of critical and creative thinking within the PhD and the contribution of agency to developing those capabilities. Similarly, Owler (2010) introduces the compelling argument that student researchers need the space and creativity to germinate fresh thinking and an original contribution to knowledge. Whilst, the papers in this frame challenge the often intolerable pressures on students and the need to afford space for creative freedom, generally, such studies could be described as passive, illuminating students' perspectives rather than seeking to facilitate change.

Other authors draw out arguments about developing the relational facet of becoming a researcher (Boud and Lee, 2005). Duke and Denicolo (2017, p. 6) argue that 'gaining an understanding of communities beyond academe can be advantageous, even when the goal is an academic career'. They further posit that discussing and engaging others in research findings is valuable preparation for both the viva and future work contexts. Again, however the focus is on STEM programmes, specifically life sciences, rather than the humanities frame of my own study.

Although presenting a relatively small study of experiences from 30 PhD students from two universities in Australia, Mantai (2017) argues that the route to becoming a researcher requires both personal and external verification. The finding offers a stimulating perspective with the potential to inform doctoral education design, particularly about the role of research developers in intervening to create those routine opportunities for verification. In particular, it suggests that drawing on multiple sources of personal and external recognition has the potential to dilute hierarchical power, particularly the influence on practice of single individuals, such as a student's supervisor. Importantly, Mantai presents the case for more research, arguing that, 'knowledge about the types and nature of experiences conducive to researcher identification in the PhD process is limited' (Mantai 2017, p 638).

2.2.2.4 **Summary of area A**

Bringing together the three strands of scholarship that focus on the macro, meso and micro levels of society suggests that tensions exist between empirical approaches to examining and informing the purpose and practice of doctoral education, resulting in contested narratives that buffet doctoral design.

Across all three strands of the literature, within this theme, a clear consensus is identified: that the status quo of doctoral education practice cannot be maintained and attention must be paid to supporting students to move across

multiple boundaries, including the institutional, the disciplinary and the contextual.

The key areas of tension relate to the positions that authors take in terms of the economic narrative. In those studies that emphasise the social and political frame, empirical studies tend to be framed within an economic narrative, either by accepting that discourse or by pushing against it. At the institutional level this drive for economic value is, seemingly, either accepted or ignored; instead, the empirical studies within this frame typically seek to address the pragmatics of delivering doctoral education programmes. At the level of the individual, empirical studies look more to the lived experience of students and the potential to develop their agency sufficient to surmount historical and cultural boundaries within doctoral development.

The intention of my study is to cut through that binary debate about the purpose of the PhD as being about intrinsic versus economic value or about academic versus non-academic preparation, to consider a fresh approach to exploring the purpose of the PhD. My argument is that insufficient empirical research has explored, dynamically, the perspectives of a broader set of participants in terms of understanding the purpose of the PhD. Further, the evidence suggests a dearth of empirical studies that research the practice of the humanities PhD at ground level. I therefore intend to design a study that reaches a range of participants extending beyond PhD students and institutional academics, to explore the experiences of non-academic professionals: those with the potential to engage with PhD researchers in the

future through, for example, direct employment, collaborative research, or joint grant applications.

Having identified the need to prepare students for learning at and across boundaries in doctoral education, I now consider the literature to examine empirical studies that deliberate interactions at those boundaries.

2.3 Area B: Learning in boundary crossing interventions

2.3.1 Search and analysis strategy for the area B literature review

My starting point for the area B search strategy was a seminal literature review on boundary crossing produced by Akkerman and Bakker (2011). Their substantial review comprised three tranches of literature searches conducted between May 2008 and November 2010, using the search terms boundary crossing and boundary object(s), with no limits set on the document time, year or language. The authors applied two filtering criteria: the centrality of the concept of boundary within the literature, and a focus on learning, with the resultant search leading to the full review and coding of 181 texts.

Although using different search engines (SCOPUS, my home institution and PhD universities' search engines, rather than the ERIC and PyscINFO platforms used by Akkerman and Bakker), I supplemented and extended their search, using the terms boundary and boundary crossing, applying the date parameter 2012 to 2017 to limit the volume of results to a manageable number with sufficient historical breadth. Given the comprehensive starting

point of Akkerman and Bakker's study my intention was to extend the currency of their literature search, seeking points of challenge to the authors' analysis in order to expand discussion about the term boundary; its application within the literature on learning; and implications for my own study. During the extensive literature review phase, I prioritised those texts that presented definitions and applications of terms concerning boundary crossing practice, regardless of the context. This included studies about teaching-learning (Ashwin, 2009) but also inter-professional working and other forms of collaborative work at the boundary.

Again, in an identical process to that outlined in section 2.2.1 for Area A, I further filtered these texts by reading the title and abstracts for each paper, having determined a set of criteria: that 'boundary' related terminology was critiqued as a central theoretical or empirical concept. I also filtered the texts to include those studies that indicated an intervention, in other words those that demonstrated intentionality, intervening to some degree to take action to improve or alter the status quo. I then completed the pre-defined coding process to expand my searchable Nvivo data set.

2.3.2 **Area B findings**

I therefore now consider the area of literature that concentrates on learning situated at a *boundary*, with the term defined as 'sociocultural differences leading to discontinuities in action and interaction' (Akkerman and Bakker, 2011, p. 152). The review also incorporates literature studying boundary

crossing, described as the movement into unknown territory that requires ‘significant cognitive retooling’ Tuomi-Grohn, Engeström and Young, (2003, p. 4).

Empirical studies within education incline towards researching boundary crossing at the practice level of interaction (Akkerman and Bakker, 2011). As I identified earlier in section 2.1.1 my research interest is similarly at the practice level, with a view to examining interactions between PhD researchers and non-academic practices. I therefore argue that the boundary and specifically boundary crossing will form the locus of this study, specifically at the practice level of interventions introduced to stimulate boundary crossing. Through the forthcoming sections, I explore the literature on boundary crossing to consider attempts that have been made to understand the practice of interventions at the boundary within empirical studies, with a view to influencing the formulation of my research project.

Multiple terms are applied to the various forms of boundary crossing interactions including co-production (Hopwood and Edwards, 2017), cross disciplinary (Nicolini et al., 2012); interagency (Daniels, 2011); inter-disciplinary (Tange 2016); inter-organisational (Kerosuo and Engeström 2003); inter-professional (Teras, 2016) and research-practice partnerships (Penuel et al., 2015). All, arguably, share the same ambition, in differing forms, to build new connections across perceived boundaries. Empirical research exploring these interactions is prevalent within university settings;

within inter-agency working, particularly in social care contexts; primary healthcare; and vocational education.

In order to cluster approaches to boundary crossing interactions I introduce figure 2.2, applying two dimensions that emerged from my reading of the literature as a basis for plotting empirical studies. The first dimension describes the degree to which the practice being developed is regarded as preordained within the study, either overtly stated or as perceived within my synthesis of the literature. Moving along this dimension, studies vary from defining a particularised curriculum with a distinct start and end to interventions that are open-ended and jointly formulated with participants.

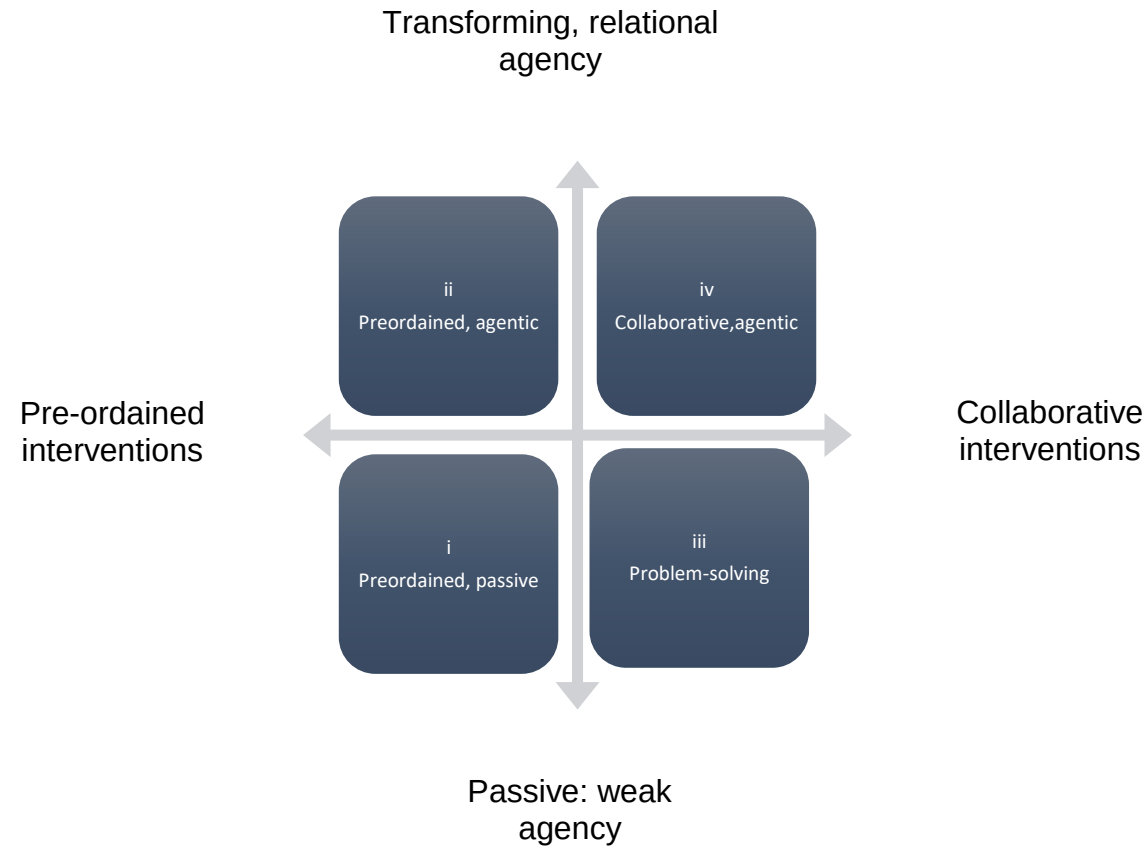

Figure 2.2 Boundary crossing forms of interventions.

The second dimension represents the agency of participants, describing the breadth of distinction identified in studies between an individual with weak agency within the interaction and multiple participants with strong, relational agency, with the potential to transform practices, societal and educational future states.

This theme of agency was prominent within the literature. A number of relationships were highlighted, specifically power in the student-teacher relationship (Algers et al., 2016), including the doctoral student and senior academics relationship (Gopaul, 2015, Anderson, 2017). The distance between the researcher and researched was also raised within this frame (Warren, Park and Tieken, 2016). Within the context of this study, it could be argued that doctoral students are the least socially powerful members within the activity of doctoral education. Kelly (2016, p. 85), for example, regards the PhD as an inherently social endeavour but one that displays traits of a hierarchy or 'pecking order'. Therefore, Kelly suggests, it is important to understand approaches to boundary crossing that seek to address the issue of agency within interventions. My typology of boundary crossing interventions is therefore informed by notions of agency within the literature, (Edwards, 2010; Gutiérrez, Engeström and Sannino, 2016) and by the work of Virkkunen and Newnham 2013, p.4).

Following the application of the matrix, my review of empirical studies of interactions at the boundary suggests four key bodies of literature that I term,

- Preordained, passive interventions.

- Preordained, agentic interventions.
- Problem-solving interventions.
- Collaborative, agentic interventions.

2.3.2.1 **Preordained, passive interventions**

Commonalities within interventions that I regard as preordained and passive, within quadrant i, include those with a predetermined, linear and incremental approach to developing practice or teaching-learning, for example a study by Kayes et al., (2005). Such interventions anticipate minimal resistance or involvement in the design of the boundary-work and presume that 'what needs to be learned is already fully known ahead of time by those who either manage or teach' (Engeström in Ploettner and Tresseras, 2016, p. 90). Examples within the literature include the introduction of case studies and simulations, such as within aviation training (Bergstrom et al., 2009; Dahlstrom et al., 2009). Interactions commonly display evidence of a 'theory-practice gap' that simulations alone cannot address: the gap between theoretical training and the workplace even in the most realistic simulations (Roth et al., 2014, p. 522).

From the point of view of my own research, the assumption running through these interventions, that the outcomes of learning are already known within a hierarchy of instruction, reflects many of the postulations that I comment on in section 2.2.2.1, such as implementing a prescribed curriculum. My position is that, particularly within the humanities, suppositions are often made without

empirical substantiation; therefore, I argue that this study should not seek to predetermine the exact content of the interaction between the practices of student researcher and charity professionals. For that reason, I posit that a form of preordained, passive intervention is insufficient for this study.

2.3.2.2 **Preordained, agentic interventions**

Interventions grouped as preordained and agentic, within quadrant ii, anticipate a more transformative experience but still within a controlled learning environment (Algers et al., Maida, 2011). Examples within the literature incudes the research setting of internships in the fields of health care (Teras, 2016) and language translation (Pym et al. 2014). Differentiating these two examples from those in quadrant i is, I suggest the potential for learners to influence their own learning, although often to a limited degree. Commonly the authors regard these interventions as boundary crossing although I would suggest that evidence of a relational, equitable frame of learning was largely absent.

Examples in the literature differ in their interpretations of the value of such interactions. Bakker and Akkerman's (2014, p. 224) study of an internship programme in a Dutch secondary-school hypothesised that such an engagement could lead to transformation, concluding that there was an integration of 'school-taught and work related knowledge' within students. Whilst I agree that the intervention did demonstrate a degree of relational knowledge exchange, particularly through stimulating students to question and

gather knowledge about employers' expertise and knowing who could help, students appeared to have limited agency within the exchange. Indeed, although the exchange stimulated engagement about the school curriculum between supervisors and teachers there was no mention of the students' input or an upwards flow of knowledge from students to employees. Conversely, Teras (2016, p. 632) concluded from a boundary crossing internship within oral healthcare that such activities are actually 'boundary making' rather than preparing people for crossing professional boundaries.

Pym et al., (2014, p. 16) researched an intervention more in line with the work proposed here, in that they set out to 'nudge' doctoral learning within the humanities by developing collaborations across the academic boundary with industry. Specifically, they supported collaboration in the field of language translation where the only previous interaction with industry was through work placements for trainee translators. The results of this relatively small study identified that although the researchers gained skills, 'we have little evidence that any such skills or aptitudes were developed on the side of the host organizations', (Pym et al., 2014, p. 18), clearly suggesting that evidence of reciprocal learning was limited. Importantly they also observed that the 'big hurdle' for humanities disciplines is to even reach as far as convincing 'non-academic partners that university researchers can contribute to solve their "real-world" problems'.

In summary therefore preordained, agentic interactions, whilst giving students some opportunity for agency, are limited and a particular challenge is the lack

of reciprocal learning across all participants, particularly those whom students engage with directly. I therefore suggest that this form of intervention is also insufficient for the purposes of my own study.

2.3.2.3 **Problem-solving interventions**

Quadrant iii denotes problem-solving interventions, generally based on approaches such as Enquiry Based Research (Savin-Baden, 2003), Problem-based Learning, and Educational Design Research (EDR). A striking trend within the literature located in this quadrant is the volume of research exploring interventions that connect students with real-world problems. Seemingly in response to a perceived tension in the gap between theory and research, studies attempt to ‘close the gap’ (Alpert et al 2009; Algers et al 2016; Melro and Oliveira, 2017).

My review of the literature suggests that the majority of problem-based interventions are situated within educational institution settings. There was evidence within the literature of such interventions being designed for both undergraduates and graduates across the globe, concentrating particularly on wicked problems of the environment and sustainability. Examples include those outlined in Gosselin et al., (2016) examining undergraduate sustainability projects in America, Rosenberg et al., (2015, p.14) working in a community partnership in America to achieve ‘townwide climate neutrality’ climate, and Esler et al., (2016) working in South Africa to study ecological restoration projects.

The projects seek collaborative forms of working beyond academia, however, attention is focused on the learning and agency of students rather than the communities in which the interventions are embedded. One of the most noteworthy studies in terms of volume and longevity, authored by Algers et al., (2016) is a Swedish study. It examined data from 650 student projects completed in 230 food production sites over a 15-year period. Significantly, in common with much of the literature reviewed within this quadrant, the disciplines involved within the project were STEM rather than humanities related. The study employed a clear strategy to capture the voices of multiple perspectives as the authors evaluated the effectiveness of the programme; however, the findings reflected the isolating nature of the model, with students operating alone across the activity system boundary. As a result, the authors argue that rather than demonstrating agentic autonomy, students were found to 'gradually adopt the agenda and perspectives of the industry' (p. 16). Considering this against the ambitions for my own study suggests that such an approach to engaging with external non-academic practices presents a potential weakness in the ability to balance power and agency between the practice of students and that of non-academic professionals.

Although problem-based interventions allow for creative, developmental solutions, their ambitions for change within practice are narrow. Barrows (1996), for example argues that within the educational context, problem-based learning is at its core a student-centred approach. Friesen and Scott's (2013 p.25) review of 'inquiry' based research reinforces that position, arguing that it affects 'students' ability to understand core concepts and procedures rather

than seeking a transformational shift in the concept of the activity of learning for all participants.

Similarly, researchers argue that Action Research, is intended to 'improve practice rather than to create knowledge' (Elliot, 1991, p. 49). The study presented by Gosselin et al., (2016, p. 324) reinforces the point, with the application of action research and 'backward curriculum design' defining an identified end point that educators intend students reach. For the purpose of this study, I am equally interested in the potential for creating knowledge about practices across boundaries rather than simply challenging practice, so again I found this intervention to be inappropriate for my research aims. Whilst I agree that improving practice is a key interest within this study, it is a narrower remit than is required and falls short of examining how knowledge of other practices is understood and negotiated, beyond improvements in practice. A review of the literature suggests that, just as in quadrant ii, interventions within this frame fail to develop host organisations or at least fall short of interpreting the effect on non-academic organisations and practices. I therefore turn now to consider more complex, reciprocal forms of intervention that support a balanced agentic frame, more in line with my study ambitions.

2.3.2.4 **Collaborative, agentic interventions**

Empirical studies grouped within quadrant iv are those that I define as collaborative, and as demonstrating agentic potential for participants. Similar to quadrant iii, such interventions are commonly situated to address real-world

challenges. Examples in the literature include approaches to social change challenges that are tackled through an ‘emerging field’ of Participatory Design Research (PDR), (Gutiérrez, Engeström and Sannino 2016). There are also examples of researching interagency working (Daniels, 2011) and in Children’s Services (Hopwood and Edwards, 2017), with authors positing the potential of such interventions to support a horizontal movement of knowledge and new, negotiated understandings of practitioners and their networked roles.

In contrast to studies examined in quadrants i, ii and iii there was evidence of these empirical studies incorporating a broader, ‘multi-voiced engagement’ with multiple participants, leading to new forms of ‘disruptive competence’ with the potential to prepare participants for unknown futures (Lotz-Sisitka et al., 2015, p. 78). Critically, Engeström argues that such interventions ‘activate previously unrealized behavioural potentials of the subjects’ (Engeström and Glaveanu, 2012, p. 516), in other words stimulating behaviours that cannot be expected or predicted. Importantly, Waitoller and Artilles (2016, p. 366) in the context of teachers in school-university partnerships, suggest that such disruption should be ‘curated’ by all partners within a boundary crossing exchange. This important point sets the tone of dialogue within this quadrant, with studies acknowledging the actions of a wider membership in dynamic engagements, a crucial difference from those other quadrants described earlier.

Within this frame of collaborative, agentic interventions sit PDR interventions, defined as those contextualised within day-to-day activity. Gutiérrez, Engeström and Sannino (2016, p. 283) argue that these methodologies are characterised by two features. First, a movement beyond the confines of classroom based learning into the community. Second, they enter the 'poorly charted zone of interventions and design efforts that privilege joint activity and mutual relations of exchange'.

Importantly, the key proponents of PDR argue that such interventions address 'everyday' activity (Gutiérrez, Engeström and Sannino, 2016, p. 275). Certainly, the principles underpinning PDR seem to redress the weaknesses of the interventions described in sections 2.3.2.1 to 2.3.2.3. Furthermore, they sit well with the context of my study: understanding what it means to be a researcher for both PhD students and non-academic practices in preparation for future practice and mobility across boundaries. Indeed, the volume of work presented by Gutiérrez, Engeström and Sannino (2016, p. 283) advocates PDR as striving to consider the positioning of researchers, the role of participants in design, the 'intended consequences' and beneficiaries of the intervention.

In considering a frame for my own study, PDR incorporates the formative intervention of the Change Laboratory (Engeström, 1987), a research-intervention designed to achieve transformational change with the potential for practitioners to become the authors of their own change. Significantly, Bligh and Flood (2015, p. 142), regard this intervention as 'embryonic but promising'

within the field of higher education. From the point of view of my own research, this potential of agentic control for participants is fundamentally important and therefore directs my review of the literature towards examining Change Laboratory interventions, with a particular interest in empirical studies involving humanities disciplines.

Bligh (2017, unpublished) has identified 38 instances of the application of a Change Laboratory related-methodology within HE settings. Examples in the literature include Kerosuo and Engeström's (2003) intervention to redesign a patient care pathway and Morselli's (2017) study of expansive learning within a vocational hospitality course. I reviewed each of the 38 papers, concentrating on those studies designed within a humanities context, with a view to establishing key claims within the literature, supporting evidence and implications for my own study. Objects ranged from developing curricula, to redesigning merging services and developing university-community partnerships but only two relate to interventions within the humanities.

The first of the two studies, undertaken by Trotter et al (2014), has a somewhat tenuous link to the humanities. The authors employed the CL methodology as part of a report to map and raise the profile of African scholarship but the study was not directly focused on doctoral education. The second study, referred to in more detail in section 2.4.4 also focused on undergraduate education. The literature therefore suggests that whilst there is potential to apply a Change Laboratory, as a research-intervention within higher education, there is no evidence of such a study that examines the

practices of doctoral education within the humanities, suggesting that such an empirical intervention would contribute new knowledge.

2.3.2.5 **Summary of Area B**

Bringing together the four clusters of boundary crossing interventions draws out tensions between the different approaches. In particular, it is important to re-emphasise the absence of mutual development across the boundary in interventions within quadrants i-iii. Indeed, at the weaker extreme, pre-ordained, passive interventions place the power within interactions in the hands of the teacher or researcher-interventionist. This form of intervention has little to offer a study that regards PhD students as the least powerful participants within current boundary crossing interactions.

In contrast, interventions regarded by the author as collaborative and agentic, where learning at the boundary is mutual and disruptive competence is nurtured, respond directly to the weaknesses in research identified in sections 2.3.2.1 to 2.3.2.3 above. Such boundary crossing learning offers the potential to broaden understanding about the practice of the doctoral researcher through an active interaction with other practices. The challenge remains however that there is a stark paucity of studies within the humanities frame, suggesting a clear potential for my study to examine this unchartered territory.

2.4 Area C. Collaborative, agentic research interventions: parameters and possibilities

2.4.1 Search and analysis strategy for area C literature review

The third area of research considers literature on boundary crossing interventions, specifically those identified within my typology of collaborative, agentic interventions, with a view to exploring their application and informing my research interests.

The literature search for area C was broad to capture multiple empirical studies about such interventions. Again, I applied SCOPUS, my home institution and PhD University's search engines, supplemented by a hand-search for literature, setting the date parameters from 1997 to the date of the search, November 2017, matching those set for areas A and B. I also kept the search open regardless of source, language and discipline. In a second stage, I read the title and abstract of each paper and filtered them by setting a number of criteria: that intervention-related terminology was critiqued as a central theoretical or empirical concept, and that the studies related to boundary crossing. Again, I coded each relevant document and added it to my searchable Nvivo database.

The following four themes, named by myself emerged from my review of the literature.

- Time and temporality within interventions.
- Distance between the researcher and researched.

- Mutuality of learning: defining a common object.
- Exploring space at the boundary.

2.4.2 **Time and temporality within boundary crossing interventions**

Authors experienced in designing boundary crossing research-interventions consistently raise the ‘critical’ issue of time and temporality (Engeström and Glaveanu, 2012; Vakil et al., 2016). Debates range from discussing the length of time of interventions (Vesterinen et al., 2017); to negotiating the end point of projects (Guiterrez, Engeström and Sannino, 2016); and the importance of time in empowering participants to ‘develop understandings of different practices and viewpoints’ (Duhn et al., 2016, p. 388; Engeström, Puonit and Seppanen, 2003). The authors’ findings highlight a theme that runs through the literature about both formative interventions and doctoral education, namely time and the temporality of interactions (Barnet, 2015).

Working in the context of the intersection of practices, Edwards (2009, p.42) recognises that ‘interprofessional collaboration’, demands more than ‘stand and deliver’ training. Gaining a deeper understanding of what matters beyond professional boundaries and recognising expertise and its application take time, in fact she posits that ‘time is essential’.

Engeström and Saninno (2010) question time in relation to expansive learning cycles, with the latter defined as learning new ways of working and collaborating that do not yet exist, referred to in more detail in section 3.2.2.

The authors ask whether smaller cycles of learning forming a larger-scale cycle of change can be regarded as expansive. This challenge is supported by Akkerman and Bakker's 2011 review of boundary crossing laboratories, which found a dearth of enduring transformations.

Significantly perhaps, Edwards (2010) discusses time in relation to the difference in the speed of working between novices and experts, citing Sternberg and Horvarth (1995) and their argument that 'experts do more in less time (in their domain of expertise)'. These findings suggest that continuity and temporality are important factors to consider during the study of a research-intervention, particularly in determining the length of interactions.

Relating the literature back to my own research priorities and constraints reinforces the importance of considering the challenging issue of time in relation to doctoral education practices. In the context of doctoral education, however, time is a point of tension, with the pressure for timely completion of the thesis leading to a dialogue of efficient use of the window of the PhD (Kelly 2016). This is exacerbated by the rise in compulsory skills training, often layered on top of the PhD thesis in terms of what students need to complete (Duke and Denicolo, 2017).

A number of papers applied a practice-based pedagogy (Algers et al., 2016; Salimi et al., 2016), establishing live project-based collaborations directly into undergraduate and doctoral education. Such an approach requires a fundamental redesign of the curriculum, with projects running over a period of

three years or more and in the case of the PhD up to four years. For example, the Dutch study by Bakx et al., (2016) of a nation-wide PhD program in educational research, designed for secondary school science teachers, involved a school-based project mapped across the four-year period of the PhD. Within the context of this thesis, such a paradigmatic shift in the structure of the PhD is simply not feasible in the short term, particularly for current PhD students, given the political, financial and cultural constraints surrounding the doctorate.

Notably, although approaches in the literature exist that embed learning within the student experience, I could find very few references discussing the role of embedding learning within partner organisations at the point of exit from projects. Gutierrez, Engeström and Sannino (2016, p. 281) do briefly refer to this notion, framing it as a challenge for educational practitioners to 'experiment with ways to re-embed scholarly university work in the struggles of the civil society' but without defining solutions. I therefore suggest that this is key a question that I will consider within my own study.

In summary, a review of the literature identifies a clear tension between the time needed to effect new understanding at the practice level of exchange across a boundary and the time constraints attached to the PhD. This suggests an important issue to consider within my study and particularly the potential to inform understanding about how to embed practice development within time-limited interventions.

2.4.3 Distance between the researcher and researched in boundary crossing interventions

Within this topic, a key theme identified within the literature, but not always overtly, is the issue of the distance between the researcher and the researched within interventions (Kerosuo, 2004; Engeström, Kerosuo and Kajamaa, 2007a). At the practice level of research-interventions this issue is approached in multiple ways but the more common approach is for researchers to direct and conduct the majority of the data collection (Virkkunen and Newnham, 2013).

An example is a study by Warren, Park and Tieken (2016) of a doctoral education project developed at the Harvard Graduate School of Education and involving 15 PhD students. The programme was specifically targeted at developing Community-Engaged scholars, a distinct form of educational framework defined by its focus on social justice within the community. The collaborative project was developed together with the communities in which the project was embedded but significantly, the design of the project was such that the student researchers maintained a 'kind of independent analysis within the context of more horizontal relationships shared by site and Project participants' (p. 247). Whilst the project reflects many of those qualities of becoming a researcher positively regarded in the literature, at 2.3.2.4 for example, the approach highlights a key point of contention, the question of agency within the exchange. Within the context of the humanities, given the expressed gap between the understanding of external practices and doctoral

researchers, it raises a question about whether that degree of separateness is a potential barrier at the boundary of understanding what it means to be a researcher?

The more recent study by Skipper et al., (2016) examined a Change Laboratory, convened to redesign a paediatric outpatient clinic, maintained an explicit separation of researchers and participants, with the former being responsible for data gathering and not considered a direct participant of the intervention. Essentially the research practice of the intervention was exercised at a distance from the active participants because the study centred on learning between paediatric medical practitioners. Whilst suitable within the context of the study, looking to my own, this distance between practices would, I suggest, be inappropriate because I intend to minimise the gap between researchers and the researched.

Ahonen's work, described in Virkkunen and Newnham (2013, p. 78) is presented as a more 'intensive researcher-participant collaboration' with participants actively involved in collecting evidence of practice, particularly instances of system failure, from the first session. The researcher-interventionist acted in a curating role, suggesting approaches and introducing conceptual tools but with participants actively collecting and presenting data. These findings suggest a degree of ambiguity about the role of participants within interventions, particularly the line that is drawn if one is considering directly involving doctoral researchers as active participants. I suggest that within my study the approach of more intensive researcher-participant

collaboration taken by Ahonen is more appropriate, with the intention to include all participants in data collection and research within the intervention.

2.4.4 **Mutuality of learning: defining a common object**

There was evidence within the literature of a number of papers that cited the importance of a ‘common object’ shared between participants within boundary crossing interventions (Kinti and Hayward, 2013; Simpson and Sommer, 2016; Sang 2017). Within those studies, the common, distinguishing feature was the adoption of a Cultural Historical Activity Theory (CHAT) frame of reference.

First, it is important to define the term object within the context of interventions, reflecting debate in the literature that addresses the terminology. In their review, Akkerman and Bakker (2011) identified themes across the literature suggesting that boundaries can be crossed by people (sometimes called brokers, boundary crossers or boundary workers) or boundary objects. This leads to debate about how the notion of a boundary object relates to the CHAT understanding of Leontiev’s object, namely are they one and the same? The authors are very clear about the distinction and, for clarity, I align with their interpretation of boundary objects as mediating signs and artefacts within an intervention as separate from the jointly constructed object of activity. It is the latter, object of activity, which is the focus of this section of the review. As such an object within an intervention is

defined as the driver ‘of attention, motivation and meaning” (Engeström, 2009, p. 304).

Across the literature, there is a strong consensus of the importance of a common, shared object, often regarded as a problem that needs to be resolved. Mapping the literature to existing interactions employed within the university at the centre of this study the key insight suggests that while events such as masterclasses offer a ‘flesh-and-blood’ connection with non-academic practices, without a shared concrete object to work, on they remain a place for talk rather than action (Engeström, Engeström and Karkkainen’s, 1995, p. 333). The findings go some way to understanding the current degree of inertia within such meeting based interactions and the danger of confining interaction to an impasse.

Looking more specifically at the context of researchers, Edwards and Stamou (2017, p. 309) drew similar conclusions. They discuss the importance of a shared problem within interventions, arguing that interactions requires a stimulus, a process that they describe as ‘levelling’ and one that attends to engaging ‘other voices’.

Narrowing to consider the limited empirical studies that address the importance of the object within the humanities, as I mentioned in section 2.3.2.4, one of only two Change Laboratory interventions situated within Higher Education focused on the humanities. Within the study Johansson (2015, p. 86) applies a CL ‘inspired’ methodology to three examples within

Higher Music Education, where classical musicians are trained to become professionals. The author presents the case that CHAT offers the potential to analyse the context and conditions of learning, with a concentration on stimulating agency. Importantly, Johannsson argues that no examples of applications of the CL method had at that point been developed for ‘artistic activities’ (p. 75).

A valuable learning point from the study reflects the significance of a shared object to engage successful relational working. Johansson describes how the first of the three study interventions faltered and did not continue through a full CL cycle, instead it ’made a halt at the crucial step of defining a common object’ (p. 81). The setting for the intervention was a singing lesson, with two undergraduate participants and a teacher. It seems that the participants could not move beyond the perception of ‘contradictory objects’, with the participants unable to agree the purpose of the intervention. However, it is not clear whether the process of ‘levelling’ (Edwards and Stamou, p. 279) was supported to stimulate a more balanced frame for agentic interaction to disrupt the teacher-student hierarchy.

It is important to note that Johansson’s study did not follow the traditional form of the CL methodology, established in section 3.2.2 of the Theoretical Framework Chapter, and her study did not directly consider doctoral students. One could also challenge the formative nature of the intervention and question the balance of power between teacher and students and the potential to activate unforeseen behaviours within the students. The study therefore offers

two helpful points for my own context, first that it is essential to define a common object within my study; and second that a levelling stimulus to facilitate agentic interaction is required to disrupt potential hierarchies of power.

In summary, whilst there is consensus about the importance of a shared object within a research-intervention, there is evidence within the literature of a lack of robust empirical studies that support a study of such an intervention within the context of humanities doctoral education.

2.4.5 **Exploring space at the boundary**

Within the literature on boundary crossing there was evidence of a number of empirical studies that claim the centrality of space within learning interventions. Studies are present in a range of settings including workplace learning (Kersh, 2015), technology enhanced learning (Sclater and Lally, 2016), and early years' learning (Duhn et al., 2016). Authors consider spaces in multiple ways, including physical, virtual, formal or informal (Kersh, 2015), however, there is a consensus that space is a site of learning. Konkola et al., (2007, p 225) define this as an area, a boundary zone, relating to it in their study as both a physical and theoretical zone, that of a Learning Studio, used as a boundary crossing place that is facilitated by boundary objects. They define it as a 'territory' between activity systems 'free from prearranged routines or rigid patterns' and yet a space that reflects the cultural historical patterns of the multiple activity systems. Edwards (2011, p 35) uses the term

‘inter’ spaces, referring to the work of Hartley (2007) and defining them, in the context of welfare services, as new solution spaces. She also suggests that they represent an area ripe for research, specifically in understanding their potential for building common knowledge at the interstices of practices.

Authors including Johnsson, Boud and Solomon (2012, p. 2) direct attention to ‘in-between’ space and the relational aspect of interactions, with relational defined as the physical and cognitive connections made between people or objects. This argument about the ‘relational’ is important, as it has the potential to negate some of the weaknesses identified within the literature, specifically the need to study an outward, multi-voiced understanding of what it means to be a doctoral researcher in practice. Authors, including Montoro (2016) also reflect on the composition of the group within a CL intervention, reflecting that the presence of senior leaders can be beneficial.

Hopwood and McAlpine, (2015), present a particularly interesting example, directly relevant to this study. The authors focus at the ground level of how to develop researchers to be ready for academic practice, concentrating on the efficacy of a doctoral programme delivered at the Centre for Excellence in Preparing for Academic Practice, at the University of Oxford. Applying Cultural Historical Activity Theory (CHAT, discussed in more detail in section 3.2.3), thus conceiving doctoral education as an activity system, they concentrate on the practice of delivering doctoral education as workshops in the ‘third space’ (Tuomi-Grohn and Engeström, 2003). These are defined as spaces that arise ‘when people come to work together who would not normally have done so

and when this joint effort is focused on a shared object or purpose', (Hopwood and McAlpine, 2015, p. 206). Through discipline-related workshops, they applied the third space concept in practice, through a workshop formulation, to bring together PhD students, early career academics, senior faculty, academic developers and participants from UK universities. This significant programme engaged participants from more than 70 institutions and 24 disciplines, centring on the problem object of academic practice in specific disciplines.

Hopwood and McAlpine (2015) argue that CHAT offers a valuable lens for exploring contemporary doctoral education challenges, and present third spaces ‘as a useful tool that might lead readers to conceive concrete activities and practical outcomes of a very different nature’, urging researchers to consider other contexts and stakeholder groups that might have a bearing on doctoral reform (pp. 206-207). Critically, the authors’ work concentrates on preparing researchers for academic careers and therefore draws on the voices of faculty-related participants. From the point of view of my own research, the key drawback is again the limit of voices considered within the study. Importantly, however the notion of a third space and the potential to connect those who would not normally come together is of significant interest as I look to engage only loosely connected practices and activity systems. I therefore suggest that designing a study that establishes a third space to connect practices but incorporating a wider range of voices than those captured in studies to date will address a gap in research.

2.4.6 **Summary of Area C**

Bringing together the literature on empirical intervention studies raises a number of questions for the design of my own project. One of the key claims within the literature is that such interactions take time to develop a shared understanding of practices, yet time is one of the most limiting factors within the design of doctoral education. The question of temporality is an area that I intend to inform, specifically how to embed learning within practices given those tensions of time and temporality.

A second area of challenge, although not one overtly mentioned within the literature is the positionality of researchers within a research-intervention. I am considering designing an intervention as an integral part of the doctoral education experience, which surfaces the importance of explicitly determining the relationship between researchers and researched within my own study. A priority for my research design will therefore be to seek a methodology that supports an equitable relationship between the researchers and the researched.

A third key area of interest within the literature highlights existing tensions within current approaches to boundary crossing doctoral education within the site of this study. A strong consensus that interventions should centre on a shared object puts into sharp relief the lack of such a collaborative foci within existing interactions and the need to weave that into the research-intervention design.

Finally, in looking to existing approaches within empirical studies, researchers suggest that a third space might be an appropriate research-site for my study, one that brings together practices that would not normally engage. Importantly, this study can contribute new knowledge about this site of interaction, where humanities-related doctoral education practice has yet to be studied.

2.5 Implications for the study

To conclude, across the literature there is a high level of agreement that the status quo of doctoral education practice cannot be maintained and that attention should be paid to supporting students to move across multiple boundaries. Despite that accord, there is limited evidence of empirical studies that engage a dynamic multi-voiced approach to informing the purpose and practice of the PhD, and associated teaching-learning strategies. This finding reflects Tight's (2012) seminal review of higher education research and the assertion that further qualitative research into changing conceptions of teaching and learning is required. Furthermore, evidence from my review of the literature suggests there are few empirical studies that consider the context of doctoral education practice within the humanities, and that the limited number of studies that are in existence suggest that boundary crossing within the humanities remains in-ward looking. The question is how new research can contribute to knowledge about a more outward looking, expanded viewpoint of education that prepares 'doctoral students and early

career researchers for the relational work they are likely to undertake as part of their work as researchers', (Edwards and Stamou, 2017, p. 280).

Bringing the strands of the review together strongly suggests that doctoral researchers would be better supported through a broader approach to doctoral education practice, which engages a wider frame of epistemologies and ontologies of knowledge and opportunities for socialisation and identity formation. Furthermore, one that centres on a shared object, supported by a levelling stimulus that encourages opportunities for external validation to understand what it means to be a researcher, through a curated intervention.

The findings raise a number of questions in positioning my own study within the literature. First, if the current empirical focus is inward on the practice of what it means to become a researcher within academia then how do we broaden understanding to explore what it means to be a researcher for other practices, for example potential employers, future research or grant partners? Second, how can universities provide that space for intellectual play within a PhD culture of tight submission deadlines, and pressure to develop a raft of capabilities to generate future economic returns? Finally, third, within the context of this study there is an additional challenge, that problem-solving interactions do not occur naturally within doctoral education, they require interventions, so the question is how can that connection be stimulated and nurtured?

In response, my reading of the literature suggests that a collaborative, agentic form of intervention has the potential to address these challenges, placing the means for mediation across boundaries in the hands of students and non-academic professionals. I therefore progress to consider such an intervention in greater depth, within the Theoretical Framework Chapter.

3 Chapter 3 Theoretical Framework

3.1 Introducing ontological and epistemological assumptions

A number of ontological and epistemological assumptions will inform the core frame for this study, guiding my choice of theoretical framework, methodology, methods and analysis, in order to explore a relational approach to doctoral education. I begin this chapter by setting out my ontological position, my understanding of how the world exists, and then move to explain the epistemological assumptions that frame my approach to exploring that world, connecting to the methods that will produce my findings. I then introduce the two theoretical lenses that will guide my study:

- cultural historical activity theory (Cole, 1996; Daniels and Edwards 2010), with the theoretical underpinnings of double stimulation (Vygotsky, 1978) and expansive learning (Engeström, 1987), and
- relational working (Edwards, 2017).

3.1.1 Ontological position

I begin with an introduction to my ontological position, that of dialectical ontology, first by defining the concept, and then introducing the work of Bidell (1988) and Savina (2000) to highlight their influence on my approach to dialectic thinking.

Central to my ontological position is my alignment with the concept of a dialectical ontology, by which is meant a belief that ‘reality consists of dialectical processes of self-movement of developing systems of interaction’ (Tolman, 1981, in Virkkunen and Newnham 2013, p. 30). In other words, that the world is in a constant state of flux and contradictions serve as the driving force of change and development, much as we see in Darwin’s theory of evolution. As Runkle (1961) helpfully summarises,

> Engels says, "Nature is the proof of dialectics." The fact that no biological organization is permanently fixed confirms the doctrine that no social organization is permanently stable. (Runkle, 1961, p. 118.)

Bidell argues that a dialectical ontology requires researchers to consider the ‘relational context’ of learning processes, (Bidell, 1988, p. 332). Savina (2000) reinforces this notion of the dialectic as an active, relational process, and introduces the important aspect of historicity:

> Dialectical thinking is considered concrete-historical thinking that directs attention from “the thing itself’ to its history, its future, the systems in which it is embedded, and its relations. (Savina, 2000, pp. 84-85.)

These observations advocate the importance of considering relational working across historical and sociocultural dimensions when establishing my research strategy, one that acknowledges its past, present and future contexts.

3.1.2 **Epistemological position**

Moving now to the epistemological assumptions that will guide my research design, my stance stems from an alignment with perspectives on social constructionism, more specifically the variant of relational constructionism. I begin this section by outlining the wider concept of social constructionism then narrowing to discussions on relational constructionism that define my approach to researching the phenomenon of relational working. Beginning with the former, Schwandt (2014) defines social constructionism as an active process whereby people:

> Invent concepts, models, and schemes to make sense of experience and we continually test and modify these constructions in the light of the new experience. (Schwandt, 2014 p. 197.)

Gergen (1995) sets out an important, distinction between social constructionism and a constructivist approach both of which I considered for this study due to their regular application within the field of CHAT. Gergen (1995, pp. 98-99) argues that the difference lies in ‘where and how reality is constructed’, positing that the focal point for a social constructionist is at the ‘interstices of dialogue and action’. In essence, that constructivist positions focus on the individual and their own perceptions that lead to meaning-making rather than meaning created relationally by group interaction.

Hosking (1999, p.8) introduces a variant of social constructionism, namely *relational constructionism*, whereby 'the social processes of the research become interesting in themselves', 1999, p. 123), with parallels to Vygotsky's (1978) notion of researcher-intervention that is explored in more detail in section 3.2.1 of this chapter. Significantly, she refers to the notion of a 'heterarchical' approach, with participants engaged as 'co-researchers', within interventions. She subscribes that researchers 'are part of the relational processes they narrate themselves as studying', (Hosking, 1999, p. 122) a clear message that in subscribing to this viewpoint, I should be explicit about and conscious of my role within the intervention. Hosking introduces the potential of relational construction to support 'participative ways of working' (Hosking, 1999, p. 125), which chimes with the position taken by Cultural Historical Activity Theory (CHAT) scholars. CHAT is described as a philosophical framework that adopts Marx's dialectic view of an interrelated dynamic of activity and consciousness. It situates activity within its social, cultural and historical background and posits that learning emerges from activity rather than occurring before activity.

Bringing together these ontological and epistemological assumptions, suggests that it is important for me to consider a research design that allows for cyclical, expansive co-construction of meaning, focusing on a 'community of speakers' rather than individual participants or groups of practitioners. In the remainder of the chapter, I directly apply my ontological and epistemological beliefs as I discuss the process of discovery that led to my choice of a theoretical framework for this study.

3.2 Theoretical framework guiding the study

To explore the world that I have outlined, intervening to facilitate new ways of relating between two sets of practices, those of doctoral researchers and charity practitioners, requires a theoretical lens to frame and direct my research design choices. My alignment with a dialectical ontology and the epistemological perspective of 'relational constructionism' (Hosking 2011, p. 47) leads me to believe that people make sense of the world as they interrelate within contradicting processes and that dialectic practices can open them to construct new ways of relating, with multiple possible outcomes.

As I set out in section 3.1.2, in order to explore that world, I suggest that the theoretical frame of this study should support an expansive form of learning, with co-construction of meaning facilitated at a group level. The two interconnected theoretical lenses, that of cultural historical activity theory (CHAT) with the theoretical underpinnings of double stimulation and expansive learning, and relational working (Edwards, 2017) inform my research and most closely support those research parameters.

At this point, it is useful to touch on other theories of learning and co-construction of meaning that I considered but discounted. Due to the 'lone scholar' model of the traditional PhD route, dominant within the institution that forms the core sample for this study, I initially considered Hase and Kenyon's (2000) concept of Heutatogy, defined as the study of self-determined learning, with the focus on the individual.

Although Heutatogy recognises that learning is more complex than simply acquiring skills and knowledge, the focus remains on learning that occurs within an individual as opposed to community learning gained through contextualised performance. The key argument is that learning happens at the pace of the learner and should be facilitated to develop students' capability to learn, switching on their curiosity and engagement but on an individual basis. Heavily influenced by constructivism (Dewey, 1993) heutatogy does recognise students as active participants in their learning but falls short of emphasising the role of the wider community, the world that students are moving into.

This led me to consider theories of community based learning, specifically Wenger's (1998) Communities of Practice theory. Wenger discusses the methods by which boundaries are bridged by people, artefacts and interactions, with learners absorbing the 'habits, discourses, routines, ways of talking, tools, structures and other artefacts that over time have been created or adopted by a community of practice' (Tummons 2012, p.301). Here Engeström's (2007) critique of Wenger comes into play, when he talks of the 'ahistorical' weakness to the argument – the lack of situating communities in the history of real societies and patterns of work. At a time when doctoral students and non-academic professionals move within multiple communities of practice, buffeted by an increasing pace of change, this deficiency is significant.

Instead, as I established in section 3.1.2, reading within my epistemological frame of reference prompted me to consider a research framework that is

cyclical rather than linear in nature, one without a defined end-point that sustains longer-term co-construction of meaning. I therefore moved to consider CHAT theory and Edward's theory of relational working, which is itself situated within a cultural-historical approach to learning and change across practices.

This close alignment of relational working (Edwards, 2017) with the work of Vygotsky and successive CHAT scholars combined with a timely publication that curated current thinking about 'Working Relationally in and across Practices' (Edwards, 2017) further reinforced my decision. In addition, the three concepts of double stimulation, expansive learning and activity theory, are synchronous with my chosen methodology of a Change Laboratory, an intentional design by its originator, Engeström (1987). By employing the abstract concepts to an empirical setting, my intention is to concretise their application within the specific context of doctoral education within the humanities. Doing so will allow me to study a relational approach to working; re-mediating learning across two loosely connected activity systems, through the application of a Change Laboratory methodology.

Working chronologically, to reflect the design of the CL, I will begin the discussion of my chosen theoretical framework by introducing the concept of double stimulation, then the theory of expansive learning, and my approach to CHAT theory. Finally, I will close the chapter by discussing my decision to incorporate the concept of relational working into my own instantiation of the Change Laboratory methodology.

3.2.1 **Double stimulation**

The premise of ‘double stimulation’, a term described in the collection of Vygotsky’s writing ‘Mind in society’ (1978, p75, translation), submits that by manipulating context, and setting participants a problem, they can be stimulated to construct a solution, engineered by their own agency.

The diagram below replicates Vygotsky’s basic mediated triangle.

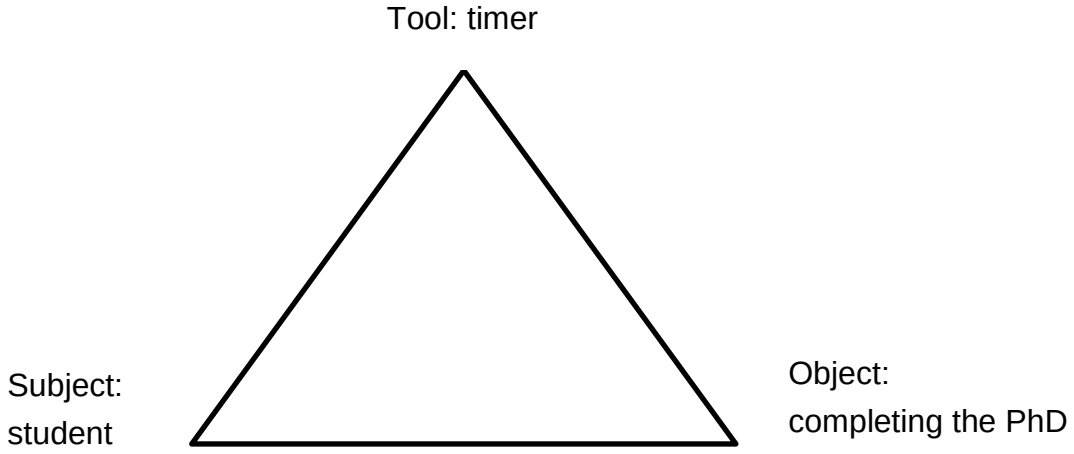

Figure 3.1 Vygotsky’s basic mediated triangle (1978), demonstrating a contemporary example of double stimulation.

Although Vygotsky applied double stimulation as a methodology he argued that it manifests as a process in people’s behaviour, citing a knot in a handkerchief as an example of the ‘signification’ given to a previously ‘neutral stimuli’ in the context of problem solving (Vygotsky, 1978, p. 75). A contemporary example, at the individual level at which Vygotsky focused, is that of a doctoral student who struggles to write. The first stimulus is the PhD itself that needs to be written but then the situation moves to a conflict of motive: the student knows that they must write but they feel overwhelmed and

unable to type. They look to an ambiguous secondary stimulus, for example a timer, which they set, committing to write for a period of time and using it as a point of reference, ‘a meaningful sign’ (Engeström, 2007, p. 373) to mark how long they have left. Their desire to write is the ‘organic link’ (Sannino, 2015, p.7) that overcomes the struggle of motives. It then becomes concrete when the stimulus and reaction to it ends.

In the relatively simple form of Vygotsky’s double stimulation experiments, the researcher sets a ‘demanding task’, for example a problem, as a first stimulus and then introduces a ‘neutral’ second-stimulus that can be adopted by the participant to problem solve through their own agency (Engeström and Sannino, 2010, p. 5). Although, the majority of Vygotsky’s early experiments centred around the individual (Engeström, 2007), he reasoned that knowledge and learning begins within social contexts, arguing that ‘genetically, social relations, real relations of people, stand behind all the higher functions and their relations’ (Vygotsky, 1997b, p. 106).

Engeström moved from the focus on the individual to the collaborative experience of double stimulation by translating the two-step mediated interaction of double stimulation to the form of a Change Laboratory intervention. He defines a CL thus,

> Disturbances and dilemmatic situations, including practitioners’ own “irrational” actions engendered by these situations, are reproduced, observed, and re-experienced as “first stimuli.” Conceptual models are

> employed as “second stimuli” to facilitate specific agentive actions of analysis, design and implementation. (Engeström 2007, p. 382.)

The essence of the agentic freedom allowed by the principle of double stimulation is, Engeström (2007) argues, such that agency leads to action that can extend beyond pre-ordained limits. It is this ability to move beyond the grooves of sociocultural norms that has made the concept of double stimulation an attractive one for researchers.

In terms of applying double stimulation, within this study, the concept will be used to support participants as they work relationally on a shared ‘problem’ that they are motivated to solve across the boundaries of their disparate activity systems.

3.2.2 **Expansive learning**

Engeström extrapolates the theory of double stimulation, applying it to the more complex web of ‘productive activities in real life’ (Virkkunen and Newnham, 2013, p. 49). His argument is that the world the world of work is changing more quickly, in ever-shorter cycles of transformation, with skills and knowledge that develop as an object at the centre of an activity is transformed. This picture of constant change chimes with the current situation for doctoral students within the institution this study relates to.

To address this shift towards work-based learning, in 1987 Engeström introduced the cyclical theory of expansive learning. The concept builds on the metaphor of expansion, where learners construct a new object and conception of their joint activity and learn ‘something that is not yet there’ (Engeström and Sannino, 2010, p. 2). As such, it is a transformational learning experience rather than an acquisition or participation-based approached to learning. It certainly reflects the new context that doctoral students are moving towards, a world where people and organisations constantly learn and innovate, learning new ways of doing things that do not exist at the beginning of a change cycle.

This cycle of expansive learning, Engeström argues, comprises a number of learning actions that I will follow in my application of the Change Laboratory model, which I will discuss in more depth in Chapter 4. These stages will form the basis of the research questions for this study, as I apply expansive learning theory within a Change Laboratory intervention.

The core premise of expansive learning theory, the cyclical progression, is demonstrated in figure 3.2 below.

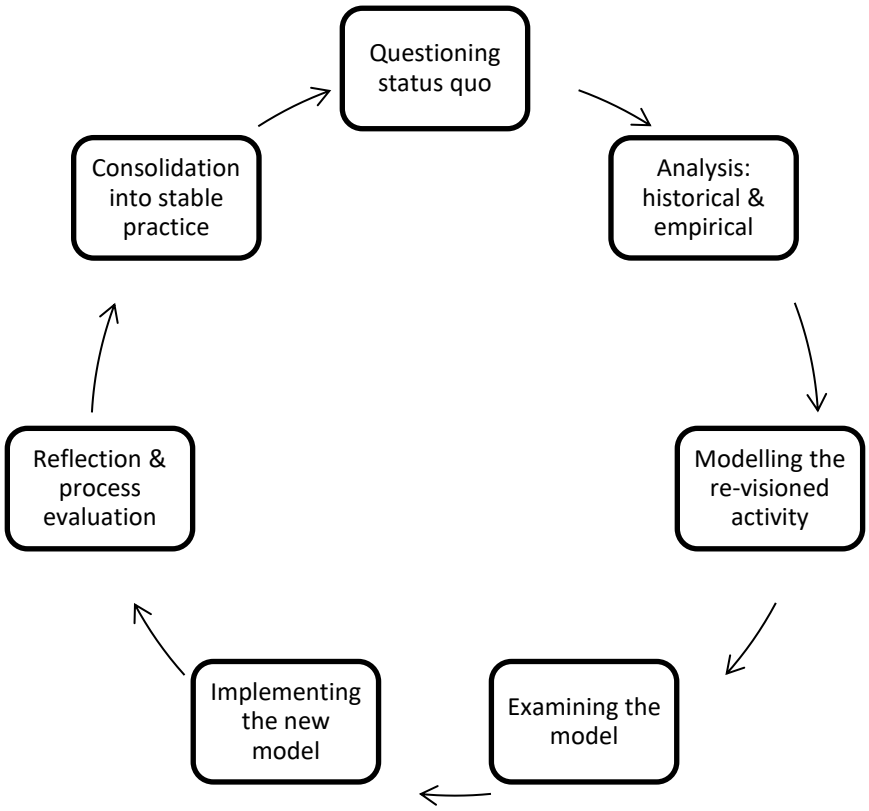

Figure 3.2 The phases of a Change Laboratory expansive learning cycle.

Engeström and Sannino (2010, p. 7) define the expansive stages of the cycle as comprising the following:

- ‘action questioning’, questioning the current status quo of practice;
- analysis, analysing the current situation by tracing both the historical evolution of practice and empirical analysis of the ‘inner systemic relations’ of the activity;

- modelling. During this stage the participants collaborate to construct a clear but simple model of a solution that negates or circumvents the contradictions identified during the analysis of the situation;
- examining. At this point the proposed model is tested, giving participants the opportunity to explore its 'dynamics, potentials and limitations';
- implementation. At this fifth stage the modelled solution is tested in a live situation;
- reflection and evaluation. During the sixth stage participants within and beyond the Change Laboratory reflect and evaluate the implementation of the model;
- consolidation. During the seventh stage the new model begins to set as a concrete, 'stable form of practice' (Engeström and Sannino, 2010 p.7).

Engeström (2007) defines expansive learning as the differentiating factor, setting apart the Change Laboratory methodology to other change interventions.

> An expansive approach is possible only when instead of mapping and rationalizing the existing processes, one starts by questioning historically the *object* of work: What are we producing and why? (Engeström, 2007 p. 379).

The infinite circulatory and presence of two-way arrows suggests a flow between the abstract to the concrete rather than a hierarchical, linear progression. In that way, expansive learning moves beyond classical, linear

conceptions of learning, with transformation occurring collaboratively within and between activity systems. The question is can this theory also be applied across only loosely connected activity systems? In the particular case of doctoral education, instead of the questionable conception that students can change context and simply transfer neat packages of knowledge and research capabilities, can expansive learning across boundaries re-mediate interaction between activity systems?

3.2.3 **Activity theory**

According to Sannino, (2011a) activity theory,

> Can be traced back to Marx's idea of revolutionary practice, emphasising that theory is not only meant to analyse and explain the world, but also to generate new practices and promote change. (Sannino, 2011a, p. 580).

For that reason, it is of particular interest to this study, as my intention is not simply to observe relational working but to actively intervene and facilitate the practice.

Engeström's influential interpretation of an activity system is commonly introduced as a conceptual tool, acting as a mediating second stimulus during a Change Laboratory (Engeström, 2007). Activity theory, situated within Cultural Historical Activity Theory (Engeström 1987), builds on Vygotsky's

experimental studies touched on in section 3.2.1, particularly his model of the triangular interaction between individuals and their environment, which is mediated by tools and leads to sense-making. Following Vygotsky's early death, aged 37, and the prohibition of his ideas, a new wave of interpretation of the model, led by Vygotsky's colleague Leontiev, 'suggested that activity generates actions, and that actions derive their meaning from their place within activity' (Bligh and Flood, 2015 p. 146). More recently, in 1987, Engeström introduced a third wave of the theory, which places the co-evolution between individuals and their contextual environment under scrutiny. Incidentally, Tight (2018, p. 46) in his recent, substantial review of research on higher education suggests that activity theory is a potential area of interest for future research, particularly in making 'the theory more accessible and to extend its application'.

It will be useful at this point to both discuss the theory and explore its application to the research topic, although a more comprehensive overview can be found in Engeström's own work and the work of Bligh and Flood (2015).

Taking the example of the interaction between the activity systems of PhD student practice at the centre of this study, and employee practice within a non-academic organisation with which students might engage, figure 3.3 represents the two systems before the introduction of an intervention. Within the example, the organisation is one with which doctoral researchers might

usefully engage in the future for employment opportunities, research impact or joint funding applications.

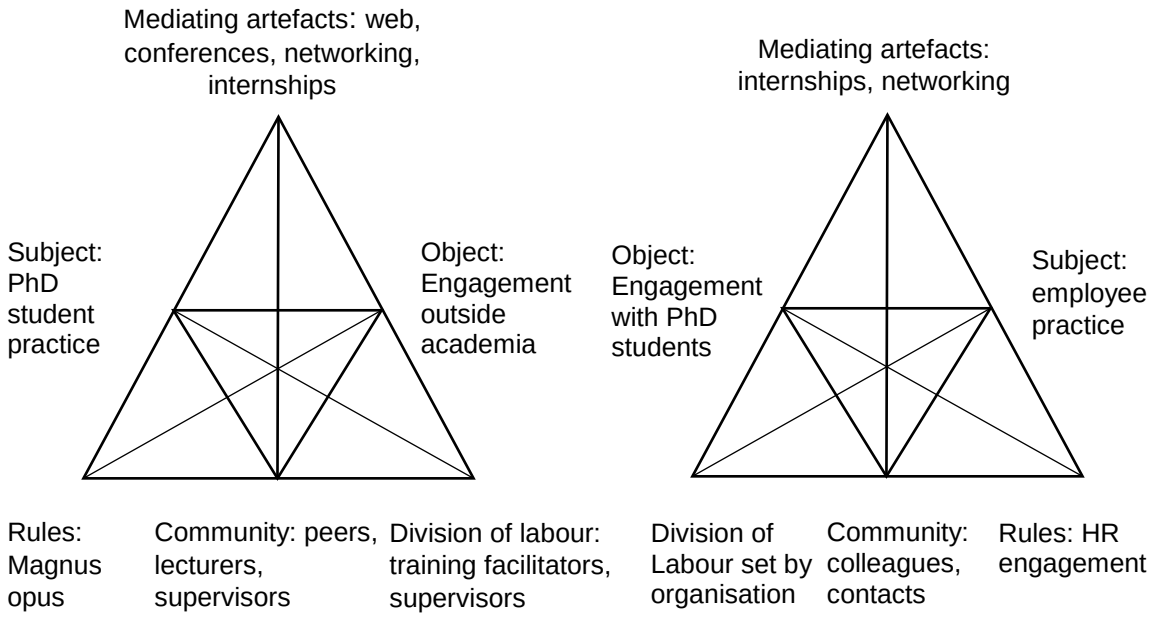

Figure 3.3 Graphical representation of the activity systems of PhD students within an institution and a humanities-related organisation.

Figure 3.3 represents the two activity systems, with the *subject* node denoting the focus of the analysis: respectively the doctoral students' practice and the organisation's employee practice in relation to the *object* of engaging. At the top of each system sits Vygotsky's triangle, beneath which are added the *rules, community* and *division of labour* nodes that introduce the cultural historical components of the system (Engeström 1987).

Looking at the activity system for doctoral students and their engagement with organisations beyond academia, the current *rules* of this particular institution are for them to complete a traditional PhD of independent study culminating in

the writing of an 80,000-word thesis. They are encouraged to focus on their 'Magnus Opus', therefore contact with organisations tends to occur within the context of exploring their research field and context of study. Throughout their time at University, students are supported by a variety of mediating artefacts to engage with the wider world: through web-based applications, national and international conferences and networking opportunities. Importantly, if they are appointed to work within organisations, they are perhaps less likely to work in parity alongside professional colleagues: at most, they may be recruited as interns or as research assistants for senior academics, to support them in applying their learning to new contexts but on a directed, short-term basis.

Artefacts facilitating engagement with organisations tend to be observational rather than interactive, through talks and presentations. Within the students' *community* are peers, training facilitators, lecturers and supervisors who between them proffer the *division of labour* deemed necessary for students to complete their doctoral education. Within the institution, the focus of training remains on the individual, concentrating on their field of study rather than across boundaries to explore its application to alterative academic or non-academic contexts. With respect to delivery of that education, there is a clear vertical hierarchy that cuts across the horizontal division of labour, with supervisors playing the most influential role throughout a student's doctoral pathway, be that a positive or negative force. Supervisors may themselves interact with organisations, through publishing arrangements and engagement activities, such as working with the media or attracting research investment.

For the organisation, if we look at the engagement with doctoral students, the *rules* of the activity are generally for that contact to be centrally managed, through a company's human resource function and its associated policies. Students at this particular institution are not able to apply for full time or paid work, so employment contact is limited to internships. Organisations recruit doctoral students in the same way that they recruit all positions and in that context, direct contact with students is most likely to occur shortly before an internship begins.

There are opportunities for employees of organisations to attend the University to deliver 'Masterclass' sessions but these offer very limited opportunities to observe students in action. The organisations use a range of *artefacts* to engage with students, including websites and promotional materials but again directed by their own policies and infrastructure, as described above. Their *community* comprises colleagues and professional contacts, with the *division of labour* determined by the structure of each organisation. Hierarchical division of labour suggests that employees of the organisation can exert considerable power during their virtual and face-to-face engagement with students, with the balance of authority weighted in their direction.

Turning my attention to my ambitions for this study, I intend to intervene, through a Change Laboratory, in an attempt to bring two activity systems together, employing activity theory as a second stimulus, and supporting

participants to engage across practices to construct a solution to an agreed problem, engineered by their own agency.

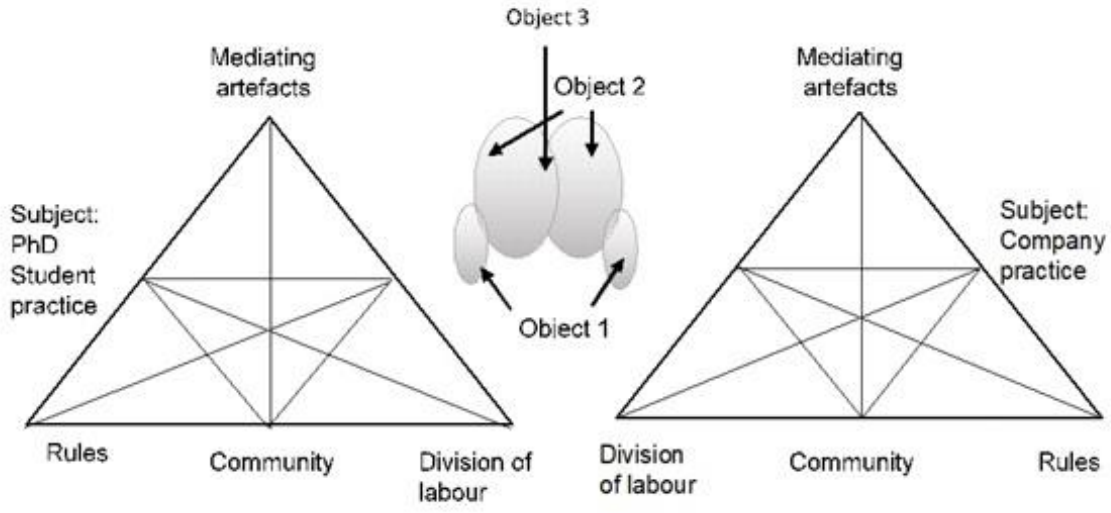

Figure 3.4 Representation of the connection between practices and activity systems (Source: Engeström, 2001, p.131).

To consider the new, imagined, activity formed as the practices of PhD researchers and non-academic professionals interact to work on a shared object in a Change Laboratory, I introduce figure 3.4. Following Engeström's approach, as the two activity systems come together activity is directed on object 1, the shared live 'learning challenge' (Engeström, p. 139), causing systemic contradictions that can trigger tensions within and outside each of the described components or nodes, with the potential to impact the achievement of object 2, the re-conceptualised prototype of the object, or the shared solution. Object 3 signifies the 'Holy Grail' of this study, the potential negotiated common ground and new translational patterns of collaboration, engagement and understanding, of mutual benefit to both sets of practices and related activity systems.

3.2.4 **Relational Working**

Working across my application of CHAT and the methodology of a Change Laboratory will sit the theory of relational working, in line with my ontological position, particularly my alignment with Bidell's (1988, p.332) argument that a dialectical ontology requires a consideration of 'relational context' and 'interrelationships'.

Underpinned by the principles of CHAT, *relational working theory* emphasises three core concepts of *common knowledge*, *relational expertise* and *relational agency* that, it is suggested, are pre-requisites if ground-level collaboration between practitioners across practice boundaries is to be established. Edwards (2017, p. 8) posits that together these core concepts are the 'gardening tools that have been used to build, nurture and sustain the expertise needed for collaboration across practice boundaries'.

Pioneered by Anne Edwards in a series of projects focussed on school-community links, collaboration across Children's Services, and interprofessional working in hospitals, relational working theory has only recently started to appear as a frame for accounts in the higher education scholarship. Edwards argues that successful collaboration in task-oriented work occurs 'at sites of intersecting practices' (2017, p. 7). This suggests that rather than moving doctoral students and organisations across their respective boundaries, which is the logic underpinning the approaches established in

section 1.5, successful collaboration requires the nurturing of sites at which an intersection of practices can occur.

Importantly, bearing in mind the context of this study and my interest in the potential for mutual development across the boundary, Edwards (2010, p. 117) suggests that establishing relational working also has the potential to move knowledge upstream, vertically 'from operational practices to inform strategy' as well as horizontally across boundaries. For my study, I am interested in the potential for the intervention to stimulate a new negotiated understanding about the potential contribution of humanities doctoral students that moves beyond the complex problem, upstream to the related activity systems.

It is important to articulate that the three concepts of relational working are regarded as interrelated and dialogic in nature (Hopwood, 2017; Bantawa, 2017). Much as Engeström regards the nodes of activity theory to be interconnected, constantly shifting and in tension, so I regard the concepts and features of relational working to be inextricably linked. It is helpful however to define in detail those concepts to aid understanding.

C*ommon knowledge* is defined by Edwards as:

> A respectful understanding of different professional motives [that] can then become a resource that can mediate responsive collaborations on complex problems. (Edwards, 2017, p. 9.)

As such, common knowledge can be seen to develop, over time, as knowledge of the motives and values of collaborating practitioners is articulated and understood (Edwards, 2010). Importantly, however, Edwards (2017) argues that common knowledge requires the right conditions to develop and establish before it can become a mediating resource. For instance, Edwards suggest the potential for common knowledge to be mediated through 'the space of reasons' (Derry, 2013, p. 230). This space is one where people can question decisions as a mechanism for understanding what matters in practice.

In order to code and trace the development of common knowledge, I found it helpful to establish a framework of the different features that form the basis of the concept. My reasoning in taking that approach was based on the assumption that common knowledge would not emerge fully formed but that different features might develop over time as the research-intervention progressed.

Edwards helpfully establishes the 'features of boundary practices' that form the foundation of common knowledge at the intersection of practices (Edwards 2010 pp. 44 and 45). I interpret these features to be the distinctive attributes that are collectively necessary and sufficient for common knowledge to be said to exist in order to mediate collaboration. Each italicised feature quotes directly from Edwards' work, in the order in which it was cited, with the definition expanded on by my extended reading of her work.

- *Being alert to the long-term purposes of practices*. Expanding understanding and interpretation about the object of activity can reveal shared long-term values and erode barriers between boundary practices.
- *Understanding oneself and one's professional values.* Articulating one's expertise and values within relational working encourages the reflection needed to negotiate, reconfigure and align practice.
- *Knowing how to know who*. Effective collaboration requires more than a matrix of contacts and expertise. It involves the mutual recognition of shared values and knowledge of how to draw on and contribute to the responses of other specialists.
- *Being pedagogic.* This requires developing understanding about how to make one's own expertise explicit and accessible to others, building towards becoming sufficiently 'professionally multi-lingual' to know what matters to others in order to engage effectively with them. (Edwards, 2010, p. 44).
- *Being responsive.* This involves developing an awareness of the need to work relationally with other practices and a progression to becoming more responsive to working with clients.

Edwards defines *relational expertise* as,

> A capacity to work relationally with others on complex problems. Crucially, it involves the joint interpretation of the problem as well as the joint response. The object of activity needs to be collectively expanded to reveal as much of the complexity as possible. (Edwards, 2017, p. 8.)

As such, Edwards argues that it forms a supplementary layer of expertise beyond, for example, the disciplinary based knowledge of researchers. I suggest that it is the relationship to complex problems that distinguishes relational expertise from common knowledge. The complex problem is a mediator for enabling collaborating boundary practices to build on their common knowledge understanding of motives and to interconnect their expertise in order to work relationally. Developing this form of expertise is perhaps one of the greatest challenges for humanities PhD researchers seeking to work beyond the confines of their field.

Again, I found it helpful to establish a frame of reference in order to trace the development of relational expertise. Edwards is less explicit in stating the features that form the basis of relational expertise in boundary working practices. I therefore undertook a careful exegesis of Edward's source materials to distinguish the features that comprise relational expertise. Once again, my reasoning in taking that approach was based on the assumption that relational expertise might develop as the Change Laboratory progressed.

I interpret these features to be the distinctive attributes that are collectively necessary and sufficient for relational expertise to be said to exist in order to mediate collaboration. Each italicised term quotes indirectly from Edwards' work, particularly Edwards, 2017, pp. 8 and 9, with the definition expanded on by my extended reading of her texts.

- *Capacity to interconnect expertise.* This denotes fluency in the ability to relate the expertise of oneself and others to a complex problem, including recognising the appropriateness of those different forms of expertise to address the problem.
- *Capacity to recognise motives.* This requires the ability to relate the motives and values of practitioners from other practices to a complex problem.
- *Capacity to align motives mutually.* This indicates an ability to align with the motives of other practitioners in order to jointly respond to a complex problem.

Finally, the aspect of relational working that Edwards conceives as *relational agency* is defined as,

> A capacity to align one's thoughts and actions with those of others, in order to interpret problems of practice and to respond to those interpretations. (Edwards, 2005 pp. 169-170.)

The features of relational agency that I developed for coding purposes concern an alignment of action and advocative behaviour; that distinguishes relational agency from relational expertise which, as highlighted above, denotes the alignment of motives and expertise. In essence, whilst relational expertise indicates the capacity to work with others, relational agency refers to practitioners' capacity to influence the interpretation of the problem such that it becomes *actionable* through the positive calibration of their 'specialist

responses' (Edwards, 2017, p. 11). The important narrative to underscore here is the focus on joint action and advocacy within interactions.

I interpret the features below to be the distinctive attributes that are collectively necessary and sufficient for relational agency to be said to exist in boundary working practice. Each italicised feature quotes indirectly from close reading of Edwards' work, particularly drawing on Edwards, 2010, pp. 62 and 91, with each definition expanded on by my extended reading of her texts.

- *Shared responsibility within collaborations.* This denotes practitioners sharing a mutual responsibility for interpreting and responding to problems in practice.
- *Fluidity of responses to problems.* This manifests as practitioners taking risks in response to contradictions in practice by bending the established rules, procedures and hierarchy within home and neighbouring activity systems.
- *Co-ordinating purposeful action.* This indicates that practitioners understand how to effect change in practice and what such change means for those who are engaged in the coordinated action.
- *Provision of mutual support.* This requires offering and accepting support from others to address and interpret problems, as attempts to find solutions proceed.

This interpretation of Edwards' work underpins my approach to answering the research questions and will inform my later analyses as I trace the extent to which the three concepts developed through the CL intervention stages.

3.3 Implications for the study

Building on the conclusion of my literature review, my intention is to employ intervention research to rupture and mediate learning at the practice boundary of doctoral education within the humanities and explore a more outward-looking, relational, approach to foster collaboration between loosely connected activity systems.

In line with my ontology and epistemology (see section 3.1), I have sought a theoretical framework that will support a collaborative research design that focuses on a community of speakers. That chosen methodology is the Change Laboratory and the lens through which I will observe a relational approach to learning is the theory of relational working. Bringing together those key strands of the research design led me to formulate research questions that explicitly reference the stages of the expansive learning cycle and the presence and development of relational working behaviours. Thus, the following research questions will guide the chapters of this thesis.

R.Q.1. How can a Change Laboratory research-intervention develop relational working by mediating within and across activity systems, in the context of doctoral education in the humanities?

R.Q.1.1 To what extent is common knowledge about motives, purposes and practices of other participants developed through the different stages of the research-intervention?

R.Q.1.2 To what extent is relational expertise, the capacity of participants to work relationally with others on complex problems, developed through the different stages of the research-intervention?

R.Q.1.3 To what extent is relational agency, the capacity to align thinking and actions with others to interpret and act on an object, developed through the different stages of the research-intervention?

As I highlight in section 3.2.4 relational working is relatively new to the field of higher education, although Edwards and Stamou's (2017, p. 280) applied the concepts within an empirical study exploring relational approaches to knowledge exchange. Interviewing researchers within the field of social sciences, their study centred on interviews with 13 researchers to explore successful approaches to research impact. Critically, two conclusions from the chapter directly inform the direction of this study. First, the authors acknowledge that doctoral students need to be prepared for a relational future (Edwards and Stamou, 2017). Their assertion mirrors my own observations and reinforces the pertinence of looking to a theory that may make behaviours conducive to relational working visible and therefore support understanding of

how those behaviours might be developed through doctoral education. Second, they conclude that building a common knowledge basis for relational working, and applying it within relational work is ‘an additional form of expertise that needs nurturing’ (2017, p.280).

Having established the research questions, I now discuss my approach to the methodology of the research design, in Chapter 4, the Methodology Chapter.

4 Methodology

4.1 Research Design

4.1.1 Introduction

In this Methodology Chapter, I set out my empirical approach to exploring relational working, explaining how it interrelates with my epistemological position and discussing the potential paths for investigating the phenomenon within doctoral education. In the Introduction Chapter, I discussed my personal interest in the phenomenon of relational working, triggered by a perceived lack of connection between the practices of doctoral students in the humanities and non-academic stakeholders. The study aims to move beyond the problem by exploring both the relational working that takes place when the practices of doctoral students and non-academic professionals, come together, and the contribution that education can make to facilitate that process.

My ontological and epistemological stance, as set out in the Theoretical Framework Chapter, is influenced by the dialectic, and relational constructionism. It suggests that to understand relational working it is appropriate to intervene to examine change: capturing the interchange of action and reaction, alive to a complex historical and sociocultural backdrop. Typically, in the literature, doctoral education is explored within STEM-related interactions; this study approaches the notion in a different way, by intervening as a researcher to create a space where people come together to negotiate new understandings (Schwabenland, 2012). In essence, I am intervening to

support the transformation of practices between activity systems rather than simply asking people about existing experiences and their evaluation of the possibility for change. Therefore, within the context of doctoral education in the humanities, the study asks the research questions detailed in section 3.3.

My intention is to apply the theoretical framework of double stimulation, expansive learning, activity theory and relational working to investigate empirically the phenomenon of relational working across two previously only loosely connected activity systems. I begin in the methodology section by introducing my research design, debating the options that I considered, and leading to my selection of a formative intervention as the methodology for the study, based on Engeström's (2001) Change Laboratory. Following a discussion of the factors influencing my sample selections, I then discuss my selection of the research sites and the process of selecting participants. Next, I detail my approach to the design of the workshop sessions, followed by a discussion of the multiple methods employed for data collection. I then introduce how the resultant data will be analysed, guided by my epistemological orientation, and discussing implications for validity and reliability. I particularise my approach to research ethics towards the end of the chapter to ensure that my decisions are clearly situated within the context of the empirical strategy. Finally, I discuss the strengths and weaknesses of the research design and close the chapter with a summarising conclusion that sets out how my findings will be presented in the Data Presentation Chapter.

4.2 The Change Laboratory

4.2.1 Overview

At this point, it is important to set out the core premise of the Change Laboratory, the cyclical progression based on expansive learning theory, which is described in more detail in the Theoretical Framework Chapter of this thesis (see sections 3.2.1 and 3.2.2). This is supplemented by signposting readers to Bligh and Flood (2015), and Virkkunen, and Newnham (2013) for comprehensive, detailed accounts of this form of intervention.

Engeström's Change Laboratory (Engeström et al, 1996, p.10) is a methodology designed to transform learning, through facilitation that encourages 'both intensive, deep transformations and continuous incremental improvement'. Since its inception, it has been applied across a diverse range of academic and non-academic contexts, from redesigning patient treatment pathways to transforming classroom teaching. Most commonly, it is introduced as an intervention at a time when a collective activity, or 'activity system', is facing a period of transformation (Virkkunen and Newnham, 2013). Participants work with various conceptual tools, allowing them to stand back from their daily work life and explore contradictions within an activity, a process that facilitates the re-conceptualisation of a new, progressive version of the activity that is then embedded into working life.

4.2.2 **Choosing the Change Laboratory as a methodology**

It is important to highlight that the concepts of boundary crossing and relational working are naturally occurring processes that can be observed, however they can be 'difficult to document due to their spatially and temporally distributed character' (Engeström and Sannino, 2010. p.15). As I elucidated in section 2.5, the challenge within the context of my own study is the dearth of naturally occurring interactions. I have therefore chosen to employ a Change Laboratory intervention as my research methodology with the intention of creating the conditions under which relational working can be observed in an authentic setting.

In order to intervene in the current disconnect between humanities doctoral students and non-academic stakeholders, my aim is for all participants to be involved in the design of the intervention. In agreement with O'Neill (2016), I do not consider myself a 'heroic designer' who has the answer to how to mediate doctoral education practice between PhD students and non-academic stakeholders. Instead, I wish to place the means for mediation into the hands of those who actually undertake the practice. Within such a process, it is hoped, participants will be encouraged to question and analyse their existing practices, and to model and implement new ones, thereby developing new forms of relational working, new forms of local agency, and new forms of knowledge for both themselves and myself as the researcher in the process. The formative intervention of the Change Laboratory, offers the potential to explore relational working, changing patterns and behaviours, to open up new

perspectives and increase participants' agency (Virkkunen and Newnham, 2013).

For those reasons, I made the conscious decision to align closely to the Change Laboratory approach of formative intervention. My decision was further influenced by Bligh and Flood who posit that 'the Change Laboratory can boast exceptionally close alignment between ontology, epistemology, theory and methodology' (2015, p.19), a critical factor for supporting the thesis with a logical flow (Wisker, 2007).

Other methodologies that I could have considered include phenomenology and ethnomethodology (Holstein and Gubrium, 1994). Both approaches seek to understand how particular aspects of social practice are constructed and would therefore 'fit' with my ontology and epistemology. They explore how a particular aspect of social life is constructed or perceived by people through observation, interview methods and examining how artefacts are used in everyday life. The point of difference is that 'the overriding concern is always to observe actions as they are performed in concrete settings', with a focus on observing the 'everyday' (Gobo, 2011, p. 25-27), therefore phenomenology and ethnomethodology would be appropriate for examining what already exists. The critical deciding factor in my decision-making was the lack of naturally occurring 'everyday' opportunities to observe relational working. What I want to examine is how new forms of relational working can be created and it is not clear how those approaches would ever quite address that priority.

As a researcher, seeking to intervene within, and thus better expose the dynamics of interaction, I therefore need to apply a methodology that physically and psychologically intervenes to facilitate a point of contact between the parallel lines of traditional doctoral education practices and non-academic practices, situated within separate activity systems Figure 4.1 below illustrates the Change Laboratory.

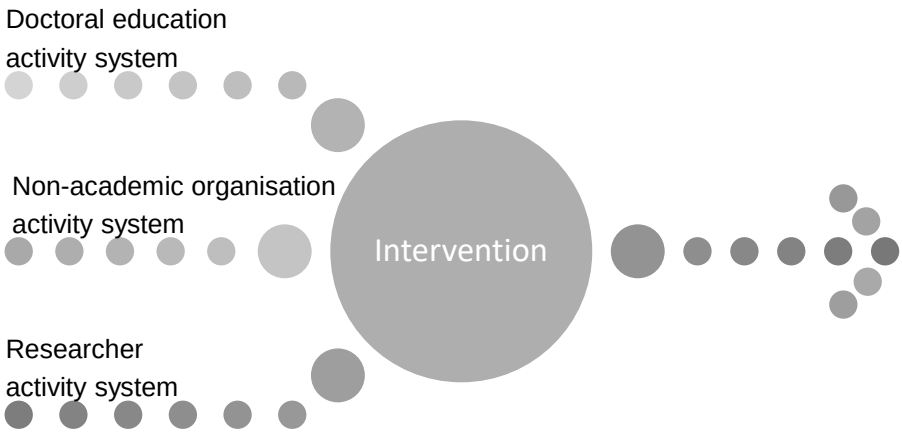

Figure 4.1 Diagram of the intervention: the Change Laboratory.

4.2.3 **Applying the methodology: designing the Change Laboratory**

Change Laboratories involve designing workshops that aim to guide the participants along the expansive learning cycle, depicted in section 3.2.2, with participants' agency supported to expand and deviate from the initial intentions of the workshops and cycle. Having determined to apply a Change Laboratory methodology, I therefore now establish the design of the CL sequence, beginning with decisions about the two research sites: the separate activity systems selected for the intervention, and the object that connects them.

4.2.3.1 **Selecting research sites and the shared object**

As I established in section 4.1, my intention is to bring together two activity systems: a non-academic organisation and a doctoral education system. Edwards and Kinti (2010) describe one of the key challenges of this study's form of interprofessional collaboration, which sits outside established organisational practice, as the difficulty of gaining 'access to the meaning-making of other professional groups', (Edwards and Kinti, 2010 p.128). My starting point for the CL design was therefore directed by this question of access, particularly how to select a research site or sites that would allow me to get as close to the phenomenon of relational working as possible, within the context of doctoral education in the humanities.

Beginning with the selection of the doctoral education activity system, in line with my ontology and epistemology, I intended to actively intervene and achieve change within the context that I work, with humanities' researchers. As Trowler (2014, p. 18) reinforces, in that context my study is 'emancipatory in intent' and it is important that I acknowledge my intention to produce local, contextualised knowledge. I therefore actively chose the academic research site to be the research-intensive University in which I work. Although this was equally a pragmatic, convenience approach to sampling, given my limited resources, there was also evidence in the literature to suggest that this approach was of interest. In their synthesis of Change Laboratory design issues, Bligh and Flood (2015) discuss the question of such 'insider research'

(p.12) acknowledging that ‘participant selection processes might be easier for insider researchers due to greater familiarity with local dynamics’ but suggesting that this is in itself an under-researched approach. It is important to note that the selection of the research setting and participants’ selection was carried out in line with University regulations, to ensure that the process achieved ethical approval and informed consent.

My decision for the second research site, the non-academic organisation, was also driven by the need to generate sufficient data to support answering my research questions and the theoretical framework for the study. In my interpretation of the model, building on the work of Virkkunen and Newnham (2013), the strategic, expansive learning steps require study participants to focus on an object of shared interest, the learning challenge (Engeström, 2001, p. 139) introduced in section 3.2.3 of the Theoretical Framework Chapter.

The object serves to engage and motivate participants with the potential to be transformed (Edwards, 2017). Research by Sannino, (2016, p.74.) into formative interventions reinforces the argument that collaborative groups should share an object rather than being selected at random to participate in a study, so it was important to locate an organisation sharing an object of mutual understanding with the doctoral education activity system and the practices within it.

One such organisation was a UK charity, introduced to me by a non-academic professional who served on an Advisory Board for the overarching doctoral education programme at my place of work. The Charity has a nationwide remit to promote reading, inspiring people to read at all levels and it connects with publishers, libraries and national media to make that happen. Their work involves finding new ways to engage readers, particularly in light of advances in digital publishing and changes in reading practices.

The object of the Charity is to encourage reading ‘for the greater public good’, (source: annual report but not detailed here to protect anonymity) with a particular objective to demonstrate impact by keeping abreast of external research and sharing evaluation from their own programmes to evidence the difference that reading makes to lives. They pledge that applying such an active approach to research and learning supports the Charity to ‘drive change, foster innovation and showcase what we do more effectively’ (source: annual report).

In comparison, the object of the doctoral education activity system is to:

> Benefit society at large by developing highly skilled, creative and critically proficient individuals; and empowering them to have a significant impact on a broad spectrum of activities in the cultural, creative and business sectors. (Source: the University website).

At a granular level, that object narrows to developing doctoral students within the University's 'researcher development framework' across four areas: research skills; personal effectiveness; communication and working with others; and future career.

I therefore contend that the connection between the two activity systems is strong, with a shared purpose to benefit the public and a commitment to research as a means to improve practice 'on the ground'. As such, I suggest that there is the potential to unite practices across the systems through a shared object and argue that the two selected research sites are appropriate for this study.

4.2.3.2 **Selection of participants and sample size**

The next challenge was to determine the sampling strategy through which to approach representatives of doctoral education practice and non-academic professional practice, from the two activity systems, to take part in the CL. Again, positioning my research questions as central to my decision, I referred to research specific to the Change Laboratory methodology. Virkkunen and Newnham (2013) in their seminal work propose that the priorities for selecting participants are that,

> They are dealing with the same object in their daily work and are involved in realizing the same final outcome despite difference in their

> occupation, task or hierarchical position'. (Virkkunen and Newnham, 2013, p.65.)

The authors recognise that these priorities are frequently in contradiction, and suggest that involving more than 15-20 people can impede discussion in sessions. Reinforcing that argument, Bligh and Flood (2015, p.12) conclude that interventions 'typically involve fewer than 20 people, for reasons of resource and participation-management'. In the interests of balance, I have interpreted that figure to set the maximum number of participants to comprise up to 10 humanities PhD students from the UK based University and up to 10 professionals from the Charity.

Beginning with the participant selection process for the Charity, having received consent from the Chief executive to progress with the CL, we negotiated the shared object, which at this practice level of study was agreed as the shared 'learning challenge' (Engeström, 2001, p. 139) of encouraging people to read. For practical reasons, this decision was made by a cross-disciplinary team from within the Charity, a session that I attended but before the PhD students had been recruited.

Having defined the learning challenge, I worked with the Charity's Management Team to invite volunteers from within the organisation that were closest to the object of the study, namely object 1 of figure 3.4 in the Theoretical Framework Chapter, regardless of hierarchy. Potential participants comprised those individuals who were actively involved in encouraging people

to read; in researching reading; or those with an involvement in the business aspects of the Charity. All potential participants were invited to join the study, verbally by myself and the Charity's Senior Management Team at an open meeting that included a presentation about the intended project.

Within the University research site, I invited all second and third-year humanities PhD students with an interest in literature and the Charity's objectives to take part. That stage of the PhD was targeted because the students had completed an initial year of study and were therefore not considered novices. The students were invited to volunteer, verbally, in a direct email, and via an advert on the University website, regardless of their nationality, age, gender or other discriminating characteristics.

This decision to recruit volunteers was underpinned by Virkkunen and Newnham's guidance that participants 'must speak openly and directly about practice problems and possibilities for change' (2013, pp 65-66). All volunteers were included, as long as they were able to attend the majority of the CL sessions; in fact, no additional selection was required for the Charity or PhD students because the initial total number of applicants was less than 20. Table 4.1 below summarises the final participants, detailing the students' discipline and stage of doctoral study. As the CL evolved, I also made the decision to encourage the invitation of external 'experts' invited by myself and the Charity's Chief Executive. These were purposefully selected individuals with relevant expertise invited to attend a limited number of workshop sessions.

Two additional charity practitioners were also invited once the CL had begun, as detailed in Chapter 5.

PhD students	**Discipline**	**Stage of PhD**
Amy	Classics	Third year
Cassandra	Linguistics	Second year
Evie	Gender studies (literature)	Second year
ijeoma	Education	Second year
Jasmine	Literature	Third year
Kasia	International studies	Second year
Katherine	Literature	Third year
Mia	Italian	Third year
Todd	Literature	Second year
Charity participants	**Role**	
James	Trustee	
Sonia	Chief Executive	
Adrienn	Charity employee	
Denise	Charity employee	
Flora	Charity employee	
Gloria	Charity employee	
Helen	Charity employee	
Morag	Charity employee	
Rosanna	Charity employee	
Sophia	Charity employee	
Sally	Charity employee	
External participants (with limited attendance at sessions)	**Role**	**Explanatory notes**
David	Data expert at sixth-form college	Invited by Charity Chief Executive
Paul	Digital publishing specialist	Invited by Charity Chief Executive
Saskia	Library employee	Invited by Charity Chief Executive
Derek	Digital publishing specialist	Invited by study author
Jamie	Chief Executive of digital content company	Invited by study author
Roger	Digital publishing specialist	Invited by study author

Table 4.1 Anonymised details of participants, with pseudonyms applied.

4.2.3.3 **Designing the Change Laboratory: session design**

In considering the 'optimal' number of interventions needed to explore the phenomenon, I looked to Morselli (2015) who had recently completed a PhD thesis exploring the Change Laboratory as a model for enterprise education. Through his experiences, he argues that one Change Laboratory cycle is usually sufficient, specifically for a PhD thesis, due to the volume of preparatory work and data analysis required.

It is important to note that, within this study, the duration and timing of sessions was a challenge, as I explained in section 1.5 of the introduction. The findings from my earlier, test study strongly suggested that I should retain each stage of the expansive learning process but negotiate with the Charity to manage their concerns about the time commitment required by the CL in a period of austerity and stretched resources. The object of the doctoral students' activity system demanded a more intense learning experience, however, and I had more control over the number of sessions that could be made available to them. Furthermore, as the object was arguably closer to the Charity, the students needed more time to get up to speed with the mission, structure and outcomes of the organisation.

Consequently, the demands of the Charity and separate needs of the students led to the design of a set of nested, interrelated expansive learning cycles, illustrated in figure 4.2 below.

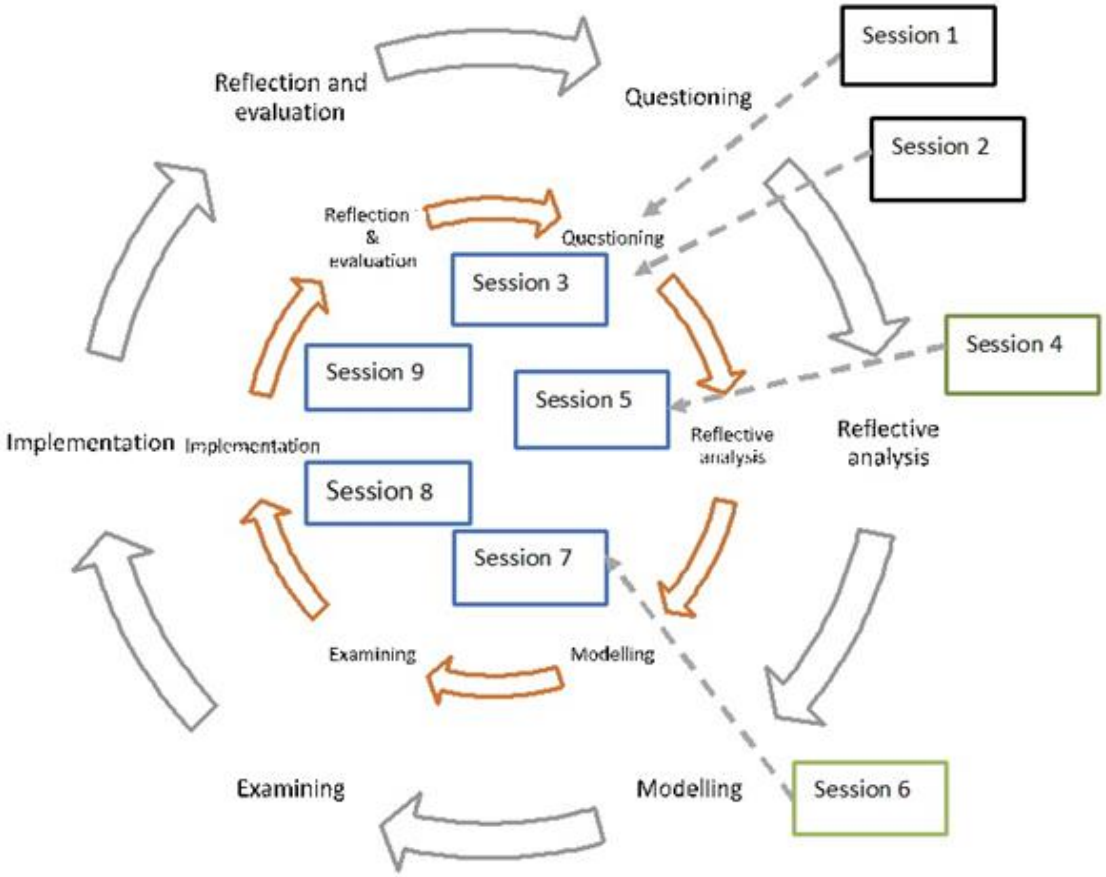

Figure 4.2 Framework of the relational Change Laboratory: nested expansive learning cycles.

The external circle in grey represents the expansive learning cycle of the student researchers, the inner orange circle represents that of the Charity participants. The black boxes represent those individual sessions attended by the students only, and the green represent those attended physically by the students with Charity participants connecting through virtual means. Finally

the blue boxes represent those sessions attended physically by all participants.

The workshops were designed to guide the participants around the expansive learning cycle depicted in section 3.2.2. The detailed natural history of each of the nine sessions as they developed through the duration of the study is established at section 5.3. For each session I detail the stage of the expansive learning cycle; the tasks designed by the author; the sources of mirror data designed to stimulate discussion; forms of secondary stimuli; the organisation of participants at each session; documentation retained by participants; and my recording of the data for two purposes i) to inform discussion during the cycle and ii) for empirical analysis.

4.2.3.4 **Mirror data**

At this point, it is also important to introduce my decision to deviate from the 'traditional' Change Laboratory methodology. Virkkunen and Newnham (2013, p.79) suggest that a 'mirror' is commonly presented to illuminate a problem to participants. More commonly, the researcher or researchers would undertake this initial mirror data. For this intervention, however, my motive towards the object of the learning challenge was to develop opportunities for doctoral students to apply their research and analysis capabilities in a new context, beyond their traditional field of study. I therefore directly involved them in undertaking some early research into the Charity, with the intention for them to act as both researchers *and* participants in producing mirror data. Later in the

cycle, the CL participants from the Charity and external organisations also began to undertake mirror data research.

4.3 Data collection methods within the Relational Change Laboratory

Reflecting back to my discussion about epistemology, my aim for exploring relational working is not to discover the 'truth' but in line with Needleman and Needleman, (1996, p. 335), to interpret observations 'in order to gain useful insight into the meaning of the situation'.

The authors advocate the appropriateness of capturing experience of meaning through a variety of methods, constantly reflecting and adapting them as the intervention unfolds. Hosking (1999) also discusses how researchers can capture meaning, and suggests moving away from focusing on dialogue alone towards a range of methods. I was therefore persuaded to look to multiple sources of evidence to examine the phenomenon of relational working within doctoral education. For each Change Laboratory, the multiple methods include participant observation, viewing the language and behaviours of participants through audio and video recordings of the sessions, my own self-reflective notes maintained in a research diary, the artefacts produced during the Change Laboratory, and two follow-up focus groups, to clarify my findings. The multiple sources comprised doctoral students, the Charity practitioners, external 'experts', and myself as participant observer.

I now turn to each method, explaining in greater depth the insights I intend to gain, how they interact within the research framework and how I tailored the design of each method. Table 4.2 provides a more detailed overview of how each method relates to the research questions.

RQ1. How can a Change Laboratory research-intervention develop relational working by mediating within and across activity systems, in the context of doctoral education in the humanities?	Audio and video Participant observation Self-reflective notes Artefact analysis Focus groups	Analyse data iteratively to guide CL sessions and select clips that stimulate discussion about the provisional analysis during the focus groups.	Theoretical and inductive thematic analysis.
		Discuss my provisional analysis and explore any issues not captured through the other methods.	
		Essential to record accurately the sequence and context of events.	
R.Q.1.1 To what extent is common knowledge about motives, purposes and practices of other participants developed through the different stages of the research-intervention?		Code and trace examples of common knowledge between students and all participants.	Theoretical thematic analysis.
R.Q.1.2 To what extent is relational expertise, the capacity of participants to work relationally with others on complex problems, developed through the different stages of the research-intervention?		Focus on interactions between all participants, including invited *external* experts, and activity outside of the workshops to code for relational expertise.	Theoretical thematic analysis.
R.Q.1.3 To what extent is relational agency, the capacity to align thinking and actions with others to interpret and act on an object, developed through the different stages of the research-intervention?		Audio, video and artefact analysis will be key to triggering participant responses during the 'clarification' stage of the focus groups.	Theoretical thematic analysis.

Table 4.2 Mapping the research methods to the research questions.

4.3.1 **Participant observation**

During the study, I acted as a participant observer, an integral role within the intervention (Williams, 2015). Alternatives would have been to appoint a hidden observer, non-participant observer or a partially participating participant observer. My choice was directed by my epistemological stance, that as part of the relational process, I should be engaged and visible in my role within the intervention. Practical issues also influenced my decision, particularly my relative familiarity with the intervention and a lack of resources with which to appoint additional researchers.

Due to my role as facilitator in each of the Change Laboratory sessions, participant observation took the form of writing self-reflective notes at the end of and in-between sessions, and making notes of audio and video footage that I recorded and viewed after each session. I now detail both of those forms of observation in more detail.

4.3.2 **Self-reflective notes**

My decision to capture and include my own set of self-reflective notes is influenced by work on reflexivity. My intention is to situate myself as a researcher rather than positioning myself with the positivist viewpoint of the 'all seeing eye' and attempting to present an authentic voice (Davies et al., 2004, p.362).

It is also helpful to reflect on this piece of research as a whole, when the tenet of my thesis stems from my conception of a schism in a system, onto which I believe light may be thrown through my own intervention as a researcher. In the words of Foucault (2000a):

> Every time I have tried to do a piece of theoretical work it has been on the basis of elements of my own experience: always in connection with processes I saw unfolding around me. It was always because I thought I identified cracks, silent tremors, and dysfunctions in things I saw, institutions I was dealing with, or my relations with others, that I set out to do a piece of work, and each time was partly a fragment of autobiography.
>
> (Foucault, 2000a, p. 458.)

Foucault's interpretation implies the embeddedness of the researcher within a study. Authors Davies et al., (2004) therefore argue a relatively pragmatic position: that a reflexive practitioner should seek to deconstruct their approach to research, acting as a prism by refracting and splitting the light of self. I will follow this interpretation, by reflecting on my own work to reveal the boundaries of my knowledge, the political orientation framing my research and to question 'old interpretive certainties' (Davies et al., 2004, p.386).

In practical terms, this comprises self-reflective notes captured throughout the research process as a mirror on my research process, writing and suppositions. My notes also offered a useful reference document to capture

the context and sequence of events, which I referred to during the focus group sessions and analysis stage of the study. I particularly noted key episodes of dialogue that suggested contradictions were surfacing, which helped to direct my review of the video and audio data. My notes also helped me to annotate a quick analysis of the progress of workshops, enabling me to determine critical mirror materials and task design in preparation for future sessions.

4.3.3 Audio and video data gathering

To support my observation, a fixed camera recorded the behaviours of all Change Laboratory participants, to avoid either missing part of key interactions or influencing the observed by moving the camera and signalling my interest (Heath, 2011). As Wiersma and Jurs (2009 p. 286) argue, in my role of facilitator it would be very difficult for me to observe and capture the discussion and 'nonverbal behaviours'. The fact that the Change Laboratory and focus groups took place in relatively compact spaces made this method of data collection particularly appropriate. Where the room set up demanded it and subject to resource limitations, I set up multiple microphones to capture multiple interactions, which was particularly important when the Change Laboratory participants broke into groups.

Motivating my decision to use video, both to observe Change Laboratory participants and as a method of fieldwork data collection during the intervention, is its appropriateness in capturing interaction. Particularly its capability to help me as a researcher to 'preserve the temporal and sequential

structure which is so characteristic of interaction' (Knoblauch, Schnettler and Raab, 2006, p.19). In addition, video offers a new perspective, allowing 'time to be both preserved and interfered with – slowing down and speeding up a video recording to see 'naturally occurring events' in new ways' (Jewitt, 2012, p. 4). The use of video also supported fine-grained analysis (Eberle and Maeder, 2011) and the opportunity to repeatedly view and compare behaviours throughout the research process. Video has its limits, however, particularly that it is restricted to the interactions that it captures, which directed my decision to use a range of data sources and methods.

4.3.4 **Artefact analysis**

During the Change Laboratory a number of documents were produced by the participants in the form of data that reflected the shared object, this include shared representations created by the whole group in the sessions, and artefacts created by individuals and sub-groups, including template diagrams of activity theory that I produced and were annotated by participants. Referring back to Gergen, these documents offer an insight into the 'interstices of dialogue and action' (see section 3.1.2). Those artefacts created during the Change Laboratory were considered to elicit information about relational working. Following the end of the Change Laboratory, documents that captured seemingly significant events within the interaction were also incorporated into the focus group sessions to act as stimulants for discussion and sense checking.

4.3.5 **Focus group interactions**

My main intention in designing the focus group sessions was to encourage discussion about my provisional findings and to ensure that participants could share aspects of the relational working that had not been observed or recorded during the participant observation. The sessions also included discussion about the artefacts produced during the Change Laboratory to elicit dialogic debate (Millward, 1994).

My epistemology leads me to regard the focus group as a method for collecting data through dialogue and active awareness of the group interaction (Morgan, 1997). This approach also flows from Hosking and Pluut's (2010) influence of relational constructionism, arguing that the research process itself and participants within it can develop knowledge and new understandings. Carey (1995) argues that there is a danger that the voice of the individual could become distorted or silenced but within this study, my interest is in the 'discourses constructed through the group's interactions' (Freeman, p. 135, 2013) rather than psychologising individual behaviour.

To minimise the effects of power and status differences on the group contribution, I facilitated two relatively homogenous groups: one for the doctoral student participants and one for the professional participants, which included both Charity practitioners and partners (Morgan, 1997). All participants were invited to attend on a voluntary basis. Madriz (2000) reasons that designing a group composition that encourages a feeling of

security and a safe place to speak reduces the researchers' influence. Both focus groups took place at the end of the Change Laboratory intervention when group participants were acquainted, (Warr 2005). My reasoning was again to increase comfort levels and to ensure that participants had experienced the Change Laboratory and relational working, which they could draw on during the discussion. I acted as a facilitator, gently steering as required and responding to emerging discussion but also aware of my role within the Change Laboratory and the need to minimise my influence on participants.

4.4 Presenting and analysing the data

Participant observation research methods produce a vast amount of 'rich but varied data', which I intended to combine with the focus groups and artefact analysis (Becker, 1958, p. 653). I therefore concatenated the different data sources, concentrating on the data required to respond to the research questions as the foci for analysis.

To find emerging patterns and make sense of the data I applied thematic analysis, in line with the work of Miles and Hubberman (1994) and later Braun and Clarke (2003). I considered other forms of analysis, particularly the 'constant comparative' approach of grounded theory proposed by Glaser and Strauss (1967). Both concepts encourage analysis that looks for emerging patterns, by reading transcripts from video recordings, interviews and notes iteratively. Recent studies by Skipper et al., (2016) and Cabiati et al., (2016)

both applied thematic analysis to interventions based on the Change Laboratory methodology, testing its application in study situations closely related to my own. Skipper et al., employed the analysis in the context of postgraduate training within paediatrics, with Cabiati et al., concentrating on expansive learning within a private company. Their close alignment with my epistemology and methodology chimed with my own study and confirmed my opinion that thematic analysis is the most appropriate, clearly articulated route to making sense of my data.

My decision was influenced by research literature, which suggests that thematic analysis can fit with a social constructionist, or in my case relational constructionist epistemology. As Braun and Clarke explain (2006):

> In contrast to IPA or grounded theory (and other methods like narrative, discourse or CA), thematic analysis is not wed to any pre-existing theoretical framework, and so it can be used within different theoretical frameworks (although not all), and can be used to do different things within them. (Braun and Clarke 2006, p. 81.)

My next decision was whether to apply an inductive or theoretical approach to the thematic analysis (Braun and Clarke, 2016, p. 83). The final column of table 4.2 summarises my decision, which was driven by my research questions. The first question and its associated sub-questions demanded an explicit link to my theoretical framework, coding for features of relational working. Additionally, findings from the first question, R.Q.1, were coded

inductively in the language of participants to ensure that their perceptions of the intervention were incorporated. Once the themes were identified, I synthesised my findings with the literature, in the final stage of analysis.

I then considered the literature to determine whether themes should be considered at a semantic or explicit level. The former seeks to describe form and meaning and the latter examines 'underlying ideas, assumptions', conceptions and ideologies (Braun and Clarke, p. 13). Braun and Clarke suggest that exploring the data at a semantic level, seeking latent themes, more closely relates to a constructionist paradigm. In the example of my study, this enabled me to consider not only the content of data but also how it was produced, used, distributed and disseminated.

A final decision related to how to transcribe the video and audio data from both the CL sessions and the focus groups. A number of options were open to me at this first stage of interpretation, particularly whether to focus on multimodal transcription of video, capturing the spoken word and action, including gaze and gestures but running the risk of 'sensory overload' from the sheer volume of data (Snell, 2011 p.253). Within the literature on CHAT and Change Laboratories discourse has become 'a central theme in the development of the field' (Daniels and Edwards, 2010, p. 6), particularly the analysis of 'natural language' (Edwards and Kinti, 2010, p. 130). My decision was whether to transcribe the spoken word or invest my time to transcribe both voice and annotate speechless action. Reflecting back to Gergen's notion of the interstices of dialogue that I referred to at the start of this chapter

I made the decision to apply my time to transcribing language but I used my reflective diary to make notes as I repeatedly viewed the video to explore whether speechless action began to emerge as a clear theme in itself.

As the data was brought together I applied Braun and Clarke's six-step data analysis process (2003, p. 87). First familiarising myself with the data, reading the transcripts from video recordings and notes iteratively and recording initial ideas. Second, generating initial codes systematically across the entire set, collating relevant data. This stage was split into two steps, i) coding for all the research questions requiring theoretical thematic analysis, by applying the features of the concepts of relational working established in section 3.2.4. In addition, ii) separately coding for question R.Q.1 through inductive thematic analysis, for which I was purely 'speculating about possibilities' (Becker, 1958, p. 653), in effect coding the data through the language of participants. Third, I identified emerging themes arising from close examination of the data, to see if those themes were typical, drawing together codes into provisional themes. Fourth, I reviewed those themes exploring 'fit' with codes and the entire data set to identify points of agreement, disagreement and unexpected data to generate a thematic 'map' of the analysis. Fifth, I defined and refined the themes. Finally, I worked systematically through my analysis, synthesising and presenting those findings in the context of the research questions and literature. At this point, my self-reflective notes were particularly valuable, as a reference point for placing sequences and the context of events.

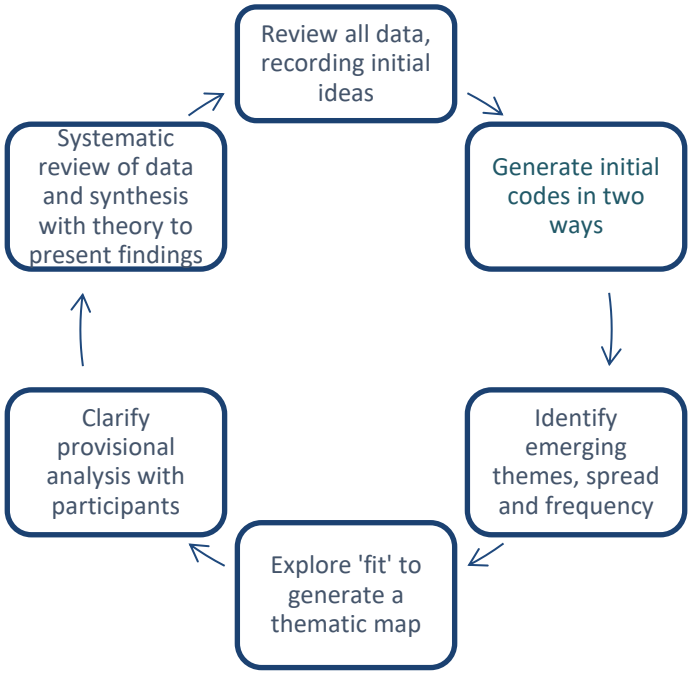

Figure 4.3 Diagram of my approach to thematic analysis.

By applying a circular approach to analysis, similar to Strauss and Corbin's (1991) constant comparative, I began to analyse the data as soon as the CL began. This enabled me to adjust my data gathering, informed by my provisional analysis – an advantage when I only had a limited window of contact with participants.

To further strengthen my data presentation and analysis, I applied Guba and Lincoln's (1989, p. 50) four standards of *credibility, transferability, dependability* and *confirmability*, to evaluate the validity of my analysis with stakeholders. This directly informed my decision about how to determine, evaluate and present the data analysis for this study.

First I adopted their markers for *credibility* defined as 'establishing the match between the constructed realities of respondents and (or stakeholders) and

those realities as represented by the evaluator and attributed to various stakeholders' (p. 237) by applying six techniques. Beginning with the research design itself, I established:

- *prolonged engagement*: immersing myself and building rapport to explore constructions'; and
- *persistent observation* – extending the depth of my engagement with participants.

Then, following my initial thematic data analysis I employed:

- *peer debriefing* – testing my findings with professional peers;
- *negative case analysis* – acknowledging that not all findings will fit themes;
- *progressive subjectivity* – presenting my ongoing findings with peers during PhD cohort development opportunities and external conferences, to allow for challenge;
- *member checks* – testing interpretations with participants during the focus groups.

To support readers in evaluating the validity of my work I have also chosen to apply Guba and Lincoln's (1989) rationale to inform the presentation of my data and analysis. This includes setting out a comprehensive description of the context of the intervention and the process in Chapter 5, to allow others to make judgements about the potential for *transferability* to their own situations and to support *dependability* of my later analysis. In this way, I will particularise the findings as a 'natural history' (Becker, 1958, p.660), applying

vignettes and direct quotations to illustrate practice, clearly signposting why they have been selected (Trowler and Cooper, 2002).

Finally, in Chapter 6 I document detail of the process of data analysis to support *confirmability* of my findings, which are presented as themes in the Discussion Chapter.

4.5 Ethical considerations

The research framework was designed and approved in line with Lancaster University's Ethics and Research Governance Code of Practice: incorporating moral principles, protecting participants and delivering outcomes intended to benefit the community involved in its design. It further complied with the Data Protection Act 1998 and I was solely responsible for transcribing, anonymising and storing data. Potential participants, all volunteers, were invited to a briefing that was supported with clear written information, setting out the purpose of the research, the design of the study and the aspiration for inclusion in the thesis and possibly future publication, to allow for participants' informed, signed consent. It was made clear that participants were welcome to withdraw from the study at any time before, during and for up to four weeks after the CL sessions. Beyond that timescale, withdrawal would have a negative impact on the completion of the analysis stage of the thesis due to the collaborative nature of the programme.

During transcription and analysis, pseudonyms were applied to preserve participants' anonymity and any references to specific geographic locations were removed with a view to publication. Also, participants' faces were blurred in the sections of video and photographic footage selected to illustrate findings within the thesis.

One key ethical consideration related to my decision to involve participants in collecting primary and secondary mirror data between the Change Laboratory sessions, to investigate aspects of engaging readers, bringing back that information to later sessions to influence the course of the project. To protect potential primary sources, such as interviewees, and the intervention participants during the mirror data collection stage, I therefore included a training session about the ethical process for data collection during the CL, designing information sheets, consent forms and data protection processes in exactly the same way as the overarching study. Following my test study, I was also aware of a potential power imbalance between doctoral students working alongside professionals. To negate that as much as possible, as a group we discussed and agreed ground rules, expressing our shared position to treat each other equitably.

Finally, the focus groups took place at the end of the Change Laboratory intervention when group participants were acquainted, to increase their comfort levels and ensure they could draw on their experience of the Change Laboratory during the discussion. By doing so, I also ensured that any issues

arising from the research project were discussed and escalated through the appropriate channels, if required.

4.6 Strengths and weaknesses of the research design

Referring back to the Change Laboratory intervention itself, one of its strengths is its exceptionally close alignment between ontology, epistemology, theory and methodology, a critical factor for supporting the thesis with a logical flow (Wisker, 2007). This alignment stems from the close relationship to activity theory, which is both a theory about human behaviour, a methodology and a method (Hansson, 2014). An additional strength of the study is the application of multiple methods to multiple sources of data, which is intended to triangulate a rich set of data.

Although I clearly state my position as an active participant and insider researcher, thereby confirming my 'positional validity' (Pillow, 2003, p. 178), I do not rely on that single source of data in case it 'masks continued reliance upon traditional notions of validity, truth and essence in qualitative research'. (Pillow, 2003, p.180). Instead, I employ a number of research methods alongside the valuable input of participants, to validate my findings.
All research projects have weaknesses and limitations, however, and it is important to address those at this point. In particular, there is considerable debate about suitable time-spans for a Change Laboratory intervention, with Bligh and Flood (2015) highlighting examples from higher education settings that range from four days to two years. Researcher-interventionists tend to

seek longer expansive learning cycles than professionals (Engeström, 1987) and yet problems are unlikely to be solved in neat time packages that will fit with the ‘rules’ of both students and stakeholders.

As I explained in section 1.5 of the Introduction Chapter, an earlier study that I carried out raised the challenge of serving two masters - needing to meet the time pressures of PhD students and professionals. Moving forward to this current study, I faced a similar quandary when time pressures, from both the students and professionals, compelled me to consider reducing the proposed gaps between each session. In the earlier test Change Laboratory, the sessions had been separated by a minimum of a week, and two for the data collection process but that had resulted in two of the nine professional participants, those who felt the object was less central to their work, passively withdrawing, a significant percentage of 22%.

During the design phases of my thesis planning, my research peers and colleagues had already suggested that my ambition for aligning closely with Change Laboratory theory and holding interventions over a period of months was a potential limitation, particularly because in my application of the intervention, the object was relatively indirect, with a potentially weaker hold on participant motivation. For this study, I weighted my decision towards the need to observe relational working with as many participants as possible. For that reason, at the negotiation stage, I defended my rationale for retaining each stage of the expansive process, aligning with the principles of the Change Laboratory, but agreed to concertina some of the sessions to

stimulate the most intense relational working. At all stages I was conscious of my decision to continue researching this intervention approach beyond my PhD and internally defended my intention to observe, analyse and reflect on this approach to inform future research.

The data from the 35 hours of direct interaction with participants is presented as a natural history in the following chapter, prioritising information that addresses my research questions, having applied Guba and Lincoln's standards (1989).

5 Data Presentation

5.1 Introduction

This study builds on the proposition that through cyclical, expansive co-construction of meaning, participants can be facilitated to develop relational working across an active intersection of practices. The structure of this chapter is therefore designed to document a comprehensive description of the process of the intervention, presenting a natural history of each of the nine sessions of the CL. The purpose of doing so is to allow the presentation of the study to meet the criteria for transferability and dependability, as those terms were defined in section 4.4. The presentation of each session will be structured consistently, comprising the following four sections.

- Session context: establishing the specific context of each session.
- Session design: detailing the intended plan.
- Session report: describing what actually happened.
- Session outcomes: summarising what came out of the session and any planned actions.

5.2 Setting the context of the study

I begin this chapter by establishing the route to negotiating the first stimulus, building on earlier discussions about the shared object of the study discussed in section 4.2.3.1.

Critically, Virkkunen and Newnham (2013) argue that a CL begins at the first point of contact with a client. It would have been preferable to audio and video record the first meeting with the Charity; however, that was deemed to be too intrusive at this early stage of negotiation. Following guidance from Virkkunen and Newnham (2013, p. 63), I discussed with the Senior Management Team (SMT) of the Charity a number of issues to clarify the activity to be transformed through the CL intervention.

Discussions covered the following topics:

- major changes taking place within the activity of the Charity;
- the strategic objectives of the Charity;
- obstacles to success within the organisation, both current and potential;
- and approaches that the Charity had already taken to direct change.

For ethical reasons I will not discuss in detail the content of those conversations but, in summary the key challenge was to maintain a sustainable financial model while supporting the Charity's work in encouraging reading for audiences that are increasingly engaging with digital reading models. The Charity had a significant asset of high-quality supportive reading materials in the form of reading packages and incentivised programmes tailored to a range of age groups and reading abilities that were judged by the organisation to be of value but limited in their digital accessibility. The Senior Management Team was particularly keen to see how those could be adapted for new patterns of digital text and screen reading. Led by the Chief

Executive, we agreed the following question to articulate the problem or first stimulus, for discussion with the CL participants. How can the Charity adapt to inspire people to read in a digital world and still attract a sustainable revenue stream? This is defined by the author as the first stimulus of the CL design, the 'problem', with the object of the intervention defined as encouraging people to read.

The majority of the CL meetings took place at the University, in a room designed for corporate engagements, set in a quiet part of the grounds. The room was set up in line with Engeström's (1996) guidance, with participants in a U-shape, facing a projector screen, framed by a flip chart on either side. The recording video was set up at the back of the room. Sessions 3 and 7 took place in the Charity's head office, with a similar set up, slightly compromised by limited space.

5.3 The Change Laboratory intervention: a natural history

In the following section, my intention is to convey, chronologically, the design, content and progress of the relational form of CL intervention, as a natural history (Becker, 1958), in line with my decision to present the data in a form that can support Guba and Lincoln's (1989) test of dependability, as set out in section 5.1. I include details of the mediating tasks designed to facilitate expansive learning actions and the subsequent actions of the participants both in the tables and in the accompanying narratives. Descriptions are also supplemented with images of the session and artefacts captured by the

author during the sessions. For each of the sessions, participants retained personal notes. As detailed in the methodology, I retained audio and video recordings, any artefacts produced, such as flipchart notes, presentations produced by participants and completed activity theory diagrams.

5.3.1 Session 1

5.3.1.1 Session context

The first session took place within the University, attended by seven of the eight student participants as Todd joined after session 2. None of the students had experienced a CL before and they were all working in distinctly separate fields of research, within the humanities cluster established by the University.

5.3.1.2 Session design

Expansive learning action	First-stimuli: tasks set by author	Mirror-data: information to stimulate discussion	Second-stimuli: analytical frameworks and assistance given	Social organisation
Session 1 Questioning: Introduction to the model; students questioning status quo.	1 Introduce each other & share motivation for joining CL. 2: Present partner's PhD topic. 3: Consider contribution of expertise. 4: Questioning the Charity through lens of own PhD.		Theoretical model of the CL diagram presented and explained. Blank activity system diagram template completed by students.	Seven students only in group and pair work.

Table 5.1 Summary of design for session 1.

Reflecting research question R.Q.1.1, my intention for this session was to create an opportunity for students to begin establishing *common knowledge* by considering their own values and expertise in order to stimulate their later interpretation and expansion of the CL object. I explained that this first session was about starting to position the researchers' cognition beyond the University and their PhD. I then introduce the theoretical model of the CL and the conceptual model of activity theory to the group.

The first of the four tasks asked for students to introduce themselves and share their motivation for joining the Change Laboratory, followed by the second task with students forming pairs and introducing a summary of their partner's PhD topic to the group. To stimulate broader discussion, each of the students completed a blank activity diagram, using their own PhD as an example to populate their work. The third task encouraged students to consider their research work and discuss the expertise they might bring to the object of the CL. Finally, the students were asked to reflect on approaches they might take to research the Charity through the lens of their own PhD approach.

5.3.1.3 **Session report**

The session ran to time and all of the tasks were completed according to my initial plan. The students seemingly enjoyed the opportunity to meet peers from across the University and they all engaged with the tasks. It took time to support the students to understand the activity model but each student

completed the task, annotating their own activity template to varying degrees. At the end of the session, we discussed how to continue examining the problem question set by the Charity through the students' individual PhD insights. The students consequently agreed to produce a presentation in their own time, ready for the next session. I reinforced the optional nature of any additional activity but all of the students seemed keen to participate.

5.3.1.4 **Session outcomes**

By the end of the session each of the students retained a completed activity model for their own reference, populated with detail about their own PhD. An example of one completed by Amy is included in Figure 5.1. All of the participants committed to research and produce a presentation summarising their individual reflection on the Charity's problem question, seen through the lens of their own PhD.

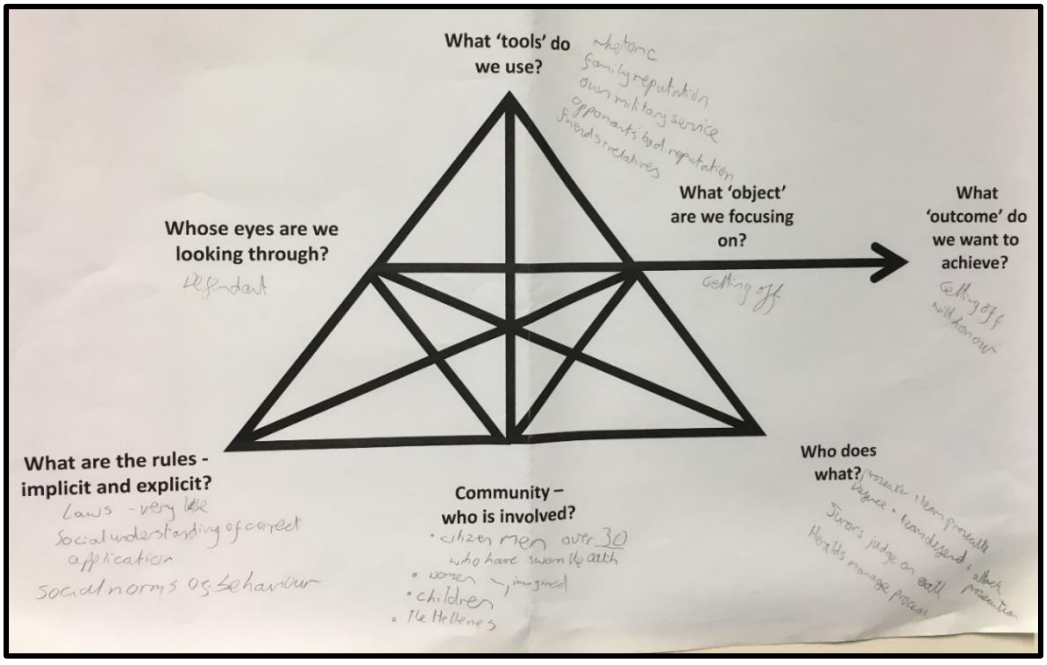

Figure 5.1 Example of annotated activity model constructed by Amy during questioning phase.

5.3.2 Session 2

5.3.2.1 Session 2 context

The second session again took place within the University. The original seven PhD students were present, joined by Katherine, who had previously participated in a CL and was partway through completing an internship with the Charity. I had specifically invited her to share her insight with the group but she was only available for the second session.

5.3.2.2 Session design

Expansive learning action	First-stimulus	Mirror-data	Second-stimuli	Social organisation
Session 2 Questioning: Student questioning & data gathering.	Questioning Charity problem question through lens of own PhD.	Presence of student involved in the Charity as an intern. Student produced presentations.	Theoretical model of the CL diagram present and referred to during the session.	Seven students presenting to the group and group discussion, with an additional student as an invited guest.

Table 5.2 Summary of design for session 2.

The purpose of the session was to begin dialogue and stimulate the expansive stage of questioning about the problem object, established in section 3.2.2. Building on the outcome of the first session, the students had committed to question the current status quo of practice by exploring and analysing the Charity problem question through the lens of their own PhD approach. The intention was to encourage a more outward looking response

in a progression from a *common knowledge* understanding of self towards an awareness of the motives of the Charity practices.

5.3.2.3 **Session report**

During the session, each of the student researchers presented their reflections with a verbal presentation. Perhaps unsurprisingly the students focused on the Charity's website as the most accessible source underpinning their findings. At the end of this session, the group spent a considerable amount of time discussing their observations and two clear themes surfaced. First, that the purpose of the Charity was not clearly stated and evidenced, and second that there were questions about possible omissions in the stakeholder groups supported by the organisation.

The session itself had been minimally designed, giving sufficient time for the students' presentations and discussions but open to deviation, however, all of the students completed the task. By the end of the session, the students seemed to have developed a rudimentary understanding of the Charity; its reported mission, target audiences and the programmes that underpinned its work.

5.3.2.4 **Session outcomes**

At the end of the session, participants agreed to refine their individual presentations and prepare them as PowerPoint slides to share them with the

wider group at the third session. The intention was to apply the artefacts of their PowerPoint presentations as mirror data at the first meeting of student and Charity participants, within the questioning stage of the CL.

5.3.3 Session 3

5.3.3.1 Session 3 context

The third session brought together the student researchers and Charity employees for the first time. The meeting was located at the Charity's head offices, to enable the student researchers to visit the Charity's team in situ.

Figure 5.2 Participants engaging as a group at the Charity headquarters during the questioning stage.

Saskia, a representative from one of the Charity's most important partners also joined the session. An additional student, Todd also joined the group. I had been conscious of the lack of gender balance within the student group

and, despite significant efforts to attract male volunteers, none were forthcoming. Two members of the group suggested Todd and he agreed to join and prepared a mirror data presentation for this third session of interaction.

5.3.3.2 **Session design**

Expansive learning action	**First-stimuli**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Session 3 Questioning: Students & professionals questioning and planning data collection.	1. Introducing each other & sharing motivation for joining CL. 2. Recording questions from presentations on flipcharts. 3. Task to define a specific stakeholder group to explore the problem object.	Presentations produced by the students at session 2.	Theoretical model of the CL diagram presented and explained for benefit of Charity & external participants.	Eight students, nine Charity employees and one external partner. Work took place in pairs, group discussion, and finally two teams.

Table 5.3 Summary of design for session 3.

Intentionally building on the presentation artefacts produced by the students, the purpose of this session was to stimulate the expansive stage of questioning about the problem object and to facilitate all participants to articulate the *common knowledge feature* of *understanding oneself and one's professional values*.

Beginning with an ice breaking exercise, the students and professionals were paired to introduce each other to the group and share their motives for joining the CL. I then introduced activity theory and the activity model, using a fictional example for illustrative purposes. This was followed by the presentations from the student researchers, conveying their observations on the problem question. I invited all participants to capture, individually, any questions that the presentations triggered in their mind, writing them on post-it notes and combining them into themes through group discussion. Finally, the participants were invited to agree a stakeholder group through which to explore the CL problem.

5.3.3.3 **Session report**

At the beginning, participants spent time getting to know each other, sharing the motivations and interests that contributed to their decision to join the CL. The students then presented their findings, an example of which is illustrated in Figure 5.3 below.

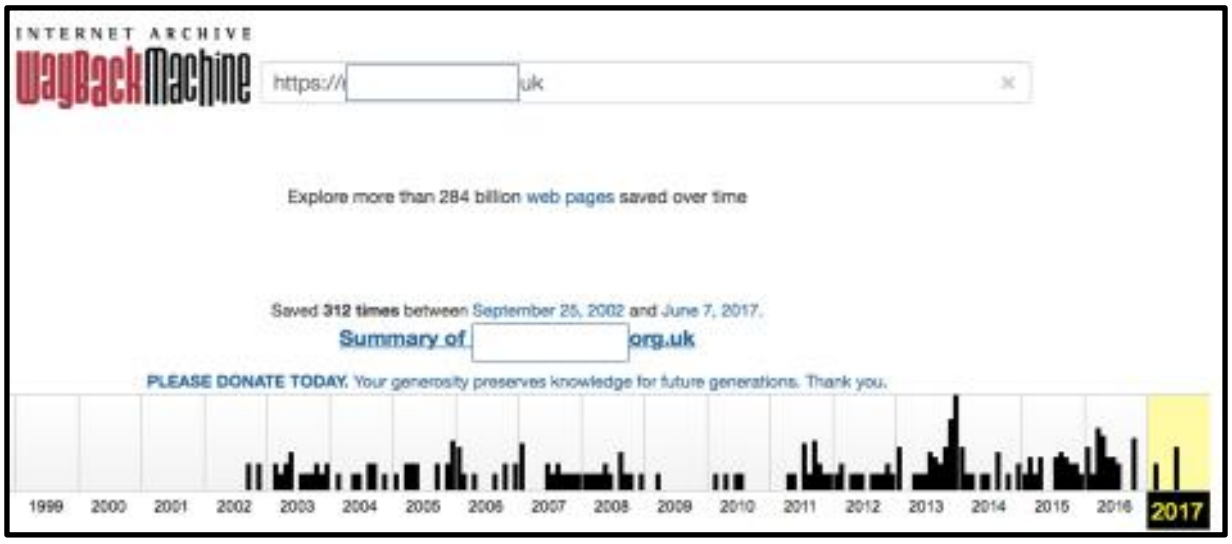

Figure 5.3 'Wayback machine' analysis, artefact constructed by Todd and presented during the questioning stage.

The Wayback machine is a digital archive tool introduced by Todd and applied by him in his own research work. It is an openly accessible website that archives changes made to any website from 1996 to the present day, allowing the user to record a visual snapshot of changes over time. Todd was able to share changes in imagery and content since the Charity's inception, including providing a valuable trail of the change in its purpose. Unfortunately, for reasons of anonymity, it is not possible to publish the webpages of the Charity but other real-time examples are available at the website www.archive.org.

Participants wrote questions raised through their observation of the presentations, which were combined into themes as, illustrated in Figure 5.4 below.

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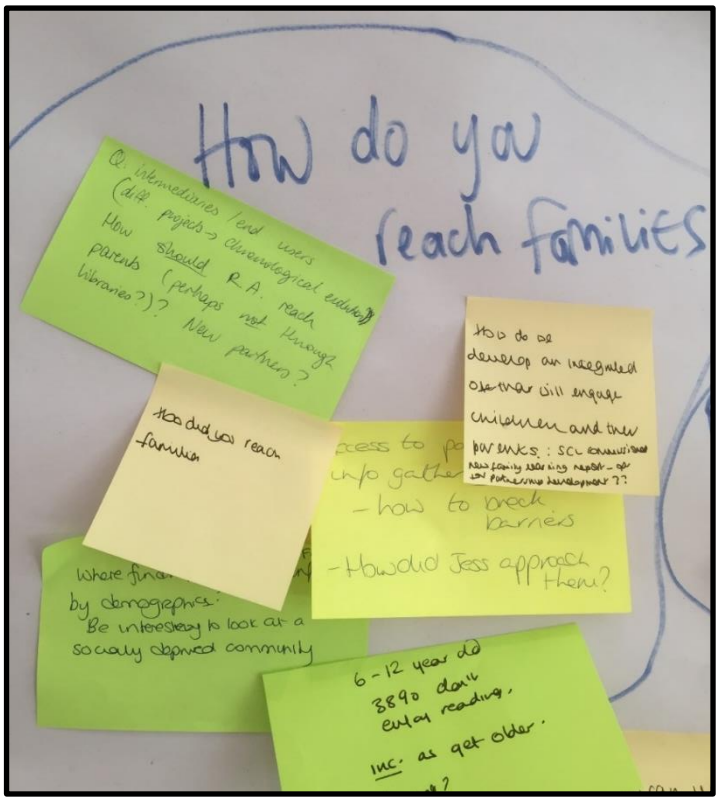


Figure 5.4 Extract of participant constructed observations following the mirror data presentations during the questioning stage.

It was agreed that the problem question framing the CL was broad, so I facilitated the group to discuss how to penetrate the Charity's activity system in order to explore the first stimulus question. Using the activity model to stimulate discussion, the group concentrated on three nodes. Starting with the 'object' of encouraging reading, we discussed the 'subject' node, debating whose eyes the group wanted to consider the question through. The group was strongly divided between wanting to explore the perspectives of young people and families. We therefore agreed to focus on two groups and spent time narrowing the definitions of those to agree a manageable scope.

Participants split into two teams, each with a mix of Charity employees and student researchers. One group focused on the subject of 16-24 year olds who struggle to read and the second focused on parents, particularly concentrating on family reading behaviours. Both service user groups were ones that the Charity already reached indirectly through a variety of programmes but it was agreed that they were important to understand in greater depth. The two teams discussed what data already existed to populate each of the activity system nodes and discussed new mirror data they would need to collect to expand their understanding of the object. It was agreed that they would divide the work between themselves and would prepare two group presentations of their findings at session 5.

Discussion overran by 30 minutes but by the end of the session, participants had a clear brief and were assigned to teams. The tight time period forced

participants to share contact details and agree plans for communicating prior to session 4, the analysis stage of the CL.

5.3.3.4 Session outcomes

Participants committed to working in their 'virtual', mixed teams of students and Charity employees. Over a two-week period, the teams undertook the data collection about the two user groups, with discussion between team members taking place through emails, skype and phone calls. Significantly, the Chief Executive approached Todd, asking him to apply his expertise to the Charity: a rapid progression to relational agency that I will discuss in more detail at 6.4.4 and in the Discussion Chapter.

5.3.4 Session 4

5.3.4.1 Session 4 context

Session 4 took place at the University and was only attended by students. As discussed in the Methodology Chapter at 4.2.3.3, resource constraints meant that time available to the Charity for face-to-face meetings was limited so this session was designed to support contact between participants through mobile, skype, email and messaging.

5.3.4.2 **Session design**

Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation
Session 4 Questioning to preparing for analysis: Students & professionals completing historical and empirical mirror data virtually, with students only in physical session.	1. Sharing observations from Session 3. 2. Plan data collection approaches. 3. Plan connections with Charity employees to collect data.	Photographs of flip chart sheets from Session 3.	Theoretical model of the CL diagram and activity system model present and referred to during the session.	Eight students within the room collaborating through group discussions and working in their virtual teams.

Table 5.4 Summary of design for session 4.

The purpose of the session was to create a time and virtual space for all participants to continue their conversations and research, moving from the questioning stage of the CL to prepare for analysis of their findings. I intended to provide an opportunity to deepen a *common knowledge* understanding of self through the practical application of research expertise. Participants had all been emailed photographs of the flip chart sheets from the previous session, to which they referred.

The first task was for student participants to share their observations from the previous session; they then discussed ideas for collecting the mirror data. Finally, the students worked in groups and individually, connecting with the Charity participants by phone, email, skype and messaging to continue their data planning and collection.

5.3.4.3 Session report

This session was relatively informal, allowing time for individuals to discuss the process and how they might gather the data needed to inform the next stage of the cycle, within the time and resource limits available. The session ran to time and there was some engagement from the Charity participants although this was certainly less than would have been the case if all participants had physically attended the session.

5.3.4.4 Session outcomes

Participants all continued to prepare data collection with their Charity colleagues, virtually, in preparation for session 5. The majority of participants had decided to produce PowerPoint presentations, which were worked on as individuals and groups in preparation for the analysis stage of the CL.

5.3.5 Session 5

5.3.5.1 Session 5 context

The fifth session was termed as an ‘away day’ at the University, with a full day programme from 10am to 4.30pm. Three ‘external’ guests joined the CL, the first, David, had been invited by the Charity as a representative of their existing partnership with a sixth-form college. I had invited two additional experts, Derek and Roger, both representatives from a UK academic publisher with expertise in reaching readers through a combination of digital

and traditional print but with no previous experience of the Charity. This decision stemmed from my experience of the pilot Change Laboratory, when I invited an external specialist to support discussion during the analysis stage. It had been a serendipitous opportunity rather than a planned one but it worked well.

During early discussions with the Charity team, I therefore suggested inviting experts to join single sessions, as it had worked so well in the pilot, particularly at points when participants began to stagnate in their thinking. This was a short notice invitation due to the timing of the Change Laboratory and the fact that we only identified the additional expertise that might be valuable following the initial stages of questioning.

Figure 5.5 Room layout for the analysis stage of the CL.

5.3.5.2 **Session design**

Expansive learning action	**First-stimuli**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Session 5 **Analysis (am):** Students & professionals complete historical and empirical analysis. **Modelling (pm):** Participants construct clear models that negate identified contradictions.	1. Reflection on process to date and stage of cycle. 2. Presentation of mirror data and capturing findings on blank activity system model templates. 3. Forming of two teams to research new solution models designed to negate identified tensions.	Presentations from participants.	Large templates of the activity system model annotated during the session.	Eight students, nine Charity employees and three external experts. Woking in mixed groups and engaging through group discussions.

Table 5.5 Summary of design for session 5.

The purpose of the day was to bring together the mirror data produced by participants in their teams over the previous two weeks in order to analyse the current situation, tracing both the historical evolution of practice and empirical analysis of the systemic relations of the activity, with respect to the two charity user groups and the problem question.

The day was broken down into three sections, beginning with a group discussion about the previous session. Next, the two working groups were invited to present their mirror data, with teams asked to record information on large activity system templates. The two groups were asked to discuss and notate relevant existing Charity activity (in black pen), potential tensions (in red pen) and potential solutions to consider for modelling (in green pen). The

intention was to foster *common knowledge* understanding through dialogue. The final task was for the participants to form two teams to begin modelling solutions that negated the contradictions identified through the morning session.

5.3.5.3 **Session report**

The day ran to time and all participants seemed engaged in the process. Although discussion was open and challenging, the three designed tasks were completed as planned. The session began with candid feedback from participants indicating that *common knowledge* was developing to the extent of triggering an awareness of a contradiction about the object and the purpose of the Charity. This example of the *feature* of *being alert to the long-term purposes of practices* is a key point that I will illuminate in section 6.2.6.
The groups then presented their mirror data, presenting detailed findings about the two distinct Charity user groups. It was noticeable that all of the students presented but only two-thirds of the Charity professionals chose to do so. I had hoped for a stronger indicator of relational agency: a sign of shared responsibility, in this instance of producing research, a point that I will consider at 6.4.2.

The teams then worked together to capture that information on large activity system templates, an example of an anonymised version of the resultant artefact is shared in Figure 5.6 below.

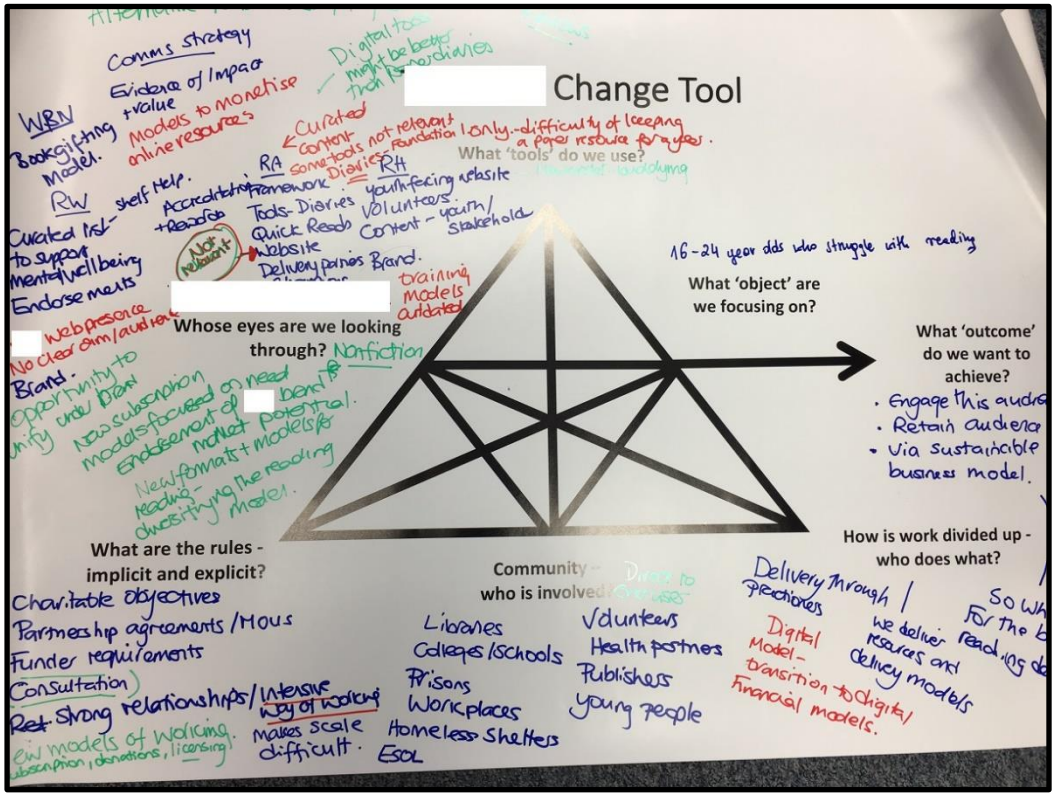


Figure 5.6 The anonymised populated activity framework for the 16-24 year old reading group.

Participants then agreed to continue focusing on two potential user groups; young people, and families and they self-determined which group to join. It was agreed that one team would continue modelling a solution for a family digital 'offer' designed to support reading and building on the existing expertise of the Charity. The second group continued to focus on modelling a digital reading offer curated for young people, targeted at colleges across the UK. Participants divided tasks, agreeing activities including completing primary data about participant perspectives and reading behaviours, and gathering secondary data including examples of best practice or challenge within the areas of interest.

5.3.5.4 **Session outcomes**

Participants continued to work together in researching new models that would address the contradictions identified through the analysis stage. The author retained the completed activity system sheets and converted them to word documents that were shared with participants, with an example shown in Figure 5.7 below.

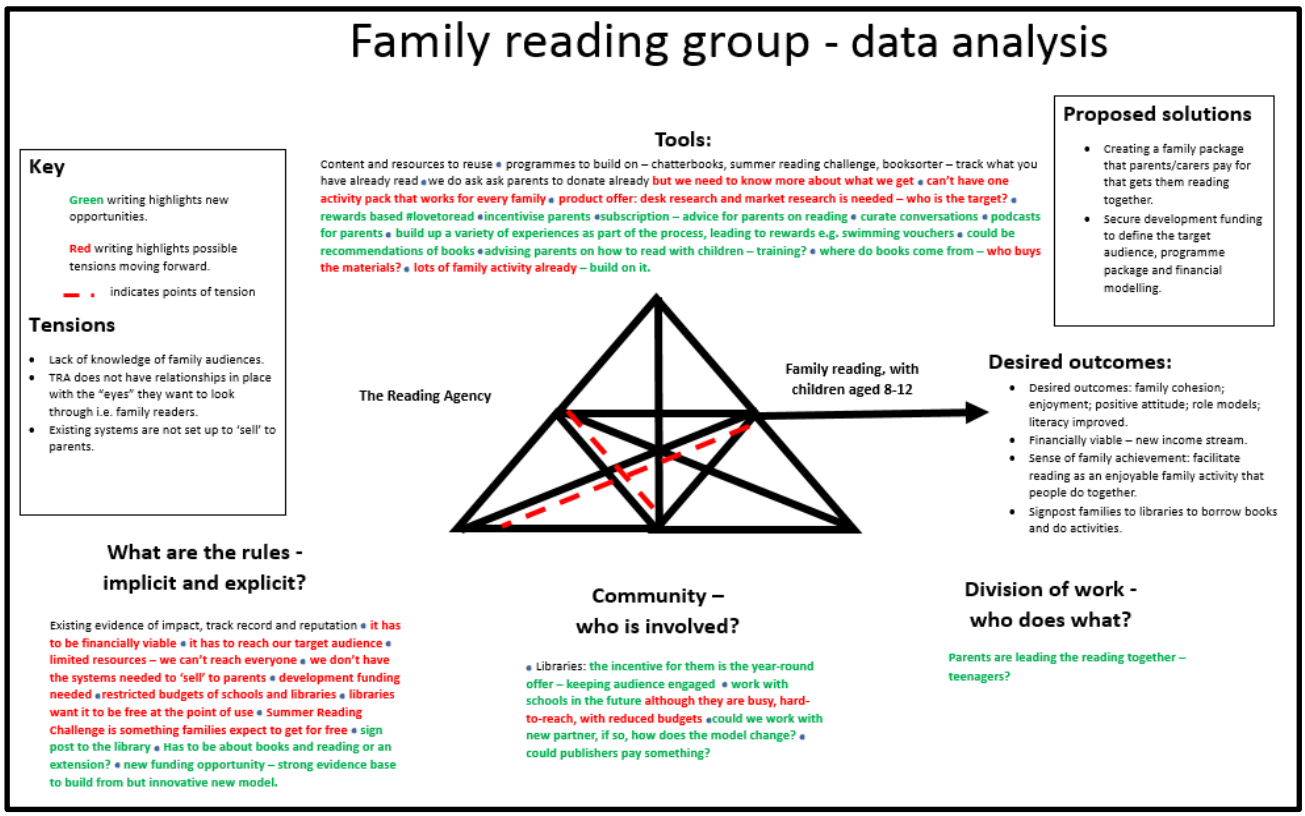


Figure 5.7 Completed activity system sheets converted by the author.

5.3.6 **Session 6**

5.3.6.1 **Session 6 context**

In a similar format to session 4, this session took place at the University and was only attended by students, although during the workshop there was contact with their Charity colleagues by phone, email and messaging.

5.3.6.2 **Session design**

Expansive learning action	**First-stimulus**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Session 6 Modelling: Students and professionals modelling & testing virtually, with students only in physical session.	Informal question and answer session.	Printed activity sheets from session 5 available.	Theoretical model of the CL diagram and activity system model present and referred to during the session.	Five students working individually and collaborating through group discussion. Three could not attend.

Table 5.6 Summary of design for session 6.

The purpose of the session was to create a time and virtual space for all participants to continue their conversations and research, moving from the analysis to the modelling stage of the CL in preparation for session 7. Participants had all been emailed the word documents of the activity systems completed for the two potential user groups, which were referred to throughout the session. The only task was an informal question and answer session about the process and design of data gathering, intended to initiate supportive discussion between the group members and maintain relational rather than singular working.

5.3.6.3 **Session report**

This session was relatively informal, allowing time to support individuals to discuss the process and how they might gather the data needed to inform the

next stage of the cycle within the time and resource limits available. The session ran to time and there was some engagement from the Charity participants although, similar to session 4, this was certainly less than would have been the case if all participants had physically attended the session.

5.3.6.4 Session outcomes

Participants all agreed to continue to research aspects of modelling the re-visioned activity for their respective projects, in preparation for session 7.

5.3.7 Session 7

5.3.7.1 Session 7 context

Session 7 was held in London at the Charity's head office attended by seven students, nine Charity employees and an external expert, Saskia the Library partner.

5.3.7.2 **Session design**

Expansive learning action	**First-stimuli:**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Session 7 Examining and planning implementation Students and professionals testing models & implementation.	1. Sharing data collection. 2. Completing implementation framework template.	Participant driven shared data.	Implementation framework introduced by the author.	Seven students, nine Charity employees and one external expert. Collaboration through mixed teamwork and group discussion.

Table 5.7 Summary of design for session 7.

Building on the cumulative work of the participants, the purpose of the session was to present the models that the two teams had been developing, examining them as a group in order to refine them before implementation. Two tasks were designed, first participants were invited to present their proposed models of re-visioned activity. Second, I introduced a framework for implementation that comprised a number of headings including key milestones, resources and timelines required to take each modelled solution forward.

5.3.7.3 **Session report**

After a brief recap, I explained the plan for the session. Participants shared their modelled solutions, which comprised a digital reading package for families and a digital package targeted at colleges, designed to support young

people struggling to read. Between session 5 and 7 participants had completed in-depth research to inform those models, a sample of which is shared in Figure 5.8 below. The group work suggested an enhanced ability of the participants to apply their own expertise. Participants also exhibited the capacity to co-ordinate purposeful action within and across the activity systems, an indicator of increased *relational agency* that I will discuss in section 6.4.5. In reality, this meant that I spent much less time intervening to act as an interpreter of the activity systems and participants were increasingly self-sufficient.

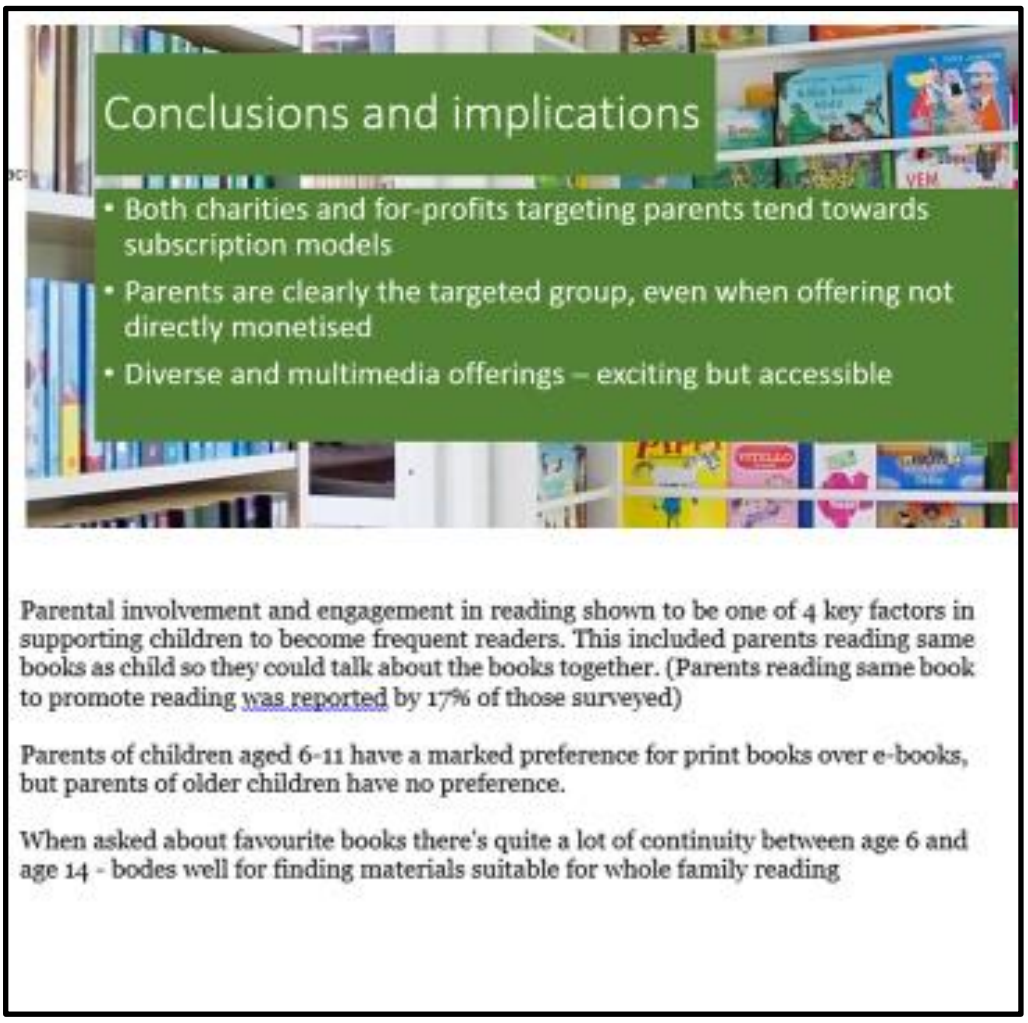


Figure 5.8 Extracts from data constructed by participants during examining and implementation stages.

Each group agreed a framework for their implementation plan and spent the remainder of the session populating it and agreeing a pathway for progressing the project internally. The session concluded with both groups sharing their implementation plans and agreeing a team lead to carry the work on within the Charity.

It was noticeable that although student researchers were engaged during the session, their verbal input was reduced, compared to the previous sessions. As I listened to the recordings and read my observation notes from the session it became clear that episodes of dialogic interaction across the two activity systems and practices were indeed reducing, an observation that I explore in more depth in section 6.4.2.

5.3.7.4 **Session outcomes**

Each group leader nominated by the participants retained a copy of the completed implementation plan. Following the session, I invited the Charity to feedback their reflections on the CL process and they offered to write a written report, following a meeting of their participants, without any involvement from student researchers or myself. This important artefact highlighted a difference in perceptions of expertise, a point that I will consider as I analyse relational expertise in section 6.3.6.

5.3.8 **Session 8**

5.3.8.1 **Session context**

This session took place in London, and included a number of new members to the CL, all from the Charity. The Chief Executive had appreciated the development opportunity that the Change Laboratory offered her team and decided to extend an invitation to include two new participants across the hierarchy of the organisation. She also invited, Paul, a previous colleague of Sonia's, now working as a research consultant for an academic publisher.

5.3.8.2 **Session design**

Expansive learning action	**First-stimuli**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Session 8 Implementation, reflection & evaluation, then moving to a new cycle of **questioning** and **analysis.**	1. Reflection on process and outcomes of the CL. 2. Sharing blank activity system templates to plan mirror data collection and reporting. The latter was an unplanned task after the original task was abandoned.	Artefacts from previous sessions.	Blank templates of the activity system model present and referred to during the session.	Seven students, eleven Charity employees and two external experts. Working in two mixed teams and through group discussion.

Table 5.8 Summary of design for session 8.

The purpose of this session was to facilitate participants to move to the implementation stage of the CL, from the modelling stage of the previous session. The first planned task was reflection on the process of the CL

through group discussion. The second task was to analyse potential barriers and limitations to consolidating the models into stable practice.

5.3.8.3 **Session report**

The session began with a summary of the point that we had reached within the CL, including challenging discussions that indicated the surfacing of a contradiction, as common knowledge understanding crystallised. Participants explained that progress on implementing the two solutions developed at the previous session had halted, because of confusion about the best way to take plans forward. I discussed with the group how they wanted to move forward with the session, suggesting that we focus on the contradiction that seemed to be holding progress back. As I will explain in more detail in section 6.4.3 this discussion triggered a critical point in the expansive learning cycle. In summary, one of the new members to the group, Sally, a Charity employee, re-initiated discussion about what she believed to be the contradiction that was causing this hiatus, namely that the Charity's purpose was insufficiently clear. Interestingly the questions asked were almost identical to those questions asked by the students during the questioning phase of the cycle.

Seemingly, it was at this reflection stage that a significant tension surfaced, leading the CL group to a new cycle of questioning. Rather than moving to the second planned task, discussions took us to the questioning phase of the CL, moving around to a new expansive cycle of the intervention. As I will go on to discuss in section 6.2.6, participants began to focus on the problem in its

wider context by seeking clarification of the long-term purpose of the Charity's work. This led the group to concentrate on two aspects of the Charity, specifically re-defining its purpose in the current climate, and defining its value as an organisation. Following facilitated discussion the group agreed to split into two teams, one researching data to explore the Charity's 'brand', in the broadest sense of the term, including culture and competitors. The second team focused on the Charity's 'assets', again in the broadest sense, incorporating expertise, materials, content and data.

5.3.8.4 **Session outcomes**

Participants committed to working in their 'virtual', mixed teams of students and Charity employees. The teams undertook the data collection on the two highlighted aspects of the Charity in order to populate activity models for the analysis stage of the CL, in an identical process to the original CL cycle. Discussion continued to take place between team members through emails, skype and phone calls in a fluid demonstration of *relational agency*, with a high degree of relational competence.

5.3.9 **Session 9**

5.3.9.1 **Session context**

Session 9 comprised an intense final away day at the University, in the same room as session 5 and lasting for seven hours. During the session, we were joined by a new external expert, Jamie, the Chief Executive of a digital

content company who I had invited before the decision had been made to focus on the Charity at a corporate level. Paul, the external expert previously invited by the Charity was also present.

Figure 5.9 Participants preparing for mini-conference during questioning stage of the second expansive learning cycle.

5.3.9.2 **Session design**

Expansive learning action	**First-stimuli**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Questioning; analysing; Modelling and examining: Analysing contradictions & modelling solutions.	1. Mini-conference. 2. Capturing notes on activity system templates. 3. Analysis of contradictions. 4. Teams model solutions. 5. Implementation plan completed.	Participant driven shared presentations.	Blank activity system templates. Blank implementation framework, as introduced by the author in session 7. Mediating tools introduced by participants.	Seven students, eleven Charity employees and two external experts. Working through mixed group presentations, small groups, then three new teams.

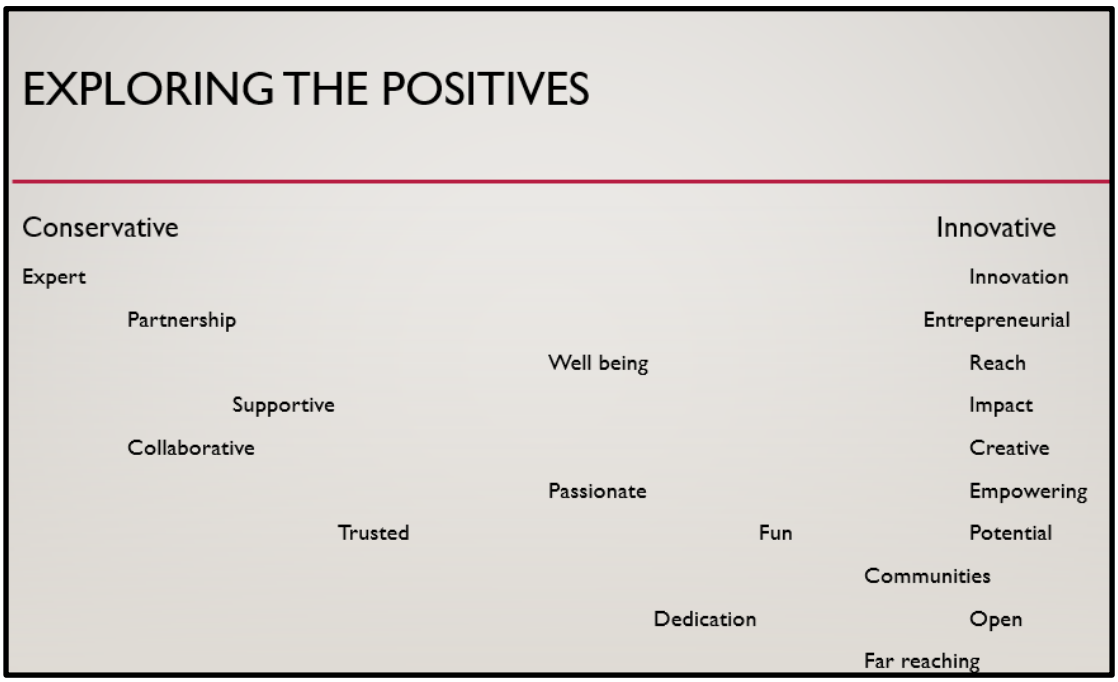
Table 5.9 Summary of design for session 9.

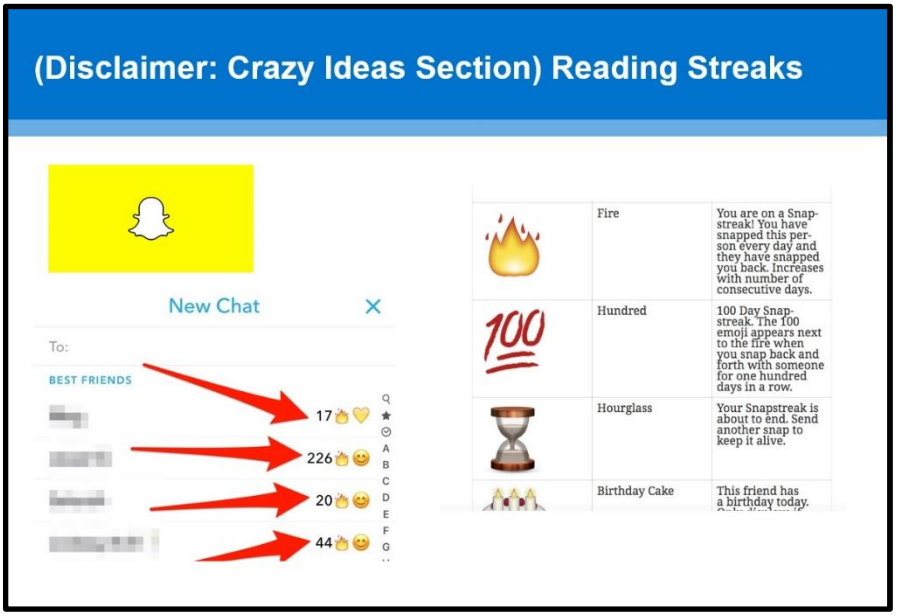
The purpose of this session was to support participants as they moved into a new expansive learning cycle. As time was limited, I formulated the session to follow the design of earlier sessions, building on the data assimilated by the participants between sessions 8 and 9. The first task was termed a mini-conference, with participants listening to the linked individual presentations from the two groups. Participants were invited to capture their observations and questions on blank activity model templates. The third task encouraged each group to use the populated activity model to analyse contradictions, with groups swapping models and sharing their observations. The fourth task required the two groups to brainstorm solutions that addressed the analysed contradictions. The final, fifth task was for participants to complete the implementation plan for their modelled solution.

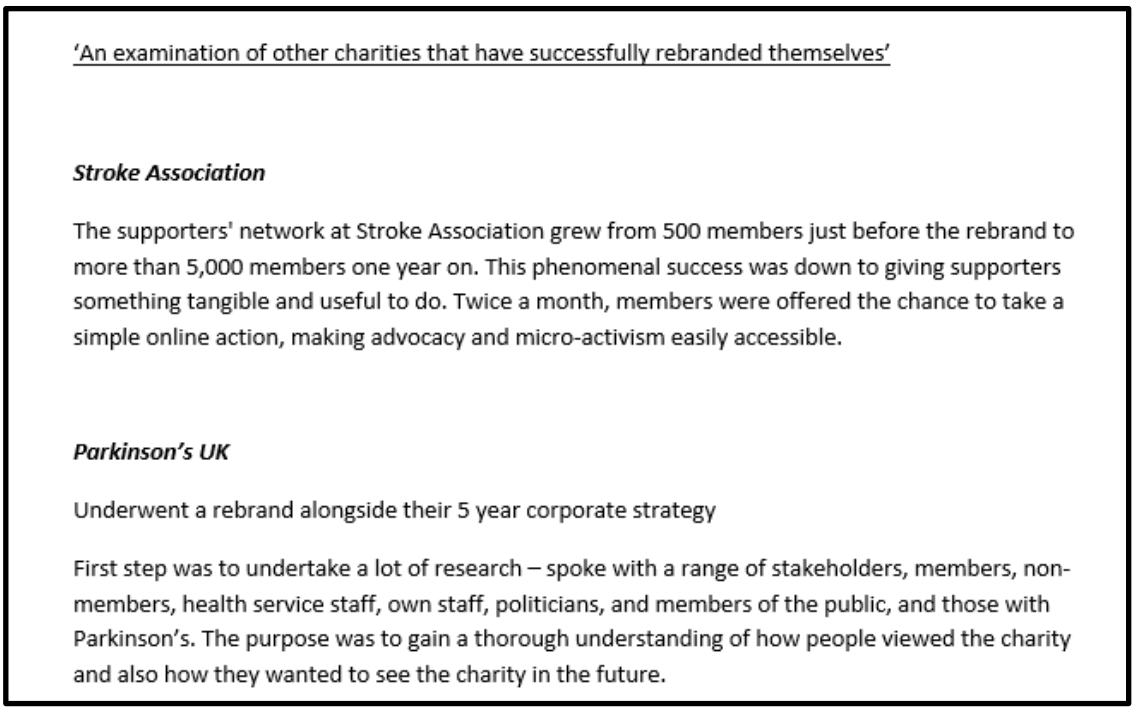
5.3.9.3 **Session report**

Participants seemed to be energised and positive in this session and no issues or concerns were raised when we began the workshop and reflected on the CL process to-date. I summarised our progress so far and set out the plan for the day, which although compressed, was agreed to be manageable and constructive. Perhaps due to the timescale, participants were keen to comply with the proposed agenda and the day followed the planned timing.

It was clear that participants had invested a significant amount of time preparing for the presentations in the questioning phases of this second CL cycle. Examples are illustrated in Figure 5.10 below.







'An examination of other charities that have successfully rebranded themselves'

Stroke Association

The supporters' network at Stroke Association grew from 500 members just before the rebrand to more than 5,000 members one year on. This phenomenal success was down to giving supporters something tangible and useful to do. Twice a month, members were offered the chance to take a simple online action, making advocacy and micro-activism easily accessible.

Parkinson's UK

Underwent a rebrand alongside their 5 year corporate strategy

First step was to undertake a lot of research – spoke with a range of stakeholders, members, non-members, health service staff, own staff, politicians, and members of the public, and those with Parkinson's. The purpose was to gain a thorough understanding of how people viewed the charity and also how they wanted to see the charity in the future.

Figure 5.10 Extracts of presentation artefacts constructed by participants during questioning stage of the second CL cycle.

The mini-conference suggested a significant progression in relational working, with the Charity employees and Paul presenting the majority of mirror data, in a strong indicator of the relational agency *feature* of *shared responsibility*

within collaborations when taken across the entirety of the intervention, as discussed later in section 6.4.2. Following the conference, the group was divided into mixed, small groups to analyse contradictions and then brainstorm solutions. In a deviation from my design for the session, this resulted in grouping together three new teams, one focusing on brand, one on assets and another on 'quick wins'. The latter resulted from discussion about the hiatus within the Charity, caused by internal conflict about the way forward. It was agreed by the group that actioning some quick wins might begin to break this conflict. Each team developed an implementation plan, setting out the actions required over the next three, six and nine months. A team representative was nominated for each of the three groups and a plan was agreed for taking each plan forward within formal structures of the Charity.

Although we had moved forward to a new expansive learning cycle, progression was accelerated compared to the previous cycle. It seemed that the participants' work was resolving a long-held tension within the organisation.

5.3.9.4 **Session outcomes**

Participants then contributed to the two, staggered, and separate focus groups – one for the student researchers and one for the Charity employees. Both were designed to capture perceptions about the significance of the process and outcomes of the CL in preparing participants to work

collaboratively across practice boundaries. Key sequences from both focus groups are reported in section 5.4 and in Chapter 6.

After the final session and the focus groups, the formal CL ended, as agreed at the start of the intervention. I brought together all of the participant produced presentations and the typed, annotated activity models and shared them with the Charity's leadership team.

The Chief Executive and I are in regular contact and I invited her to present her perspective on the intervention at a University meeting, attended by senior level professionals. The quick wins identified by the CL participants had been adopted by the Charity and were being championed by the team members involved in the sessions. A concern about the lack of resource to drive forward the other modelled solutions was raised, however. In response, I was able to offer the option of a Research Council funded PhD internship, enabling future PhD students to apply for a funded placement of up to one year, which the Charity has agreed to pursue.

The student participants are now all approaching their final months of study. Since the CL, I have worked directly with Todd who has been invited by the University to complete some part-time work applying his digital expertise. I have also worked with Mia who has been a strong advocate of the CL process, enabling us to apply the methodology within doctoral education. Mia recently completed her PhD and gained a permanent, non-academic contract within the University.

5.4 Participant reflections during the focus groups

Both focus groups were set up in accordance with my proposed methodology (see section 4.3.5). They were designed to discuss my provisional analysis and explore any issues not captured through the other methods. Section 5.4.1 sets out the key episodes within the Charity focus group and section 5.4.2 presents those of the student focus group.

5.4.1 Charity focus group

As captured below member checks with the Charity participants particularly referenced the contribution of the external partners invited to join the intervention.

Charity Focus group: interaction 24 to 25.

24. Helen	I think it's also been really useful to have Saskia and other partners involved.
25. Sophia	I've liked the fresh eyes as well. It's having that filter of strangers - it makes us question things that we do unquestioningly.

They also articulated space and freedom to think as being a helpful part of the design of the intervention.

Charity focus group interactions 120 to 122.

120. Denise	I think one of the valuable things is that it makes you take time out to think about something, which with the pressures of ongoing delivery…it's really difficult to find that space to do that creative thinking. It's that opportunity to think laterally.
121. Rosanna	Just being in a freethinking space I think is really useful and so different from my normal life, which is chaos and madness.
122. Gloria	Yeah, It's nice having the space and the time to bounce ideas off and having to do the research as well, you sort of think in different ways rather than just doing what we always do.

This led onto participants reflecting on the research undertaken throughout the intervention by all participants.

Charity focus group: Interactions 228 to 231.

228. James	But also putting that in the context of the way this process works, so having some of the research being done in real time because I think if you put us all round the table and said you can now think strategically we might have talked a lot of hot air so I think this process has helped to focus on things.

229: Denise	Yes, and I think it's quite important actually because we've really used a lot of this stuff that we've researched.
230: Flora	I think for me it's that everybody is now a researcher because a lot of people don't necessarily do that in their day job. It's like everyone's brought something that's been useful and they may not have to do that in their day-to-day. Very quickly we stopped being the Charity and the University, it was all of us solving the problem together.
231.Sally	And because we've done some of it ourselves, it's like embedded, it's not the same as being presented.

This shift in the behaviour of Charity practitioners towards becoming researchers themselves also seemed to affect their perceptions and professional recognition of the research expertise of the students, as the extract below supports.

Charity Focus group: interaction 175 to 176.

175. Sonia	….and I'm really impressed at the researchers' speed of working.
176. Flora	Yeah that's amazing.

Finally, this excerpt from the report written by the Charity after session 7 was referenced by Sonia during the focus group.

Report	**An alternative approach.** The theory of change model used was new to [the charity] staff and allowed for a clearer perspective of our work. Its structured framework and the facilitated discussion groups kept the focus clear. Time limited, small, focussed tasks were very productive and meant that challenging topics could be dealt with in a way that wasn't daunting.

This initiated discussion about the design of the intervention and introduced discussion about the tools applied during the process.

Charity Focus group: Interactions 247 and 248.

247: Flora	I think there's something for me about the toolkit – the different tools that we used because we create toolkits as an organisation for other people but if actually we approached quite a lot of our big questions using those toolkits. Because we can get bogged down in the detail so it focuses the mind a bit more.
248: Denise	Yes because if you look at Paul's business modelling tool, we can look at our programmes in a much more systematic way.

It is important to note that Denise also references applying Paul's business modelling tool in the future, marking the potential for applying this new expertise beyond the lifespan of the CL to interpret and respond to future problems.

5.4.2 **Student focus group**

For the PhD researchers the role of research played a similarly important part of the discussions within the focus group, as the excerpts below reinforce.

Student focus group: Interactions 47 and 48.

47. Jasmine	It was really refreshing to work at that pace and for it not to have to be perfect – just good enough and the response from the [Charity] team made me believe that I'm actually pretty good at this!
48. Mia	Yes…and taking me out of my PhD head space. It's given me the time to really understand how my skills as a PhD researcher are transferable…in a real-world context.

The researchers also emphasised the team aspect of the interaction and their perception of being listened to and valued, as the following excerpts demonstrate.

Researcher focus group: interactions 120 to 122.

120: Mia	I was impressed by the extent to which they were willing to listen and be receptive to people because, yes, we're outsiders but I don't have expertise in what you do at all and that willingness still to kind of accept the ideas and take them on board and just to take the whole project seriously, it sounds like ideas are being implemented as a result of what's happened and that willingness to really listen is appreciated. It genuinely felt like we were part of the team.
121. Evie	Yeah I would echo that - very quickly even within that first session.
122. Ijeoma	I really enjoy being a part of this, part of a team….not working on my own.

Finally, the students referenced the activity theory model, as the following excerpt illustrates.

Focus group: interaction 151.

151. Kasia	The triangle model means you can keep on going back to the overall problem rather than getting stuck into detail because often we're coming up with solutions but you've got so much more work to do until you get there to the solution, it brings you back again.

Having presented each of the nine sessions and key excerpts from the focus groups, the following chapter synthesises and analyses the data in order to trace the development of relational working.

6 Data analysis

6.1 Introduction

This chapter provides an analysis of the previous Data Presentation Chapter in order to contribute insight into how aspects of relational working developed across the intervention, by tracing the development of common knowledge, relational expertise and relational agency (with the concepts and *features* defined in section 3.2.4 of the Theoretical Framework Chapter). The intention is to support my answering of the research sub-questions directly in this chapter, in order to build the evidence required to answer the overarching research question R.Q.1 in the Discussion Chapter.

The manner in which the chapter is presented is intended to meet the criterion of confirmability, as defined in section 4.4 (Guba and Lincoln, 1989), following the same process for each of the three concepts of relational working.

- A table presents the development of each concept and its component *features* across the different CL stages, summarising key incidents.
- In-depth analysis of specific sequences.
- Synthesis of my findings to answer each research sub-question.

It is important to note that the three concepts of relational working are interwoven (Edwards, 2017). For that reason, I present those concepts and *features* within the most relevant frame of reference rather than artificially forcing them to fit within a descriptor.

6.2 Common knowledge: examining the data

In section 3.2.4 I explicate the features of boundary crossing practice that foster common knowledge and can mediate collaboration, which form the basis of the analysis within this study in order to answer question R.Q.1.1.

> To what extent is common knowledge about motives, purposes and practices of other participants developed through the different stages of the research-intervention?

6.2.1 Summary of key incidents in the development of common knowledge

Having coded for the *features* of common knowledge, across the data, I begin this section by presenting Table 6.1.

Expansive learning action / **Examples of common knowledge *features***	**Questioning**	**Analysis**	**Modelling**	**Examining**	**Implementation**	**Reflection and evaluation**
Being alert to long-term purposes of practices.	Session 2: Extensive questioning of the purpose of the Charity, triggered by Cassandra.	Session 5: Amy and Denise trigger dialogic talk about the purpose of the Charity.				Session 8: Sally, re-initiates discussion about the long-term purpose of the Charity, surfacing a key tension & triggering new cycle of questioning.
Understanding oneself and one's professional values.	Sessions 1 & 2: students articulate their expertise and values as a homogenous group and apply their PhD lens to the problem object. Session 3: all participants verbally articulate expertise and work together in mixed teams applying expertise.	Session 4: participants articulate their expertise as they gather data.	Session 6: participants articulate their expertise through selection of mirror data.	Session 7: participants articulate values through group work.		

Knowing how to know who. Note this is a *feature* that I also explore in section 6.3.5.	After session 3: Jasmine employs distributed expertise, working together with participants to achieve 457 survey responses.					
Being pedagogic.	Session 3: Todd quickly makes his expertise clear and accessible, demonstrating a strong understanding of what matters to other practices.			Charity singles out Todd's expertise.		
Being responsive.	Session 2: students, working in a homogenous group appear to quickly demonstrate a shared awareness of Charity stakeholders. Session 2: Jasmine identifies a potential gap in the reading support for families.	Session 5: Saskia, an external partner of the Charity aligned with a student and then Denise, a Charity employee, to highlight the weakness of the website for users.				

Table 6.1 Stages of the Change Laboratory intervention and corresponding examples of the manifestation of common knowledge. Note the consolidation stage was not reached within the study so is omitted from the table.

The table summarises the key sequences in the development of the *features* of common knowledge across the two expansive learning cycles of the CL. I now explore those key sequences in the development of common knowledge, making decisions based on the credibility standards established in section 4.4 (Guba and Lincoln, 1989). Each *feature* is explored in the order in which it appeared to manifest within the intervention, with discussion about the extent to which it developed and its relation to task design.

6.2.2 **Understanding oneself and one's professional values**

During the questioning stage of the expansive cycle, students concentrated on their own PhD, supported by the second-stimuli of the blank activity theory model, designed to articulate their own expertise and motives prior to group discussion. The student participants approached the task from different perspectives, influenced by their own experiences, disciplines, research foci, personal and professional motives.

Beginning in session 1, Ijeoma discussed her personal motivation to understand more about the Charity in terms of reading initiatives that she could introduce to her own country. In another example, Jasmine introduced her research on the psychological and material aspects of reading and their implications for the object of the CL, facilitated by the first-stimulus of questioning through the lens of her own PhD.

The excerpts in table 6.2 illustrates both examples.

Expansive learning action	**First-stimulus**	**Second-stimuli**	**Social organisation**
Questioning	Questioning the Charity through lens of own PhD.	Discussion of completed activity system diagram.	Discussion as one of seven students.
43: Ijeoma	What I'm interested in is how they started at the most basic. I'm asking this because I'd like to introduce some of the things back in my country so – where do you start? What are the most basic things – how can I take this back? How can this be replicated somewhere else? You're involved in so much now – how can I start this?		
82. Jasmine	I'm looking at the impact of a late 18th century English author and exploring how she was fascinated by the physical object of the book and the way that that generates particular reading experiences. I think that's something we see as a really key interest in books today especially because we are, like, how are books different to e books? She was one of the first authors to draw attention to that, so the idea of the physical object and the sort of reading experience that creates is important to look at.		

Table 6.2 Session 1: interactions 43 and 82.

By viewing the problem object through the lens of their own PhDs, facilitated by the activity model, there was evidence of participants articulating the common knowledge *feature* of *understanding oneself and one's professional values* (see section 3.2.4). Their discussions also indicates the beginning of a notable aspect of the first session of the CL, when the research students began to question and seek clarification of the purpose of the Charity,

seemingly triggered by the second-stimuli of the individually completed activity system diagrams.

6.2.3 **Being alert to the long-term purposes of practices**

During the second session with students, this questioning form of discourse became more pronounced, as they completed the negotiated task design of producing a presentation in order to question the Charity through the lens of their own PhD. This is most clearly illustrated by an extract from Cassandra who was discussing her analysis of the Charity's main website, a mediating artefact in questioning the Charity's problem that she self-selected once I had set the task of producing mirror data.

Expansive learning action	**First-stimulus**	**Mirror data**	**Second-stimuli**	**Social organisation**
Questioning	Questioning Charity through lens of students' PhDs.	Student presentations.	Theoretical model of the CL diagram present and referred to during the session.	Seven students presenting to the group.
161: Cassandra	What I wanted to do was to see the purpose of existence - why is the Charity important, why should it exist at all? The thing is that obviously, I have my own reasons why I think it should exist. I personally believe as a researcher that it's important that it exists but coming to the website with critical eyes - show me exactly why you exist? I went on full researcher mode and I just kept asking, evidence, evidence,			

	evidence? For instance, ‘reading betters your cognitive skills’ – what do you mean about cognitive skills…how?
162: Katherine	It’s communicating that to people who don’t know what they’re talking about, which I think is a big problem.
163: Cassandra	Exactly - we are all saying the same thing, there is something with the communication, maybe it’s not thinking about the stakeholders?

Table 6.3 Session 2: interactions 161 to 163.

This constant questioning about the purpose and practice of the Charity triggered the most animated, whole group discussion across both sessions 1 and 2. It was also the first time that I coded for the common knowledge *feature* of *being alert to the long-term purposes of practices* (see section 3.2.4).

6.2.4 **Being responsive to others**

Critically, this questioning discourse seemed to move the student group beyond expressing their own motives and professional values, towards exploring what mattered for the Charity. I suggest that the key *feature* of common knowledge being developed here, supported by the questioning stage of the CL, *is being responsive* a term that Edwards regards as including both professionals and clients, in this instance those who might access the Charity’s services (see section 3.2.4).

As this extract demonstrates, Jasmine identified one potential stakeholder group that she considered particularly overlooked:

Expansive learning action	First-stimulus	Mirror data	Second-stimuli	Social organisation
Questioning	Questioning Charity through lens of students' PhDs.	Student presentations.	Activity model.	Seven students presenting to the group.
329: Jasmine	From what I can see there is a bit of a gap for parents: there is quite a lot for libraries and teachers but a bit of a gap where you might expect for parents. It means that end users aren't seeing the options that are available.			

Table 6.4 Session 2: interaction 329.

Ostensibly the social organisation of these first two sessions, within the questioning stage of the CL, gave students the space to question the Charity within a homogenous group, unchallenged by the Charity employees. This appeared to contribute towards developing common knowledge at this early stage of the expansive learning cycle.

6.2.5 Being pedagogic

As I set out in section 4.2.3.4, I altered the format of the CL, designing a task for students to produce mirror data, to stimulate discussion at the first full group meeting with the Charity. Interestingly, when this mirror data was presented during session 3, it did not have the anticipated effect of communicating the research expertise of the students and expanding the

object. Indeed, discussions at the end of the session revealed that some of the Charity team members had not found those presentations to be particularly helpful. Essentially, although the students exhibited development of the *feature*, *being responsive,* the Charity practitioners did not appear to reciprocate in their response to the students' findings, as Sonia, the Charity's Chief Executive, explains:

Expansive learning action	**First-stimulus**	**Mirror data**	**Second-stimuli**	**Social organisation**
Questioning	Introductions	Student presentations	Activity model template	Group discussion
127:Sonia	The presentations weren't hugely useful. It's really interesting to hear from an outside perspective but some of the presentations were surface level or tell us things we know but don't have money or capacity to resolve.			

Table 6.5 Session 3: interaction 127.

There was a singular exception, however, which it is important to note. At the end of the presentations, Todd was approached directly by the Chief Executive to work for the Charity, an example of relational agency that I will discuss further in section 6.4.4. Despite only joining the CL after session 2, he was considered to have valuable expertise. This is likely to be related to his previous working experience and PhD subject, which were both closely related to the object of the CL. Todd's PhD explores the differences of reading experiences between printed books and e-books and his previous

professional experience involved developing digital content in the not-for-profit sector, as he explains in the excerpt within table 6.6.

Expansive learning action	First-stimulus	Mirror data	Second-stimuli	Social organisation
Questioning	Introductions	Student presentations	Activity model template	Group discussion
83: Todd	I was the first Director of digital textbooks at a not-for profit organisation. We had no digital textbooks for the first 30 years of the organisation, so my job was to come in and, just like this, take our text and turn it into online content.			

Table 6.6 Session 3: interaction 83.

Within one session, he had produced mirror data analysis about the Charity, drawing on his expertise and understanding of web analytics and digital marketing. This suggests that Todd demonstrated *being pedagogic* (see section 3.2.4), essentially developing understanding about how to be 'professionally multilingual' in order to know which buttons to push (Edwards, 2010, p. 44). This suggests a difference in the capability of Todd to be pedagogic in comparison to the other students.

6.2.6 Reaching the point of common knowledge as a mediating resource

Although common knowledge began to build throughout the questioning phases, particularly between the students during sessions 1, 2, and 3, discussions only began to have consequences for all practitioners during the analysis stage of session 5.

Exploring that in more detail, during session 3, Amy captured the student researchers' concern that the purpose of the Charity was not clear. She shared her reflections, focusing on the website as representative of the problem, but her concerns were left hanging, without any progression to consider the effect of this finding on the object. Gradually, however, seemingly as the *features* of common knowledge developed, with practitioners focusing on the long-term purposes of the Charity practice, the students' findings gained traction. This point appeared to be triggered when dialogue, during the analysis stage in session 5, returned to the mediating artefact of the website; a stimulus reintroduced by Amy the PhD student studying Classics, and commented on by Saskia, the external partner of the Charity.

Expansive learning action	**First-stimulus**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Analysis Students & professionals completing historical and empirical analysis, specifically discussion about the development of the website.	Reflection on process to date and stage of cycle.	Presentations from participants.	Large templates of the activity model.	Eight students, nine Charity employees and three external experts. Woking in mixed groups and engaging through group discussions.
178: Saskia	As a user, I do agree, I find it quite difficult to navigate my way through and also, which bits are meant for me, which bits are meant for others, particularly I do find it quite a challenge and I'm used to using it all the time but I find it hard to get to the right place.			

179: Denise	I think what you've identified is exactly the right one. We know the website is difficult and clunky but it's such a big job and costs so much, so what we do is to keep sticking things on the edge but it's completely out of date, it just doesn't do the job.

Table 6.7 Session 5: interactions 178 and 179.

Saskia's agreement with Amy, illustrated in Table 6.7, suggests that she began to align with the perspectives of the student researchers. Denise, a member of the Charity also began to reflect on what mattered for users, which led to wider discussion about the long-term purpose of the Charity, again stimulated by Amy as the following excerpts illuminate.

Expansive learning action	**First-stimulus**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Analysis Students & professionals completing historical and empirical analysis, specifically discussion about the development of the website.	Reflection on process to date and stage of cycle.	Presentations from participants.	Large templates of the activity model	Eight students, nine Charity employees and three external experts. Woking in mixed groups and engaging through group discussions.
291: Amy	My question, and I know it's a big question, what is the purpose of existence of the Charity? I still find it a little bit hard to answer, so I think it's a question I have to ask you, here. Not everyone has the opportunity to meet you in person and ask you this question, so that's probably something that should be front and centre.			

292: Denise	I think you've encapsulated something. We follow people's messages, we don't stand up and say this is what we're doing and yet you've identified we do lots of amazing work.

Table 6.8 Session 5: interactions 291 and 292.

This was the first point in the CL that I had coded both student, Charity and external practitioners expanding their focus on the problem to consider the longer-term purpose of the Charity, an example of developing the common knowledge *feature* of *being alert to the long-term purposes of practices*.

By session 8, facilitated by a first-stimulus of reflection on the process and outcomes of the CL, this focus triggered a common knowledge contradiction; namely, a conflict in understanding about the long-term purpose of the Charity, as Sally explains.

Expansive learning action	**First-stimulus**	**Mirror-data**	**Second-stimuli**	**Social organisation**
Implementation and reflection	Reflection on process and outcomes of the CL.	Artefacts from previous sessions.	Blank templates of the activity system model present and referred to during the session.	Group discussion with seven students, eleven Charity employees and two external experts
162: Sally	I don't quite know what our service is and what our USPs are and that has a big impact on how we talk to ourselves and how we talk to the world. We don't know who our audiences are, we just don't know what our brand is. We've tried before			

	to redefine this but it's never really worked because we've got so many different opinions on what the Charity is and should be about. The question is who are we? What is the point of the Charity? We need to know the aims, audience and purpose.

Table 6.9 Session 8: interaction 162.

As I explain in more detail at section 6.4.3, by the end of session 8, this contradiction stimulated relational agency, with Sally designing an internal survey to gather mirror data about the problem, triggering a participant-led movement to a second expansive cycle within the CL.

These observations will be discussed in more depth in the following Discussion Chapter, in section 7.2.1, in the meantime, it may be helpful to summarise how aspects of common knowledge developed across the intervention.

6.2.7 Summary of common knowledge analysis

In considering to what extent common knowledge developed though the different stages of the research intervention, I now draw together this analysis in order to answer research question R.Q.1.1.

The student group began by establishing common knowledge about their own motives and values, indicating development of the *feature understanding oneself and one's professional values*: supported by the tasks designed within

the questioning stage of the CL. Analysis suggests that questioning played an important role in extending the students' cognition beyond individual motives to initiate a more complex, relational common knowledge understanding in the early stage of the CL. Seemingly, this questioning was facilitated by the secondary-stimulus of the activity model template, completed by individual students, a task designed to externalise their thinking and allowing for group debate.

Negotiating a task design of producing mirror data, the individually produced presentations about the Charity, seemed valuable for the students, supporting more intense questioning within the social organisation of a homogenous group and evidence of *being alert to the long-term purposes of practices* and *being responsive*. The flexible design of the CL task was such that students could self-select a mediating artefact, in this case the Charity website, which was seemingly pivotal in stimulating debate about the longer-term purpose of the Charity during the analysis stage of the intervention.

For the Charity practitioners, however, the majority of the presentations were found to be unhelpful in the early stage of the intervention. As I go on to explain at section 6.4.2, when I discuss relational agency, this may be a reflection of the task design, specifically the lack of shared responsibility for producing the mirror data at this stage, which may have impeded the development of common knowledge. Only one student was able to effect change with his presentation in the questioning stage of the intervention,

suggesting his capacity to connect with the Charity through the *feature* of *being pedagogic* in his approach.

It was only when all participants united their focus on the common knowledge *feature* of *being alert to the long-term purposes of practices,* supported by the task design of reflection, that common knowledge developed to the point of surfacing a crucial contradiction, which later manifested as a pivotal trigger for relational agency.

6.3 Relational expertise

I will now expand on how relational expertise developed and was oriented to the CL, considering the data from the study in support of answering research question R.Q.1.2.

> To what extent is relational expertise, the capacity of participants to work relationally with others on complex problems, developed through the different stages of the research-intervention?

Beginning with a table summarising the *features* of relational expertise and their manifestation during the intervention, I then explore those key sequences in the development of relational expertise, making decisions for which data to present based on the credibility standards (Guba and Lincoln, 1989) established in section 4.4. Finally, I summarise the findings in order to answer research question R.Q.1.2.

6.3.1 Summary of key incidents in the development of relational expertise

Having coded for the *features* of relational expertise (established in 3.2.4) across the data, I begin this section by presenting Table 6.10, summarising the key sequences across the two expansive learning cycles of the CL.

Expansive learning action / Examples in the data of relational expertise *features*	Questioning	Analysis	Modelling	Examining	Implementation	Reflection and evaluation
Capacity to interconnect expertise.		After session 3: evidence of distributed expertise as the CL group support the distribution of a survey, reaching 457 parents.				Focus group: Charity practitioners identify the value of the embedded nature of their contribution to research in the CL & recognise expertise of PhD researchers. Focus group: students identify the value of external and internal validation of their expertise. Importantly this was in the second cycle of the CL.

Capacity to recognise motives.	Session 2: Jasmine synthesises her observation of a gap in the reading support for families with a deeper understanding of the Charity's practices.					
Capacity to align motives mutually.	Session 3: Todd introduces two tools to the CL, the Wayback machine and Google analytics.		Session 9: during second cycle, Paul introduces business modelling tool.			Between session 8 and 9: Denise introduces asset mapping tool.

Table 6.10 Stages of the Change Laboratory intervention and corresponding examples of the manifestation of relational expertise. Note the consolidation stage was not reached within the study so is omitted from the table.

6.3.2 **Capacity to align motives mutually**

I now consider how the development of relational expertise supported participants to produce a joint response to the identified problem, by collectively expanding the object. Looking to the literature, particularly the work of Edwards (2017), points to the Vygostkian approach of exploring the tools that participants use in order to reveal their understanding of the world. I therefore chose to analyse the data by tracing evidence of participants' *capacity to align motives mutually* to interpret and respond to a problem (see section 3.2.4), in the form of expertise introduced as mediating tools by participants, as illustrated in Table 6.11.

Expansive learning stage	Mediating tool	Tool introduced by	Data examples of application in the CL	Data examples produced by
Questioning Sessions 1, 2, 3 and 8	Activity model template	Facilitator	Annotated maps of the activity model to plan mirror data.	All participants
Session 3	Charity website	Students	Basis for mirror data throughout the intervention.	Students
Session 3	Internet Archive Wayback Machine	Todd	Presentation on the change in the Charity's website over time.	Todd
Session 3	Google analytics	Todd	Presentation on the digital strategy of the Charity.	Todd
Session 3	Qualtrics online survey	Facilitator	Online survey of the reading habits of 16-18 year-olds.	ijeoma
Analysis Session 4,5 and 9	Activity model template	Facilitator	Annotated maps of the activity system to analyse the tensions and opportunities in modelled solutions.	All participants
After session 5	Qualtrics online survey	Facilitator	Online survey of family reading behaviours.	Jasmine
Session 5	Qualtrics online survey	Facilitator	Survey designed for college students to explore reading preferences.	Rosanna and David
Modelling				
Examining Session 7	Implementation framework	Facilitator	Planning the implementation process for the modelled solutions.	All participants in groups
Implementing then moving to new cycle of **questioning** and **analysis** Session 8	Qualtrics online survey	Facilitator	Internal survey to understand the perception of Charity employees about its purpose and brand.	Sally
Between session 8 and 9	Asset mapping	Denise	Exploring the breadth of the Charity's assets, including mapping: financial, natural, political, human, creative and cultural, social, motivational and built.	Denise
Modelling Session 9	Business modelling tool	Paul	Exploring the market value of the Charity's assets through business modelling.	Paul

Table 6.11 Origins of mediating tools and their application across the CL.

As the table clearly indicates, the participants applied their expertise directly to introduce a range of mediating tools to act on the object within the problem space. Within the study, the source of mediating tools was not restricted to the facilitator; instead, participants initiated the introduction of a range of conceptual and physical tools that stimulated interpretation of the object throughout the stages of the intervention. Examples include the mediating artefact of the Charity's website, self-selected by the students as the basis for early mirror data, which played a significant role in catalysing the alignment of professionals. In addition, significantly perhaps, Todd introduced two new mediating tools within the questioning stage, an observation that I will expand on in section 6.4.4.

From the point at which I suggest common knowledge was strongly established during the reflection stage, as we moved to a second iteration of the expansive learning cycle, there was a noticeable increase in tools introduced by participants. These include the asset mapping tool introduced by Denise and the business-modelling tool presented and applied by Paul.

I suggest that the task designs, particularly the mixed group composition and the involvement of all participants in producing mirror data are potentially key factors influencing that finding. I posit that it would be difficult for one of the groups, for example, the student researchers or Charity employees, to have expanded the object and acted on the problem to such a degree, working in isolation and without the range of tools introduced as relational expertise developed.

6.3.3 **A case of relational expertise**

The flow of expertise is complex and interrelated therefore I have chosen to use a case study of Jasmine to illustrate how one strand of individual expertise led to a new layer of relational expertise that collectively expanded the object, supporting its joint interpretation. The case offers the richest example of the movement from individual to relational expertise, following prolonged engagement and persistent observation throughout the study. It also illustrates the progression from the development of common knowledge to relational expertise.

6.3.4 **Capacity to recognise motives**

As I explained in section 6.2.2, during the first session of the questioning phase, students began framing how they might apply their own research expertise during the CL. I posit that Jasmine demonstrated developing the common knowledge *feature* of *understanding oneself and one's professional values* and in section 6.2.4, I further argue that she developed *the feature* of *being responsive*.

As she produced mirror data, Jasmine seemingly built on that knowledge of self and the Charity's clients by applying her research expertise to explore the physical object of material suitable for family reading within the Charity, as Table 6.13 illustrates.

Expansive learning action	First-stimuli	Mirror-data	Second-stimuli	Social organisation
Questioning	Student presentations: questioning Charity through lens of own PhD.	Presence of student involved in the Charity as an intern.	Theoretical model of the CL diagram present and referred to during the session.	Seven students presenting to the group.
215. Jasmine	They've got their group leader toolkit which comes in an A4 ring binder, it's got lesson plans, activity ideas, posters and an A3 scrapbook, which I think is interesting because they stated 'A3 scrapbook to work on with the children', so it's trying to facilitate critical reader engagement by specifying the size of the scrapbook.			

Table 6.12 Session 2: Interaction 215.

As the CL moved into the analysis stage Jasmine began to synthesise her expertise with the motives and knowledge of practitioners within the Charity. Her actions demonstrate an expansion towards the relational expertise *feature* of the *capacity to recognise motives* (see section 3.2.4). Table 6.14 highlights Jasmine's particular interest in the reading groups established by the Charity.

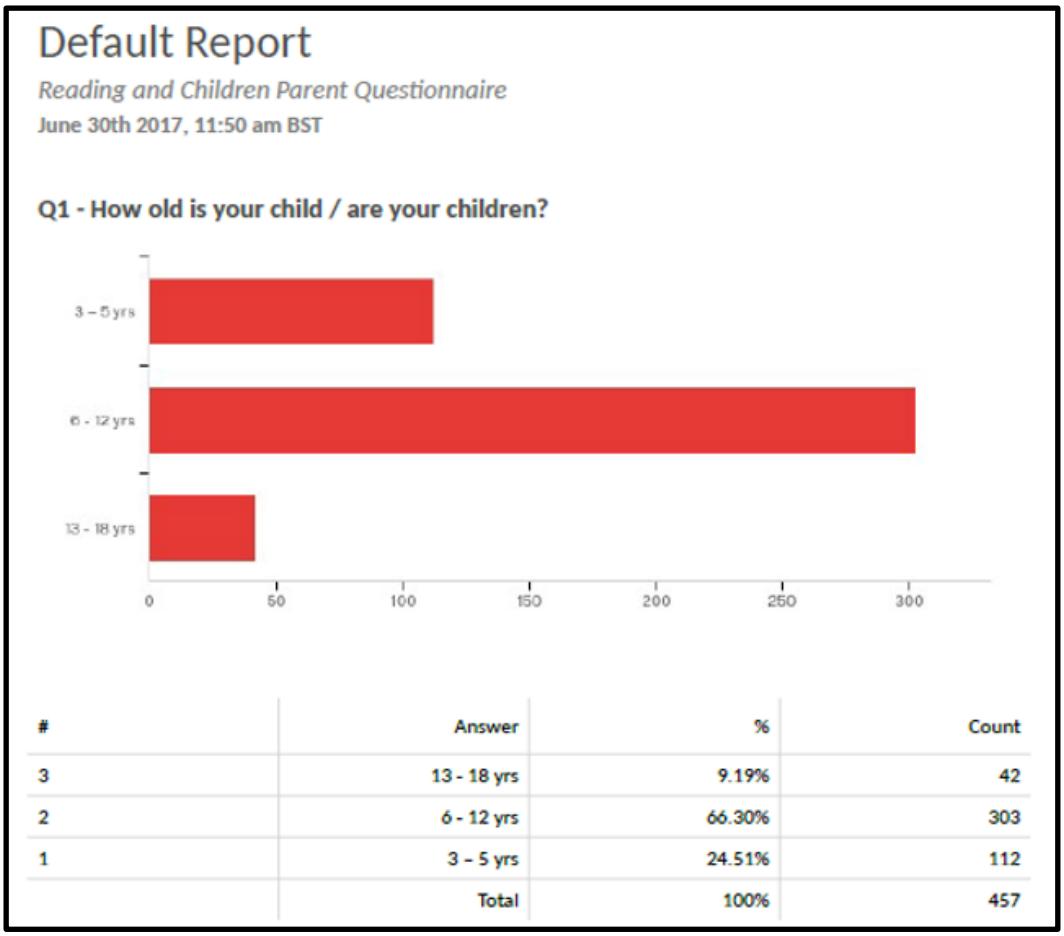
Expansive learning action	First-stimulus	Mirror-data	Second-stimuli	Social organisation
Analysis Students & professionals completing historical and empirical analysis, specifically discussion about the development of the website.	Reflection on process to date and stage of cycle.	Presentations from participants.	Large templates of the activity model	Eight students, nine Charity employees and three external experts. Woking in mixed groups and engaging through group discussions.
61. Jasmine	The work your programmes team does on book clubs and creating communities of readers is a really interesting thing. I'd like to work with you on that and find out more, especially about families and the materials they actually engage with.			

Table 6.13 Session 5: Interaction 61.

Reviewing the artefact of the online survey that she went on to produce to capture family reading experiences is enlightening and is suggestive of the *capacity to align motives mutually* (see section 3.2.4).

The manner in which she distributed the survey called on an 'emergent' form of 'distributed expertise' (Edwards, 2010, p. 26), drawing on the expertise of 'loosely connected practitioners' who were not previously bonded by an established set of shared values (Edwards, 2010 p. 28). Jasmine had less than a week to circulate and complete the task and by day three only five people had completed the survey. By working with the CL participants, who were knowledgeable about the context of the survey and the target audience, to access their specialist knowledge about who to engage and how to engage

with them to distribute the survey, she received 457 high quality responses within a week, as illustrated in Figure 6.1.



#	Answer	%	Count
3	13 - 18 yrs	9.19%	42
2	6 - 12 yrs	66.30%	303
1	3 – 5 yrs	24.51%	112
	Total	100%	457

Figure 6.1 Excerpt from the artefact produced by Jasmine during the analysis stage of the CL.

6.3.5 Capacity to interconnect expertise

Through the process of distributing the survey Jasmine appears to have developed an additional layer of expertise, suggesting evidence of the relational expertise *feature* of the *capacity to interconnect expertise.* By doing so, I suggest that she was able to make her own expertise explicit to a new

network of contacts, building on the common knowledge *feature* of *knowing how to know who* (see section 3.2.4).

The task design of encouraging students to produce mirror data was arguably pivotal in stimulating the distributed expertise that benefitted both Jasmine and the wider Charity. Reaching the point of interconnecting expertise, when participants supported Jasmine to distribute the survey also seemingly built on the common knowledge understanding developed as the PhD researchers and Charity practitioners began to work together to collate data together for the analysis stage of the CL. This prompted the application of a supplementary layer of expertise, as Jasmine recognised the value in engaging the 'know who' of other participants to extract the maximum contribution of her survey to interpret the object.

6.3.6 **Capacity to interconnect expertise: a negative case**

At this point, I introduce a 'negative case' (Guba and Lincoln, 1989) identified within the data relating to the *feature* of the *capacity to interconnect expertise*.

The interim report written jointly by the Charity team after session 7 specifically mentioned the expertise brought to the CL by the University researchers but it was noticeable that one student was mentioned by name, as this excerpt shows:

Written report extract:

Report extract	The PHD students had a wide range of interests, expertise and knowledge to contribute. It was felt that Todd was a particularly valuable member of the team due to his experience in education and digital platforms, which made his contribution very pertinent to the discussion and to our work going forward.

I found this intriguing, as Todd had only been involved in 70% of the sessions, although he had been invited to work with the Charity outside of those sessions, as discussed in section 6.2.5. Furthermore, my reading of the literature on interventions suggests that I would expect a minimal impact on the generated solution from such a brief involvement in the CL.

Conversely, the report also challenged the relevance of the expertise of the student researching in the field of Classics, with Charity employees questioning the value of a discipline so removed from the practice of the Charity, as this excerpt from the report demonstrates.

Written report extract:

Report extract	**Expertise**. It was queried whether the demographic of students had the relevant expertise for the task at hand or whether we were just making use of their research skills. Some staff questioned whether a classics student, for example, could realistically contribute to a commercial

	project. Would it be better to have more business-minded researchers? There was much debate over the benefits of creative thinking, having alternative and new viewpoints, and academic input.

As the researcher interventionist, I was surprised by the report particularly because by the final CL session I was aware that the students' expertise had been key to unlocking new ways of working within the Charity, particularly Amy, as I explained at section 6.2.6.

Referring back to the point at which I identified common knowledge was developing, with participants *being alert to the long-term purposes of practices* (see section 6.2.6), the student researchers involved in reaching that critical juncture came from a breath of research fields, including Amy who was a classicist. Although, after coding the data, her contribution towards reaching that point seemed clear, specifically through her approach to questioning and challenging the purpose of the Charity, this was not recognised by the Charity employees. This uncertainty about the contribution of the researcher's expertise is thought provoking and significant, as I will consider in more detail in the Discussion Chapter. It is important to reinforce that the design of the CL, with the recording of audio and visual data allowed for the tracing of this form of relational expertise, which might otherwise have remained hidden.

6.3.7 **Summary of relational expertise analysis**

In considering the extent to which relational expertise developed though the different stages of the research intervention, I now draw together my analysis in order to answer research question R.Q.1.2.

Analysis of the mediating tools introduced as a direct result of the expertise of professionals is illuminating, as summarised in Table 6.11. It suggests that the students were the first professionals to demonstrate the *capacity to align motives mutually*, by introducing their expertise in the form of mediating tools during the questioning stage. Initially the Charity participants applied the tools that I had introduced and it was not until the second iteration of the CL that a member of the Charity and one of the external participants introduced new mediating tools. The task design of co-production of mirror data and the social organisation of group working may have influenced the variety and number of tools introduced.

The findings suggest the potential for the CL to support a flow from the application of individual expertise to the development of relational, distributed expertise. In the case of Jasmine, this progression was seemingly facilitated by the first-stimulus of using her PhD as a lens through which to produce mirror data and the secondary stimulus of the activity model.

The implications of this single case study are twofold, first, the research interests and expertise of the student, in this case Jasmine, appear to have

become objectified, with the potential to become ‘part of the object of activity’, widening the topic of discussion as a result of her own research expertise (Edwards 2017, p. 5). As such she evidenced the development of the *capacity to recognise motives*. In effect, the frame through which the participants viewed the object of engaging with readers appears to have expanded beyond that which existed before the CL interaction.

Second, the artefact only gained sufficient traction to produce valuable results through the contribution of distributed expertise, a clear example of the *capacity to interconnect expertise*. I suggest that without the development of relational expertise to that extent, it is unlikely that the survey would have achieved the rise from 5 responses to 457 within a week.

In a negative case, when the expertise of an individual was overlooked by the Charity participants, it is important to note that the design of the CL was such that as a researcher I was able to trace that expertise, supported by the task design of recording the interaction.

6.4 Relational agency

In this section, I explore the data with respect to examining the extent to which relational agency, as defined in 3.2.4, developed through the CL, to support my answering of the research question R.Q.1.3.

To what extent is relational agency, the capacity to align thinking and actions with others to interpret and act on an object, developed through the different stages of the research-intervention?

6.4.1 Summary of key incidents in the development of relational agency

In order to isolate and analyse the phenomenon of relational agency, I considered the data originating from the study by coding for *features* derived from the literature (detailed in section 3.2.4 of the Theoretical Framework). For clarity, these are illustrated in table 6.14 below, populated with corresponding empirical examples from the study, and mapped across the stages of the CL, as a retrospective judgement about the expansive learning actions being undertaken moment by moment.

Stages of Change Laboratory / Examples of relational agency	Action questioning	Analysis	Modelling	Testing	Implementation	Reflection and evaluation
Shared responsibility within collaborations.	During the first expansive learning cycle 100% of research produced by student group.	100% of research produced by student group.	During the first cycle, 100% of the student group and 67% of the Charity employees group produced research. During the second cycle, 50% of the student group and 82% of the Charity employees group produced research.			
Provision of mutual support.	After session 2: Todd invited to present to the Charity, outside the CL.	Session 5: Jasmine met publisher.		After session 7: Todd establishes reading app team beyond the CL.		
Fluidity of responses to problems.	Session 3: statement from Charity Chief Executive encouraging honesty within the CL. After session 3: Todd is invited by CE to work to support the Charity in understanding digital tools.				Between session 8 and 9: Denise delivers asset mapping exercise with wider Charity colleagues and Sally instigates internal questionnaire.	
Co-ordinating purposeful action.	CL Facilitator led and coordinated.	CL Facilitator led.	Team led physical and virtual communication.	Group initiative facilitated by direct contact to decision makers.		Facilitated focus group.

Table 6.14 Stages of the Change Laboratory intervention and corresponding examples of the manifestation of relational agency. Note the consolidation stage was not reached within the study so is omitted from the table.

I will now consider in greater depth key sequences in the development of relational agency that are selected with reference to the credibility standards established in section 4.4 (Guba and Lincoln, 1989).

6.4.2 **Shared responsibility for data collection**

Beginning with the relational agency *feature* of *shared responsibility within collaborations* (see section 3.2.4), Edwards regards this concept as being indicative of practitioners connecting ‘to the wider whole’, and jointly contributing towards both the interpretation and response to problems in practice (2010, p. 64). One approach to tracing whether and how participants shared that responsibility is by tracking the development of data produced during the intervention.

In terms of responsibility, the CL was designed such that all participants contributed directly to researching in order to produce mirror data during the intervention, the results of which were shared as written, verbal and visual presentations. In so doing, my intention was to stimulate participants to construct solutions but engineered through their own agency.

Figure 6.2 summarises the data, presenting the distribution of research presentations produced, as a percentage of each of the contributing participant groups, and mapped across the course of the intervention.

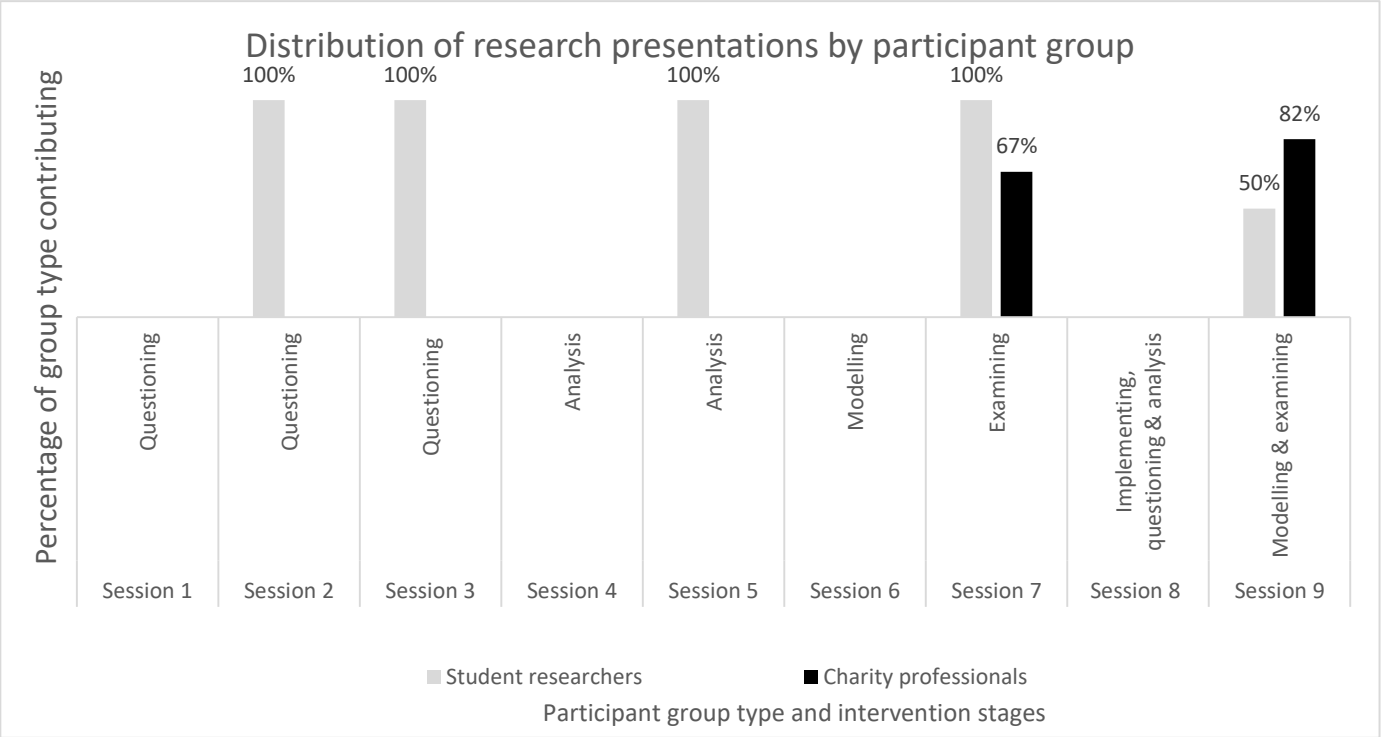


Figure 6.2 Distribution of research presentations produced by participant groups.

The columns represent the percentage of each group, respectively student researchers and charity employees that researched and presented CL mirror data during the sessions. Throughout the questioning phase of the CL, the doctoral researchers produced all of the research, stimulated by activity theory and the mediating tools identified in section 6.3.2.

As we moved to the analysis phase, however I encouraged all participants to share that research undertaking. Figure 6.2 illustrates that 100% of the student researchers collected and presented data for sessions 2, 3, 5, and 7, during the initial questioning, analysis and modelling phases. At this point, in the examining phase of session 7, 67% of the Charity employees also began to contribute. As we moved into a new cycle of expansive learning, it became clear that the balance of the responsibility for producing and presenting

research was changing as the participants presented data in preparation for the modelling and examining stage of the CL. In session 9, a significant shift occurred, with only 50% of the students actively collecting and presenting data in contrast to 82% of the Charity professionals. It is important to note that Paul, one of the external experts also produced and presented research during sessions seven and nine, although I suggest it would be misleading to add this as a separate group because he was the only external expert to do so.

Reflecting on Edwards own findings about shared responsibility, the data suggests that the CL supported participants to connect to 'the wider whole', as the extract below illustrates (2010, p.62).

Focus group extract 235.

235: Rosie	It wouldn't work as well if everyone wasn't as engaged and committed at doing their bit. I was really impressed about the amount we produced together as a team – we would never have done that much on our own, we just do our own thing. This was about focusing on all of our work – what we're trying to do together.

In comparison to the pre-existing boundary crossing interactions within the institution at the centre of this study, such as masterclasses and internships, non-academic practitioners would rarely contribute to research within problem-solving discussions.

Further probing the gradual reduction in research production by the students, noticeable from session 8, I listened to recordings and re-read my observational notes. I noted a corresponding swing in the dialogic contribution of student researchers, which decreased significantly during session 7, the examining phase of the cycle. From the students' perspective, the focus group findings suggest that this sense of *shared responsibility* within the collaboration reduced as the CL ended, as this excerpt from a discussion between the students expresses.

Focus group extract: interactions 27 to 29.

27: Kasia	I suppose it felt like it was coming to a natural end.
28: Ijeoma	Exactly, the [charity] team got it, they really knew where they were going with this and it felt like we'd worked really hard and done our bit in getting there.
29: Mia	Yes, it was a pleasure to be part of that final session and feel proud of where we had come. I mean….if you think about that first session, it was us leading the research and by the end it was almost the reverse. It was good to see.

This change in responsibility would appear to be related to a point of disconnection by the student researchers from that sense of shared responsibility, a point that I explore in more depth in the Discussion Chapter.

6.4.3 **Fluidity of responses to problems**

As I explained in section 6.2.6 one of the significant consequential moments for participants was the point at which Sally took action to resolve a perceived contradiction, a primary 'value-system conflict' contradiction relating to perceptions of the purpose of the Charity (Bligh and Flood, 2015, p 9). Sally, a relatively junior member of staff took it upon herself to lead the design of a new mediating artefact, an online survey designed to capture perspectives about the purpose of the Charity. I found this example of a *fluidity of responses to problems* (see 3.2.4), striking, particularly because Sally was not a member of the Charity's strategic management team yet at no point during session 8, when she proposed the tool, did any other members of the team attempt to challenge or modify that decision. Neither did they attempt to reframe her idea, bringing into line with existing Charity processes and systems for consultation.

To understand how relational agency had developed to reach that point of fluidity in Sally's response I looked to the data for indicators of relational agency. One seemingly significant incident took place during the questioning phase of session 3. Following the challenging presentations produced by the student researchers, the Chief Executive made a clear statement that set the tone for ensuing dialogue, which is captured below.

Expansive learning action	First-stimulus	Mirror data	Second-stimuli	Social organisation
Questioning	Recording questions on flipcharts	Presentations	Activity theory template	Group discussion
51: Sonia	I think what you're… I don't think any of us are defensive, you can be as open and critical as possible because that's what we wanted, so please don't worry.			

Table 6.15 Session 3: Interaction 51.

The Chief Executive's physical presence and clear statement of support for openness within the group stood out as a potentially contributing factor to the fluidity of responses to problems identified in the study. It is important to add that this aspect of the CL design was out of my control as facilitator.

6.4.4 **Provision of mutual support**

A sequence that suggests the development of the *provision of mutual support* (see section 3.2.4) also relates to the presence of the Charity's Chief Executive, this time in her contact with Todd. As I outlined in section 5.3.3.4, he demonstrated a common knowledge capacity for *being pedagogic* in his approach to connecting his expertise with what mattered to the Charity practitioners. This is perhaps best illustrated by his early introduction of a new mediating tool, the Wayback machine, represented at section 5.3.3.3. At the end of the third session, his ability to make his expertise explicit led to direct action when the Charity's Chief Executive approached Todd directly and asked him for his help with reviewing the organisation's data analytics and delivering tailor-made workshops.

6.4.5 **Co-ordinating purposeful action**

Concentrating now on the *feature* of relational agency described as *co-ordinating purposeful action* (see section 3.2.4), over the duration of the CL there was a clear progression from facilitator led and coordinated action through to collaborative actions. Initially, during the questioning phase, participants relied on me to connect between the respective activity systems of the University and Charity but over time, their movement across boundaries became more fluid. By the analysis stage there were clear signs that participants were co-ordinating purposeful action across the separate activity systems themselves. It seemed that I was no longer necessary as the translator between those systems and participants began generating and coordinating actions remotely.

As the group began to align their responses to the problem, their increased joint agency became apparent and they began to translate their alignment into purposeful action beyond the CL. In one example, Denise took direct action, building momentum to involve colleagues across the Charity as this excerpt illustrates, stimulated by the task of designing a presentation for the mini-conference.

Expansive learning action	First-stimulus	Mirror-data	Second-stimuli	Social organisation
Questioning; analysing in second CL cycle	Mini-conference.	Video clips from previous sessions. Artefacts from previous sessions.	Blank templates of the activity system model present and referred to during the session.	Group discussion with seven students, eleven Charity employees and two external experts
35: Denise	I think it's really interesting that after we had this discussion we went away and actually started to think about what some of our assets are.			
36: Paul	Yes, so that's about having a cold, hard look at your organisation in terms of your assets, your strengths, your weaknesses.			
37: Denise	Exactly, we had a big discussion about understanding what our assets were and our starting point had to be mapping those assets. The exercise we did was about mapping your assets against different signposts, it was financial, natural, political, human, creative and cultural, social, motivational and built.			

Table 6.16 Session 9: interactions 35 to 37.

Denise's action added weight to the group's discussion about the role of the Charity's assets in defining its purpose and responding to the original problem question of the intervention. It also marked the beginning of a discussion that led to half the team working together to focus on modelling and testing this new solution of understanding and valuing the Charity's assets.

6.4.6 **Summary of relational agency analysis**

To summarise, I now bring together the analysis to consider the extent to which relational agency developed across the stages of the intervention, in order to answer research question R.Q.1.3.

Mapping the *feature* of *shared responsibility within collaborations*, in this instance tracing the production of mirror data, suggests that the development of relational agency increased through the intervention. When the responsibility sat with only one group of practitioners, the students, the mirror data was disregarded, however as shared responsibility became more balanced the mirror data gained traction within discussions. This suggests that the task design in the first session, which encouraged students to produce mirror data, may have been counterproductive.

The one-sided production of mirror data seemingly contributed to the Charity regarding the presentations as unhelpful, even though those findings played a pivotal role later in the intervention. By the end of the intervention, the Charity practitioners shouldered responsibility for the mirror data, however, this was not regarded as a negative change within the timeframe of the study.

Additional evidence of relational agency developing manifested as *a fluidity of responses to problems*, with participants taking it upon themselves to resolve a perceived contradiction, a primary value-system conflict contradiction that moved the CL into a second expansive learning cycle.

Participants' also appeared to develop the relational agency *feature* of the *provision of mutual support*. The sequence involving Todd illustrates the flow from the common knowledge capability of being pedagogic to achieving relational agency, benefitting both Todd and the Charity as he was invited to work outside the confines of the CL. I suggest that the bearing of the Chief Executive may have influenced that progression, although not necessarily a factor that can be designed into an intervention.

Participants also appeared to develop sufficient understanding to co-ordinate *purposeful action*, to the point that by the modelling phase they no longer required my direct support to translate and connect between activity systems, seemingly stimulated by the task of producing presentations for the mini-conference.

The sequence involving Denise demonstrates that point and indicates the interconnectedness and flow from common knowledge, through relational expertise to relational agency. It stemmed from the moment at which the group began to build common knowledge by questioning the long-term purpose of the Charity's practices, during the reflection and evaluation stage of the CL. Subsequently, Denise introduced her expertise through the asset mapping tool, which she applied to introduce a broader group of stakeholders beyond the CL boundary, building on her understanding of how to co-ordinate purposeful action.

7 Discussion

7.1 Introduction

The previous chapter considered the key sequences identified in the development of the three concepts of relational working, answering the research sub-questions set out in section 3.3. The intention for this chapter is to present and discuss my thematic analysis to answer the overarching research question R.Q.1, supported by the sub-questions.

> How can a Change Laboratory research-intervention develop Relational Working by mediating within and across activity systems, in the context of doctoral education in the humanities?
>
> > R.Q.1.1 To what extent is common knowledge about motives, purposes and practices of other participants developed through the different stages of the research-intervention?
> >
> > R.Q.1.2 To what extent is relational expertise, the capacity of participants to work relationally with others on complex problems, developed through the different stages of the research-intervention?
> >
> > R.Q.1.3 To what extent is relational agency, the capacity to align thinking and actions with others to interpret and act on an object,

developed through the different stages of the research-intervention?

The first part of the chapter sets out the four themes that I have synthesised from my analysis of the data. These are summarised in the following bullet points.

- Nurturing the development of common knowledge.
- Curating a balance of power: introducing mediating stimuli.
- Engaging a shared responsibility for producing mirror data.
- Tracing the influence of humanities expertise.

The second part of the chapter relates those findings to the literature reviewed in Chapter 2, discussing their congruence, departure and contribution to the scholarship.

7.2 Thematic findings

Building on the data presented and analysed in chapters 5 and 6 I now present and discuss the thematic findings from this study.

7.2.1 Nurturing the development of common knowledge

Tracing the development of common knowledge began from the first session of the CL as the student researchers came together to explore and articulate

their own values, what mattered for others and to explore their own motives on the object. The questioning stage of the first CL cycle, facilitated by the neutral articulation tool of the blank activity model to which participants were able to impart meaning, seemingly supported students to rapidly demonstrate the *feature* of understanding oneself and one's own professional values. Significantly, the student practitioners grasped an awareness of perceived gaps in the provision and engagement of the Charity with stakeholder groups, the *features* of being responsive and being alert to the long-term purpose of practices, with one student demonstrating the capability of being pedagogic.

Being conscious of the potential imbalance in knowledge of the object for the PhD practitioners, I intentionally designed the CL to incorporate an initial homogenous group dynamic for the students, supporting them to consider the object through the lens of their own PhD during the questioning stage and prior to the first full CL meeting of participants. I suggest that this purposeful design was an important, productive stage of the intervention, offering as it did the freedom for students to think and question practice freely, unimpeded by the conventions, behaviours and potential hierarchical power of the Charity practitioners. As such, this is an aspect of the Change Laboratory that did appear to perform in line with my original intention as the intervention designer.

Nurturing those *features* of common knowledge through the design of the CL seemingly enabled the students to hold a line of argument when tensions between understandings about the object and purpose of the Charity became

apparent at the analysis stage of the intervention, presented at section 5.3.5. Other potentially influencing factors include the mediating tool of the activity model and the shared responsibility for producing mirror data, aspects that will be considered in sections 7.2.2.1 and 7.2.3 respectively.

Within the context of this study I suggest that the PhD students needed the time and support to understand themselves and their own professional values before being able to interconnect their expertise. Without that homogenous group phase, I suggest that the student practitioners could have been influenced or persuaded that, as the Chief Executive argued later, the Charity had neither the money nor capacity to resolve the issues raised (see section 6.2.5). Instead, the student practitioners had the time to develop and sustain a reasoned argument that led to the surfacing of a key contradiction by the analysis stage of the CL, specifically that the Charity's purpose was insufficiently clear, as identified in section 6.2.6.

Evidence from the data indicates that the systemic contradiction of a lack of clarity about the Charity's purpose identified by the student researchers in the questioning stage only began to have consequences for participants once common knowledge had been established. It is important to note, however, that the result of the PhD student practitioners' early work, the initial presentation of their mirror data, was found to be underwhelming by the Charity, even though those findings were identified as a key trigger of change by the analysis and modelling stages of the intervention. In effect, by introducing the student researchers to the Charity professionals and sharing

their presentations during the questioning stage, I was imitating those boundary-crossing interventions, referred to in section 2.4.4 of Chapter 2, which only physically connect participants to focus within a problem space, rather than supporting meaningful psychological connection.

My findings therefore suggest that although building a strong foundation for common knowledge within an initial homogenous student group is significant, there is an important caveat. I argue that without moving to the later stages of the CL, the momentum of the student research practitioners' common knowledge alone would have been insufficient to stimulate wider group cognition about the object and systemic contradictions. It seems that common knowledge only became an active trigger, mediating agentic action, once it surfaced as a dialogic contradiction, at the point when discussion expanded sufficiently for all participants to consider the problem in the wider context of the long-term purposes of practices, with external stakeholders providing an additional stimulus. I argue that this contradiction, exposed through the expansive learning cycles, was not visible at the beginning of the intervention, it only became clear as common knowledge developed, expedited by the structure of the CL.

7.2.2 **Curating a balance of power: introducing mediating stimuli**

Given the setting of the object of the CL and its centrality to the Charity's purpose and practitioners, it is reasonable to suggest that the distribution of power could have been weighted towards the Charity professionals. During

the focus groups (see section 5.4) both the student and Charity practitioners made reference to working together and the importance of physical and cognitive space. They also articulated the negotiated framework of the CL and the neutral platform of activity theory as valuable foci for discussions (see section 5.4).

Combining those directly reported perspectives with prolonged engagement and persistent observation throughout the study, I suggest that the three most significant elements of the CL design that seemingly influenced the development of relational working are the stimuli of the activity theory model, the additional practices invited to join the CL, and the physical and psychological space to think.

7.2.2.1 **Neutral stimulus of activity theory**

Addressing the stimulus of activity theory first, the activity theory model was voluntarily applied by all participants throughout the intervention. It was consistently involved in stimulating discussion throughout each of the nine sessions, as a neutral stimulus that was assigned meaning by the participants. Beginning at the first session of the questioning stage, each of the students completed a blank activity diagram, using their own PhD as an example to populate their work. During the analysis stage, the large templates were annotated collaboratively during group work by all participants, and continued to be both referred to and used afresh during the two expansive learning cycles.

Participants regularly referred to the model as the ‘triangle thingy’ (Adrienn) and it was referred to directly and positively during both focus groups, at sections 5.4.1 and 5.4.2. Perhaps surprisingly, the adoption and application of the model appeared uncontested throughout the sessions. It seemed that the model operated as a neutral stimulus for discussion, one that was new to all participants, without advantaging a particular practice. It is not appropriate to conclude categorically that the model directly contributed to the perception of equity within the intervention that was expressed at section 5.4. I strongly suggest, however that it was an influential factor that I argue expedited the sense of balance and teamwork within the group, and facilitated agentic behaviour. Vygotsky asserts that the second-stimulus is a neutral phenomenon, as I explain at section 3.2.1 and I suggest that the activity model reflects that status. I suggest that it proffered a crucial neutral stimulus with the potential to negate hierarches that may have arisen between practices.

7.2.2.2 **Introducing a filter of strangers**

I suggest that within the context of this study, a second stimulus was also proffered through the multiplicity of views expressed by practices external to both the Charity and student researchers within the relational intervention. As I explained at section 6.2.6, the common knowledge understanding was partially triggered by the inclusion of external practitioners to the Charity. It was Saskia, the external Library partner of the Charity who initiated the expansion into a common knowledge understanding by forging a connection

between the practices of doctoral researchers and the Charity practitioners. It was not until that point that the separate practices of Charity and external professionals broadened their focus on the problem to place it in its historical and systemic contexts in considering the long-term purpose of the Charity practices. Saskia's alignment with the students seemingly triggered the Charity participants to harmonise their interpretation and actions on the object in the manifestation of relational agency, a stage that might not have been reached without her mediating presence.

Those additional, external practitioners invited to join the CL, described by Sophia as a 'filter of strangers', included those connected to the activity system of the Charity and invited by the Chief Executive (Saskia and David); those unrelated to the Charity but invited by the Chief Executive (Paul); and those unrelated to the Charity whom I had invited (Derek, Jamie and Roger). Reflecting on this finding, it is important to note that the experts that I had invited to join the CL did not significantly contribute to the outcomes of the intervention. This suggests that the contribution towards common knowledge was stimulated largely by the experts invited by the Charity, the originator of the CL problem, rather than those external experts that I had invited.

7.2.2.3 **Space to think**

My approach to answering the research questions led me to consider all of the participants' perspectives, through participant observation and member checking throughout the intervention. A significant theme emanating from

those discussions comprised the role of a physical and psychological space to think.

As I identified in section 5.4.1 the Charity participants commented on space as a stimulus for creative, disruptive thinking that moved away from the natural programme based silos within the Charity. There was also reflection on the freedom of the space and separateness from the cognitive structure and rules of the workplace. Students, as captured by Mia in section 5.4.2, also articulated the value of the freedom to think differently whilst actively applying research expertise. This disruption of both physical and cognitive patterns through the design of the CL seemingly contributed to participating practices' ability to think freely - questioning and challenge practice beyond the initial homogenous student group space.

I suggest that the design of the CL, incorporating the physical away day situated at the University and the application of the neutral activity model, created the space and absence of fixed rules away from the practitioners' activity systems and assigned tasks. There is evidence to suggest that this was sufficient to enable the movement of knowledge to inform strategy and actions upstream within the Charity activity system, thus extending the legacy of the interaction beyond the end of the intervention, as I argue below in section 7.2.3. Furthermore, the experiences of participants suggest that this became an embedded legacy, not new knowledge imported to the Charity but one rooted in existing expertise.

7.2.3 **Engaging a shared responsibility for producing mirror data**

As I explain in section 3.2.4 of the Literature Review Chapter, Edwards posits that shared responsibility is an indicator of the degree to which participants engage in relational agency. In order to understand whether and how participants shared responsibility for interpreting and responding to the object, I traced the development of data and research presentations produced by the participants across the stages of the intervention. Following my chosen theoretical framework, my intention was to stimulate participants to construct solutions engineered by their own agency. Reflecting on Vygotsky's, and later Engeström's, interpretation of participants' agency as an evolution from Marx's 'romantic' vision of a predetermined end point in the future, my intention was to support participants to collaborate in order to determine their own learning and future relational working.

Throughout the early questioning phase of the CL, the doctoral researchers had produced all of the mirror data, stimulated by activity theory and connecting their own motives to their choice of research. As we moved to the analysis phase, however I encouraged all participants to share that research undertaking. During the first cycle of questioning and analysis phases 100% of the data presentations were made by the student participants. By the first examining phase, 67% of the Charity employees also began to contribute. Significantly, however, as participants prepared for the modelling and examining stage of the second CL cycle, only 50% of the students presented, compared to 82% of the Charity professionals. There are two key findings that

I interpret from the data: first, the increase in the shared responsibility to produce and present research through the intervention, and second the gradual reduction in the proportion of research produced by the student researchers.

Taking the first point, as the CL progressed, a significant and increasing percentage of the Charity employees actively shared in the responsibility to expand knowledge about the object. Consequently, the interaction demonstrates the contribution of participants as co-producers of research in contrast to pre-existing interactions within the site of this study. This led to the Charity practitioners expressing the research as “embedded” (section 5.4.1) within the Charity, an important statement given that the CL is unlikely to re-convene and certainly not with the original members. Therefore, achieving a legacy of knowledge within the Charity presents a distinct benefit of the CL pedagogy in comparison to pre-existing interactions. When the responsibility sat with only one group of practitioners, the students, the mirror data was disregarded, however as shared responsibility became more balanced the mirror data began to effect discussions.

Exploring the second point, the reduction in shared responsibility by the students suggests an interesting contradiction with the continuous cycle of Engeström’s expansive learning model remarked on in section 3.2.2 of the Theoretical Framework. It seemed that the student researchers were preparing to separate from the object of activity, discontinuing their involvement in the expansive learning cycle (see section 6.4.2), perhaps

because it was not practical for it to become a long-term intervention, given the pressure on students to complete their theses. This triggers a question about the longer-term implications for such a CL that involves doctoral researchers and one that is important to consider in future research, a point that I will go on to discuss in the Conclusion Chapter.

Experiencing the relatively unfamiliar practice of research within their own specific context appeared to facilitate the Charity participants' understanding of the research expertise of the student researchers. Essentially, applying their research expertise to what mattered for the Charity practitioners indicated the speed of working of student researchers (see section 5.4.1), not a capability that was initially apparent. Conversely, student researchers developed an understanding of what mattered to the non-academic practices, perhaps increasing verification of the transferable nature of their expertise.

Analysis of the data therefore suggests that the core expertise of the PhD students, their practice of research, was made explicit and recognised by participants through the intervention. The findings suggests that the student practitioners found the intervention valuable in providing internal verification about their own research, which in turn may have supported their ability to make that expertise explicit to others. By the end of the CL, Jasmine expressed this verification as making her believe that she was "actually pretty good at this!" The fact that the student practitioners witnessed their research being embedded into the implementation plans taken forward by the Charity may have supported this perception.

Importantly, however my findings indicate a point for discussion, particularly the stage at which shared responsibility for producing data is encouraged. As I explained in section 6.2.7, it was only when the shared responsibility became more equitable between the practitioners that mirror data gained traction within the intervention. I therefore conject that future research might consider the point at which this task design of shared responsibility is encouraged.

7.2.4 **Tracing the influence of humanities expertise**

A significant theme arising from this study is the question of perceptions of expertise, particularly in relation to the proximity of the practitioners' expertise to the object of the CL. Tracing the development of relational expertise led me to consider an illustrative case study, as set out in section 6.3.3, with the example of Jasmine and the flow from individual to relational expertise. This was followed by a negative case, in section 6.3.6, when the Charity practitioners questioned the contribution of PhD students trained in specific disciplines. Their uncertainty conflicted with my own observations of the contribution of students whose proximity of expertise to the object might be described as tangential. However, this manifested as a positive correlation when participants perceived a clear contribution resulting from expertise closely aligned to the object, in the case of Todd.

A number of contributing factors may have influenced the participants' perceptions of Todd and his capability to make his expertise explicit. First, it

was evident that of all the students, Todd exhibited the common knowledge *feature* of being pedagogic by rapidly making his expertise explicit and accessible (see section 3.4.2). Furthermore, as I monitored the number and type of mediating tools introduced, applied and acted on by participants, it also became clear that Todd was the first participant to introduce a new tool, demonstrating the *capacity to align motives mutually*. Table 6.11 set out the origins of those mediating tools and their application, making it clear that the participants moved beyond the tools introduced by the facilitator but Todd was actually the first to introduce a new tool within the questioning stage of the first CL cycle. This demonstrates a strong common knowledge understanding of what mattered to the Charity practitioners, which translated well to the relational expertise *feature* of being able to interconnect expertise. Critically, this connection from common knowledge to relational expertise later manifested as relational agency when the Chief Executive asked for Todd's support.

Essentially, the relevance of Todd's research expertise seemingly mediated his ability to demonstrate a common knowledge understanding, with a corresponding effect on how the Charity perceived his expertise. Conversely, Amy, the Classics student similarly applied her humanities expertise to make a crucial contribution to the CL, as I explain in section 6.2.6, however that expertise was apparently not as visible to participants, only to myself as the facilitator and external observer.

In considering relational expertise, I therefore suggest that the findings from this study are therefore twofold. Firstly, I suggest that it was the shared object that supported participants to begin recognising and acting on the expertise of their CL colleagues. This finding parallels Sannino's (2016) observation that interventions work best if participants share an object. Such encounters seem to have a positive impact on expanding the CL object to reveal its complexity but perhaps most importantly, I suggest that developing this additional layer of relational expertise leaves a legacy of potential value to practitioners.

Second, I suggest that while Amy from Classics applied influential expertise she seemed less able to make that expertise explicit to the Charity practitioners and it might have remained unnoticed without the intervention tracing it. This form of pedagogic intervention therefore proffers a helpful empirical route to follow and expose such unobtrusive expertise.

Although these findings are only based on a single study, the data suggests that the proximity of the object to an individual's presumed field of expertise influences perceptions about their contribution to a CL interaction, perhaps speciously. It may be that the students' fluency of common knowledge influenced how Charity participants perceived their expertise. This has implications for potential future collaborations if only those researchers that demonstrate an obvious connection to the object, rather than a less visibly direct cognitive connection, are considered.

My decision to apply the theory of relational working led me to trace the student researchers' motives, corresponding expansion of the CL object and relational interactions. This ability to trace from the individual to the relational expansion of the object of activity allows for more fine-grained analysis. Doing so has the potential to replace some of the assumptions and associated misnomers of the value of the humanities PhD with empirical data.

Having considered the key findings from this study, reflecting on this study's research questions in order to answer the overarching research question R.Q.1, I now relate them to this study's literature review, synthesising their contribution to the literature and discussing their congruence and departure from the scholarship.

7.3 Relating thematic findings to the literature review

7.3.1 The purpose of the PhD

Mirroring the Literature Review Chapter, I now progress through the three areas of literature introduced in Chapter 2, discussing my findings in relation to the purpose of the PhD, learning in boundary crossing interventions, and the parameters and possibilities of collaborative, agentic research-interventions.

Area A of the literature review summarised scholarship about the purpose of the PhD, considering the three strands of the societal, institutional and individual frames of empirical studies. My synthesis of the scholarship

suggested a consensus that doctoral students require support to mobilise across boundaries. It also raised two critical concerns, first that empirical studies have considered a narrow bandwidth of perspectives to explore the purpose of the PhD. Second, the review identified a dearth of studies researching the practice of the humanities PhD and, within those few existing studies, an acknowledgment about the limited mobility of PhD students. I therefore now consider my findings in relation to those two issues.

7.3.1.1 **Expanding perspectives about the purpose of the PhD**

Referring back to the Literature Review Chapter I presented the argument for a fresh approach to exploring the purpose of the PhD, one that allows for the dynamic articulation, from multiple sources, of the value and expertise developed through the doctoral experience and its contribution at the boundary of practices. I posit that the design of the CL, incorporating Charity professionals, the additional 'filter of strangers' of external experts, and doctoral students directly addresses that identified need for incorporating multiple perspectives. Further, I suggest that my approach to designing the CL overcomes some of the shortcomings identified within the literature, specifically Thune's (2009, p. 648) call for the inclusion of a 'broader set of actors', within collaborations at the boundary of university and non-academic interactions, established in section 2.2.2.2.

Without that interaction of a broader set of participants, I propose that the understanding of the purpose of the humanities doctorate and the contribution

of trained researchers might have remained blinkered, without progressing to acknowledge the expertise of the student researchers.

The difference between my findings and the literature is the advancement in new knowledge about how a filter of strangers, as defined in section 7.2.2.2, might be incorporated within an intervention. In the context of this study, my finding suggests that the Charity practitioners were best placed to understand and have control over knowing the experts who could contribute most to the outcomes of the interventions, the *feature* of knowing how to know who (section 3.2.4). I suggest this reinforces my assertion made in the Literature Review Chapter (section 2.3.2.2) that it is important to consider who is involved in learning within such a boundary crossing interaction and the importance of incorporating this aspect of design within a CL intervention.

7.3.1.2 Researching doctoral education practice within the humanities

Within the literature review, at section 2.2.2.2, I also discuss the tendency of humanities researchers to limit their mobility, introducing the argument that this results from a lack of understanding from organisations about the value of knowledge exchange with PhD humanities students. Perhaps the most significant implication from this research is therefore the potential of the CL, designed within this study, to connect relatively disconnected practices and to make explicit the expertise of student researchers.

Doctoral students, as I argue in section 2.3.2, could be regarded as the least socially powerful members within doctoral education, given that supervisors, doctoral educators and non-academic professionals are more likely to be senior in hierarchy within Kelly's (2016) pecking order of the PhD. As I go on to suggest, it is therefore important to understand approaches to boundary crossing that provide opportunities to develop students' agency in a study that seeks to facilitate change rather than passively illuminate student perspectives, as I argue at 2.2.2.3.

Nurturing the development of common knowledge appeared to support questioning to the point of challenging and identifying contradictions in practice when the student practitioners connected with the Charity practitioners, as I argue at section 7.2.1. I suggest that establishing a homogenous group at the questioning stage of the CL supported humanities researchers to develop and sustain that line of argument.
Referring back to section 3.2.4 of the Theoretical Framework Chapter, this finding is consistent with Edwards' notion of 'gardening' required to generate common knowledge within a boundary space.

My findings contribute new knowledge to inform the challenge of overcoming the 'hurdle' of convincing non-academic partners about the potential contribution of a humanities based doctoral education intervention, identified in section 2.3.2.2 of the literature review. I suggest that it requires more than simply presenting research findings, instead the study indicates that the boundary crossing within the study was supported by the active nurturing and

development of common knowledge within the early questioning stages of the CL frame prior to moving through the stages of the intervention.

If one is thinking about preparing humanities student researchers for a future requiring working across boundaries, then developing an understanding about their own expertise and how they can draw on and contribute towards others is, I would argue, crucial. The CL, I suggest, provides a new environment to develop and stretch this muscle within a relatively alien context, beyond the academic field to a broader mobility of expertise. Thus, responding to the challenge of the limited study of interventions that examines the practices of doctoral education in the humanities, identified at section 2.2.2.2 of the Literature Review Chapter.

7.3.2 **Learning in boundary crossing interventions**

Having considered section A of the literature review, I now explore the study findings in relation to section B of the review: learning in boundary crossing innovations. Section B considered empirical studies that focus on interactions at the boundary. I introduced two dimensions in my reading of the literature, plotting empirical studies according to participants' degree of agency, and the degree of collaboration in formulating an intervention. The literature highlighted the absence of mutual development at the boundary within pre-ordained, passive interventions and the potential for broadening understanding about the practice of the doctoral researcher through an active, collaborative intervention. This led me, as I explain in section 2.3.2.4, to

consider the CL methodology particularly in light of its capacity to proffer agentic control to participants in order for them to become the authors of their own change.

Comparing my findings in relation to the literature, it is important to clarify that the boundary zone between the two activity systems of the doctoral education and the third-sector organisation was in existence before the intervention. It was a space occupied by interactions including masterclasses, internships, conferences and other 'light' interactions. However, those boundary crossing encounters did not seem to result in any significant interactions between student researchers and organisations. Instead, these appeared to be functional partnerships, supporting a rehearsal of working and connecting outside academia without a deeper engagement of knowledge exchange and understanding about the contribution of the humanities trained researcher. Facilitated by the CL and the central framework of expansive learning, however, this boundary zone was the site of a new form of relational working that resulted in an embedded legacy for the participating practices and the ability to effect change. In the instance of this study, the involvement of the Charity's Chief Executive also seemed to be an ancillary factor. Notably, this suggested finding of the importance of a senior leader's presence within an intervention is reinforced as beneficial within CL settings (Montoro, 2016; introduced at section 2.4.5).

The contribution from my findings is that I introduce new knowledge about this form of intervention and the potential to achieve a mutually beneficial

relational interaction, in the context of the humanities. I argue that this study's form of CL is indicative of supporting relational agency, which manifested as a fluidity of responses to problems, with potentially beneficial outcomes for student researcher and Charity practitioners. In common with the literature, my findings concur with Edwards (see section 3.2.4) who suggests that relational working has the potential to move common knowledge vertically, upstream from the operational to strategic levels as well as horizontally.

Examples include Todd who demonstrated the *feature* of being pedagogic (introduced at section 3.2.4) in his approach at the questioning stage of the intervention, positioning himself sufficiently strongly to be approached by the Charity's Chief Executive to work for them, as I explain at section 6.4.4. Later, as the CL reached the point of impasse at the implementation and reflection stage of the first cycle and progressed to a new expansive cycle, Sally effected an internal questionnaire to capture primary data about the long-term purpose of the Charity. Denise also effected relational agency, instigating an asset mapping exercise that moved common knowledge developed within the cycle to a broader audience, upstream of the CL.

The findings present evidence from a new context, working with humanities disciplines in the field of higher education. They suggest that, within the context of this study, there is the potential to achieve a mutually beneficial outcome for practices across the boundary of academia and non-academia. The experiences of participants suggest that this became an embedded legacy, not new knowledge imported to the Charity but one rooted in the

mirror data produced by the Charity participants. Therefore, I conclude that it is possible for the CL to change not only the practices and outcomes for doctoral researchers but those of practitioners within host organisations too.

7.3.3 Collaborative, agentic research-interventions: parameters and possibilities

Finally, having considered section B of the literature review, I now explore the study findings in relation to section C of the review, specifically the parameters and possibilities of collaborative, agentic research-interventions. Reflecting the structure of the Literature Review Chapter I will discuss my findings in relation to the following four areas (discussed in section 2.4.1).

- Time and temporality within interventions.
- Distance between the researcher and the researched.
- Mutuality of learning: defining a common object.
- Exploring space at the boundary.

7.3.3.1 Time and temporality

The Literature Review Chapter, in section 2.4.2, explicated a tension between the pressure for the timely completion of a traditional thesis and the increase in the external demand for doctoral skills training, a particular challenge with the University at the centre of this study. It also emphasised the difficulties of achieving an intense learning experience within tight time parameters and embedding learning within partner organisations beyond an intervention. For

those reasons, I committed to understand and inform new knowledge about the potential to embed practice within a limited time period.

Findings from this study suggest that participants were able to effect change through the intervention within the relatively tight time parameter of eight months, in comparison to the three year or more projects highlighted in section 2.4.2 of the literature review. The results of this study also indicate that the intervention embedded change during that time at individual, practice and activity system levels. Examples of such changes include Todd being recruited to work for the Charity, the 457 survey results achieved through distributed expertise and the reflections of Sally in section 5.4.1 who described the research completed during the CL as “embedded” within the Charity.

The provision of mutual support, identified at section 6.4.4, is I posit, much less likely to have happened spontaneously without the intensity of the CL intervention. In the former, relatively unsophisticated, interactions between the practices of student researcher and the Charity it seems less likely that Todd, for example, would have been listened by a Chief Executive and invited to work on a consultancy basis for this national charity within a single meeting. One of the signifiers of understanding the research expertise of the students was expressed by Sonia and Flora, during the focus group (see section 5.4.1), who discussed being impressed by the ‘researchers’ speed of working’. As I will go on to discuss in section 7.3.3.2, the route of this awareness apparently stemmed from the shared responsibility for participants to

complete mirror data. Referring back to section 2.4.2 and Sternberg and Horvath's (1995, p. 10) assertion that 'experts do more in less time (in their domain of expertise) than do novices', the comment about the researchers' speed of working is significant. There was certainly evidence of a change in the Charity employees' perception of researchers as research experts, rather than students, which chimes with the observation about the speed of working.

The contribution of this study is to research an interaction within the relatively short time frame described, with the potential to make explicit the research expertise of PhD students. Given that the research of doctoral students takes years, there is the potential for assumptions to be made about the speed of their working and the limits of PhD students' abilities to contribute to short-term research. It would seem that this form of intervention supports the internal verification of students' research expertise reinforced by the external verification imparted by the Charity practitioners as they witnessed research in practice. This form of myth busting exercise therefore appeared to be very valuable to the researchers, opening their eyes to their own capabilities, with potential implications for future collaborations.

7.3.3.2 **Distance between the researcher and the researched**

As I briefly mentioned in section 7.2.3 above, the study findings suggest that working together and developing a shared responsibility for researching the object supported the Charity participants to recognise the expertise of the student researchers. Equally, the students reported the benefit of this

approach to developing both the internal and external verification of their expertise.

Relating my findings back to my epistemological stance, established in section 3.1.2 of the Theoretical Framework Chapter, suggests that Hosking's notion of introducing a heterarchical relationship between the researcher and the researched adopted in this study contributed to that shared responsibility. The study, I suggest, also closely aligns with Hopwood and Edwards (2017) notion of co-production, referred to in section 2.3.2, but in the new context of co-producing research within a CL. It further informs the cited need to establish opportunities for internal and external verification of student researchers within doctoral education (Mantai, 2017; established at 2.2.2.3).

Significantly, however, my findings run counter to the widely expressed view that the majority of research during CL interventions is completed by the researcher interventionist, outlined at 2.4.3. Within this context, I suggest that external and internal verification of what it means to be a researcher was catalysed by employing the pedagogy of shared research. Further, the research that was undertaken by Charity practitioners was regarded as embedded within the activity system, a valuable outcome, I suggest given the relative brevity of the intervention. It is, however, important to reiterate that this form of CL intervention is not an attempt to hybridise the different practices of student researcher and Charity professionals. As I explain in section 3.2.4, relational working is not intended to emulate other practices, instead the intention is to nurture practitioners' capacity to recognise and act

on their own and others motives and expertise when working at the intersection of practices on complex problems.

7.3.3.3 **Mutuality of learning: defining a common object**

The literature review of this study, at section 2.4.4, introduced empirical studies that cite the importance of participants within an intervention sharing a common object, commonly described as a shared problem. Within the limited empirical studies concentrating on the humanities, the lack of a negotiated object halted the intervention, which led me to ensure that the object of this study was clearly articulated and negotiated at the questioning stage of the Change Laboratory.

Within this study, I argue that the object of the CL acted as a live catalyst where mutual collaboration during the intervention led to relational working and transformational, mutually beneficial shifts in understanding between practices, alongside transforming the object itself. Furthermore, I suggest that the expertise of participants became objectified, expanding comprehension of the object through distributed expertise and resulting in a deeper analysis of possible future states of activity and the expertise of participants. This study contributes to that understanding through the case study of Jasmine, in section 6.3.3, who was observed to engage relational expertise to achieve mutual learning that was equally beneficial to the object of the CL. My findings align with Edwards and Stamou (2017) in reinforcing the need for a shared object to form the basis for a relational form of researcher development.

Without that, I suggest, it would be challenging for student researchers to objectify their expertise, a process that seemed to act as a conduit for shared discussion between practices.

The difference between my findings and those in the literature relates to the perceived proximity of expertise to the object. As I suggest at section 2.4.2, the literature concentrates on the time span of interventions, rather than my finding about the proximity of subject to object expertise. I propose that the relational form of CL offers a valuable framework for undertaking empirical analysis from which to explore the connection between expertise and proximity to the object in more depth. Such an approach may well have implications for addressing some of the myths about the contribution of the humanities to real-world problems.

7.3.3.4 **Exploring space at the boundary**

The literature review at section 2.4.5 presented multiple empirical studies that have made claims about the notion of space in its various forms within interventions. As I explain in more detail in section 7.2.2.3 above, a clear theme from my own study was the role of the intervention in supporting a physical and psychological space to think.

My findings suggest that to reach the point of becoming common knowledge of a contradiction, it was necessary to design a relational but homogenous space to support questioning, in order to make explicit the purpose of the

Charity practices for the participants with the least knowledge of the object, in this instance the PhD researchers. This chimes with the findings of Derry (2013, p. 320), captured in Edwards (2017, p. 10) that I referred to in section 3.2.4 of the literature review, specifically the potential to establish common knowledge through questioning in 'the space of reasons'.

Reflecting on Hopwood and McAlpine's (2015) notion of a third space (introduced at section 2.4.5), I designed the research-intervention to bring together participants who would not normally connect to focus on a shared object. Importantly, however, I extended the design of a third space to draw on the voices of non-academic professionals rather than purely faculty-related participants. It seems that this pedagogic approach was suitable to be applied to the new context of this study. Within that third space, all participants were apparently able to develop and mobilise their common knowledge, mediated through the space of reasons, and building on the homogenous student group design.

7.4 Chapter summary

This Discussion Chapter has drawn together the data and analysis from this study to present four thematic findings in response to the overarching research question R.Q.1. In the second part of the chapter, I have discussed those thematic findings in relation to the literature review of this thesis, which was established in Chapter 2.

In summary, I have argued that designing a CL intervention that nurtures the common knowledge understanding of researchers and involves all participants in the research process, enables the influence of humanities expertise to be made explicit and traced. Supported by the mediating stimuli of activity theory, a filter of strangers and space to think, the traditions and behaviours of the respective activity systems appear to be suspended but acknowledged and still visible. Such an intervention, I argue, has the potential to change not only the boundary crossing practices and outcomes for doctoral researchers but those of practices within host organisations too.

In the following chapter, I conclude this thesis, reflecting on the objectives of this study, the findings, limitations and the broader implications of my work for policy, practice and future research.

8 Conclusion

8.1 Introduction

This chapter begins by reminding the reader of the research objective for this study, and how that objective was approached. I then summarise the findings that I interpreted from the data and address the limitations of this study, reflecting on Guba and Lincoln's (1989) tests for transferability, dependability, confirmability and credibility. Next, I focus on the central tenet of my thesis, outlining my contribution to new knowledge. Finally, I draw this thesis to its conclusion by discussing the implications for policy, practice and future research.

8.2 Research objective

The objective of this study was triggered by my recognition of the tension between the pressure for doctoral students to increase their mobility across non-academic boundaries and misconceptions about the contribution that humanities PhD students might make in such collaborations. An extensive review of the literature surfaced a number of limitations within existing empirical studies about boundary crossing learning. Shortcomings included the involvement of a limited range of voices and a sparsity of studies specific to the disciplinary cluster of the humanities.

Acknowledging that the status quo in doctoral education cannot be maintained and that PhD students need support to mobilise their expertise across multiple

boundaries, my intention was to contribute new knowledge about a fresh approach to preparing for a relational future. I therefore set out to bring practices together in a third space, connecting those who would not normally come together to work on a shared object. In concordance with my ontology and epistemology, discussed at section 3.1, I designed a collaborative, agentic form of intervention, to facilitate new ways of co-constructing meaning between practices situated within separate activity systems.

The theoretical framework of the Change Laboratory methodology scaffolds this study and was applied to stimulate and trace the development of relational working. The natural history of the nine CL sessions that ensued were presented in detail, with specific sequences later explored in more depth to trace the development of relational working. From the synthesis of that data, I argue a number of key findings.

8.3 Research findings

Tracing the progression of the three conceptual elements of relational working through the stages of the research-intervention suggests their non-linear, interwoven development. Participants were able to trigger rotation into a second iteration of the expansive learning cycle, as contradictions and tensions surfaced, and participants' agency increased.

Common knowledge appeared to develop as the student participants explored and articulated their own values, their motives and what mattered for others in

relation to the CL object. Incorporating a homogenous group session in the questioning stage seemingly contributed to the cognitive freedom that enabled the PhD students to build momentum in challenging practice. The findings indicate, however, that it was not until common knowledge had established across the group that the initial reflections of the researchers had consequences for participants. It was at this point that the student and Charity motives began to align to support agentic action. Significantly, perhaps, external stakeholders of the Charity provided an additional, stimulus, with the Charity practitioners' best placed to know who could help in that regard.

With respect to relational expertise, findings suggest that the research interests and expertise of student researchers appears to have become objectified, expanding the object beyond the horizons of the Charity practitioners. The intervention also seemed to support the development of an additional layer of distributed expertise that further amplified the objectified expertise. This collective expansion of the object assisted in illuminating the expertise of the student researchers and embedding the new knowledge produced by the Charity participants, with the potential to leave a legacy of learning for all practitioners. In this way, the intervention seemingly supported opportunities for internal and external verification of expertise within practices and the potential to embed learning.

The development of relational agency across the CL was traced by examining fluctuations in the shared responsibility of participants to complete research as co-collaborators. All participants contributed to expanding knowledge about

the object but, significantly, by the end of the intervention the Charity practitioners were the main originators of object-related knowledge. Participants' agentic actions appeared to impel common knowledge upstream beyond the conceptual boundary of the intervention into the Charity's activity system as embedded knowledge. Further, the design of the intervention, incorporating the stimulus of external participants, the activity system model and a space to think freely, were potentially important factors in maximising the democratic potential of this pedagogy.

8.4 Limitations

Having consolidated the findings of the study, I now consider potential limitations within its design and implementation.

One of the challenges highlighted within this study is my own role as research-interventionist. I have been strongly invested in the intervention and, as I set out in section 4.6 of the Methodology Chapter, my personal involvement will have influenced the CL, potentially limiting the generalisability of the findings. In addition, there are inevitably limitations when there is a single researcher running an intervention with limits on resources. Having to plan, facilitate, record, transcribe and analyse each form of recording will certainly have placed limits on my capacity to do justice to each interaction within the process.

Additionally, it could be argued, by those whose ontological and epistemological positions are rather different from those adopted within the literature on activity theory, that a single intervention limits the generalisability of the study. I argue, however that the CL is in itself not designed to support directly transferable solutions, rather it is a tailored, developmental, intervention within a specific context. As such, my findings should not be taken as immediately replicable solutions; instead, it was my intention is to provide rich contextual and methodological narrative sufficient to consider generalisability.

I argue that by paying attention to Guba and Lincoln (1989) and by addressing the test of transferability, I have endeavoured to provide the reader with sufficient contextual description to make a judgement about the potential transferability of the proposed form of CL to other contexts. Similarly, by providing a comprehensive description of the process of the intervention, and retaining the raw data and clearly documenting the process of analysis, I have responded to Guba and Lincoln's (1989) call for tests of dependability and confirmability, respectively. Furthermore, by applying their six techniques for maintaining credibility, I submit that I have challenged my own interpretation in relation to the views of participants and my own professional peers.

Finally, a challenge stemming from the research design was the significant amount of data produced by the intervention, particularly with the video recordings, voice recording and observation notes from the Change Laboratory itself and the two focus groups that followed. In hindsight, making

a firm decision at the outset to focus on voice or video recording might have made the process simpler, although I suggest that it was only once the intervention was complete that I was able to make the decision about the relative values of data. There is also a resultant positive outcome; the availability of open access ensures that others and I can draw on that reserve of data in the future.

8.5 Contribution to new knowledge

My intention throughout the study has been to address the research gaps identified in the literature review and to respond to the acknowledged need to prepare researchers for a relational future.

Specifically my findings contribute new knowledge about how to design a CL intervention that introduces a filter of strangers and incorporates an initial homogenous student group within a relatively short time frame. I also propose new knowledge about the potential pedagogy of introducing shared responsibility for producing research, with the potential to embed learning at the individual, practice and activity system levels.

More broadly, the study sought to contribute new knowledge about how boundary crossing is dealt with at ground level within the context of humanities doctoral education. I argue that this has been achieved, contributing knowledge from an empirical study by applying the Change Laboratory as a pedagogic intervention designed to facilitate relational

working. I suggest that this form of intervention addresses the identified limited mobility of humanities researchers beyond university practices and expands the conception of perspectives involved in learning within the doctoral education frame.

I introduce a new term, *relational fusion*, that I define as connecting practices that would not normally come together to work on a shared object. A new pedagogic medium that facilitates this fusion is introduced in the form of the *Relational Change Laboratory* (RCL), an intervention that can both stimulate accelerated reciprocal learning and provide an empirical route to trace and articulate the contribution of the humanities trained researcher.

8.6 Implications for policy

Considering now implications for policy, the findings are intended to break new ground in exploring the purpose and practice of the humanities PhD, at a watershed moment in the design of the doctorate. Propelled by a surge in demand for researchers able to negotiate academic and non-academic boundaries, compounded by a paucity of empirical research, the intention is to empower participants to inform the often narrow view of the contribution of the humanities.

Specifically, the study reinforces Edwards and Stamou's argument (2017, p. 280) that research councils should encourage relational work as an integral part of the preparation of researchers. It further allows for an expansion of

thinking and understanding the purpose of the PhD beyond an economic narrative towards a much more complex, nuanced comprehension and immersive experience, by providing multiple sources of external verification.

At the level of institutional practice, I posit that the RCL proffers a new pedagogic route to implement boundary crossing doctoral education. Such an approach, I suggest places the means for mediation and the expansive, co-construction of meaning in the hands of participants. It also provides an opportunity for practitioners on the ground to talk back to the policy initiatives that regularly drive such endeavours, through empirical scholarship.

Perhaps most importantly I assert that the intervention allowed for the contribution of an individual practitioners' expertise and the subsequent pathway to relational expertise to be surface, traced and articulated. This, I suggest, is a significant outcome if one is to consider how to translate the contribution of student researcher practitioners in exchanges with non-academic practices, specifically within the field of humanities but with implications for other disciplines.

8.7 Implications for practice

I suggest that a formative intervention, in the form of an RCL, can offer a framework for connecting practices, specifically where the existing active intersection of practices is currently limited. Doing so offers all participants the potential to develop an understanding of what it means to be a researcher and

places mediation of distanced activity systems into the hands of practitioners, to mutual benefit. I suggest it also has the potential to empower participants to question and learn from practice, and to develop new forms of productive knowledge exchange as a distinct form of expertise that researchers of the future will need to draw on. Attending to the positionality of the researchers and the researched by encouraging all of the participants to act as co-producers of research appeared to contribute to this development of relational working.

My findings offer a point for discussion, however, particularly the stage at which shared responsibility for producing data is encouraged. As I explained in section 6.4.2, it was only when the shared responsibility became more equitable between the practitioners that mirror data gained traction within the intervention, resulting in an embedded legacy for the participating practices and the ability to effect change within the Charity. I therefore conject that practitioners might consider the point at which this task design of shared responsibility is encouraged.

With regard to my own ongoing practice, I now regularly employ the RCL pedagogy to support the development of relational working between humanities researchers and non-academic organisations, in my continuing role outlined in the Introduction Chapter in section 1.2. I am also beginning to expand the composition of student researchers to include a range of disciplines as both an expansive form of doctoral education and a route to tracing the contribution of the humanities within collaborations.

8.8 Implications for future research

At the broadest level, I suggest that a formative intervention, in the form of an RCL can act as a cognitive frame from which the theory of relational working can be further explored by researchers.

One of the questions left unanswered following this intervention is that of time and the sustainability of an RCL form of intervention. Inevitably, when applied to a doctoral education context, the pedagogic model of an expansive learning Change Laboratory is necessarily temporary but only a longitudinal study would allow researchers insight into whether new patterns and evolution in learning are limited to an impermanent transference. I therefore suggest that further research would be valuable, perhaps reframing the angle of the research lens to shift from concentrating on the time and continuity of interventions to follow continuations of impact once an intervention concludes, and tracing roots of that perpetuation from the RCL. Doing so I suggest will expand our understanding of embedded knowledge, expertise and agency within individuals, practices and activity systems.

A second area of interest is the question of the proximity of practitioners' expertise to a shared problem object. Considering that point, it is interesting to note that the length of time of Change Laboratory interventions within the literature seems to be synonymous with quality. Yet there is little mention of analysing the interventions to consider the effect of the intensity of interactions relating to the problem object or implications of the perceived

proximity of expertise to the problem object. Framing a future study in such a light is an ambition that stems from this current thesis.

9 Appendix 1. Extract of Session 1 of the Change Laboratory, demonstrating how theoretical coding was applied.

Theoretical thematic analysis: coding key for features of Common Knowledge
Being alert to the long-term purposes of practices (CK1) Understanding oneself and one's professional values (CK2) Knowing how to know who (CK3) Being pedagogic (CK4) Being responsive (CK 5)

Features of common knowledge	**Excerpt from interview transcript - coding**
CK2	42 Mia: I'm not sure that I want to stay in academia and I want to think about my options at the end of my PhD in about 18 months' time. It particularly appeals because on a personal level I really enjoy reading and I suppose it matters to me a lot personally that people get involved with it. I think over the last few years too, socially it has been harder for people to keep engaging with books, with you know the shutting down of libraries.
CK2	43: Ijeoma What I'm interested in is how they started at the most basic. I'm asking this because I'd like to introduce some of the things back in my country so – where do you start? What are the most basic things – how can I take this back? How can this be replicated somewhere else? You're involved in so much now – how can I start this?
CK2	44: Cassandra I'm aware of the power of reading – it's not just about policy it's also about the cognitive and psychological level, it's quite impressive what being an avid reader can do to your brain.

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