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Growing professional capital through Lesson Study

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Declaration

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration, except as declared in the Preface and specified in the text.

It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. I further state that no substantial part of my dissertation has already been submitted or is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text

It does not exceed the prescribed word limit of 80,000 words.

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All schools named in this thesis are with the headteacher's consent. Individual teachers' contributions have been anonymised and included in this thesis with their permission. No pupils are identifiable. Ethical considerations have informed my research design and the data I have decided to include in this thesis. I would like to thank all the participating teachers, pupils and senior leaders for their co-operation, enthusiasm and dedication.

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Abbreviations

AST	Advanced Skills Teacher
AfL	Assessment for Learning
CPD	Continued Professional Development
DfE/DfEE	Department for Education (and Employment)
INSET	In-service training
ITL	International Teacher Leadership initiative
JPD	Joint Practice Development
KS2	Key Stage 2 (pupils aged between 7 and 11 years old)
NCSL	National College of School Leadership
NFER	National Foundation for Educational Research
NPS/NLS	National Primary/Literacy Strategy
NQT	Newly Qualified Teacher
OECD	Organisation for Economic Co-operation and Development
Ofsted	Office for Standards in Education
RANGe	Raising Achievement and Narrowing the Gap
SET	Stevenage Educational Trust
SDP	School Development Plan
TALIS	The OECD Teaching and Learning International Survey
TDA	Teacher Development Agency
TLA	Teaching and Learning Advisor
TLDW	Teacher-led development work
WALS	World Association of Lesson and Learning Studies

Introduction

I began determined that my research would enhance my capacity to improve practice in Stevenage schools. If I were to devote years to study, as well as working fulltime, then I was committed to improving the practice that consumed my daily working life. This was because of my ethical and moral conviction. My thesis would not be an extensive monologue that upon completion would be relegated to sit in a library unread. I wanted to grapple with difficult issues and challenge the status quo; to be sure that teachers', and most importantly pupils' lives, were improved; to be a better leader, a leader of change and improvement.

I was concerned that, in the town in which I worked, pupils did not reach their true potential. Generations of families failed to achieve in examinations, became disaffected with school and aspired to very little. Although teachers worked extremely hard, they seemed to have little discernible impact, resulting in a number of challenges for school leaders: a demoralised workforce, recruitment and retention issues and little self-efficacy (Bandura, 1997) to shape a preferred future. I was concerned that an overly simplistic analysis was being applied to this relationship; poor pupil attainment was caused by poor teacher performance. The common antidote was to deliver more teacher training, local authority advisors insisting senior leaders observe best practice and greater scrutiny of teachers' performance, invariably pointing out their shortcomings. I wanted to make a difference by approaching the problem differently.

At the start of my research, I was senior leader in a Stevenage school and I am now a primary school headteacher. I was, and still am, motivated to be an agent of change, and I have a strong sense of moral purpose. However, this made me no different from most teachers. Fullan (1993) argues that moral purpose without agency is just martyrdom. In her address to the HertsCam Annual Conference, Hill warns, 'if our approach to leading change is like putting a foot in a stream - remove it and everything returns to how it was' (2013). My approach to leading change needed to be sustained and have longevity. I

intended to build upon the research of others and draw on my own prior professional experience, in order to devise my methodology.

My research focus was to grow professional capital through Lesson Study. In Chapter 1, I explore the professional, cultural and political context in which I carried out my research. This chapter culminates in an articulation of a single aim, to positively impact upon the educational achievement of disadvantaged pupils. In Chapter 2, I explore ways this could be achieved and critique traditional approaches to teachers' professional learning, including the ways professional knowledge is fostered and transferred. In Chapter 3, I present a rationale for my chosen intervention, the Lesson Study cycle, drawing upon experience of this tradition (Lewis 2002a; Lewis, Perry and Hurd, 2004; Dudley, 2012). I conclude by suggesting this is a scaffold for fostering joint practice development (JPD), and that it may realise Stenhouse's (1975) notion of 'teacher-as-researcher'. In Chapter 4, I explore collaborative cultures that enable JPD to flourish (Hargreaves, 2012; Gregson, Nixon, Spedding and Kearney, 2013). I explore how professional capital (Fullan and Hargreaves, 2012), built through collaboration and enquiry, can lead to school improvement, greater capacity and increased teacher self-efficacy (Bandura, 1997).

In Chapter 5, I summarise my aims and emerging set of values, which shape my research stance and desired outcomes. I explain how I formulated my conceptual framework, the lens through which I analyse my data, drawing upon my reading, experience and reflection. My research question was influenced by my drive to improve practice and remained under constant review throughout my action (Flick, 2006: Creswell, 2007). In many of my decisions, my moral purpose was the determining factor. In Chapter 6, I preface my methodology by a set of ethical principles (Macfarlane, 2007). I characterise my research as small-scale, context specific, practitioner-led and action-based. My research is aligned with HertsCam principles that underpin teacher-led development work (Frost and Durrant, 2002; Frost, 2013), including encouraging enquiry as a leadership strategy, developing teachers' voice and self-efficacy, and building professional knowledge through collaboration and critical discussion (Wearing, 2011). My

methodology informed the project design and subsequent action. Throughout my research, I was both reflexive and flexible, to respond to what I was learning and what the analysis of data was telling me. Biesta argues that researchers and professional educators should not 'accept given problem definitions and predetermined ends' (2007: 17).

My critical narrative of this action is episodic. In Chapter 7, I recount in four episodes the challenges and successes I faced in leading my research. I also reflect on the messages illuminated through my analysis of the data I collected. My action was punctuated by periodic review and reflection, which in turn informed future action. The story is an authentic, honest and accessible account, with a strong reflexive thread. In Chapter 8, I assess impact, presenting recommendations for policy and practice, and detail the challenges faced when facilitating collaboration. Finally, I reflect on the personal impact of this research and its legacy, particularly in my approach to leading change.

Chapter 1

Shaping my moral purpose: the professional, political and cultural context

In the introduction, I outline my initial professional concern. In this chapter, I explore the professional, political and cultural context in which my research took place, as it inevitably shaped the research design. This context influenced the methodology, project plan and the decisions I made throughout my research. I begin by exploring my moral purpose and professional focus, presenting an outline of my career and how these experiences influence my thinking. I then explore the pressure of policies and mindsets upon primary school education, as these inevitably also influenced my research design. Next, as I was determined to positively impact upon the educational outcomes of Stevenage, I present an outline of its historical and cultural context, explaining the influence of a particular set of local factors. I then examine the reasons behind the long tail of underperformance (OECD, 2010a), and the extent to which schools can affect change. I conclude this chapter with a rationale for my first key aim, to positively impact upon the educational achievement of disadvantaged pupils.

My moral purpose

I wanted to make a difference to the educational experiences and outcomes of pupils in Stevenage. This is my moral purpose. Fullan (2001b, 2003, 2007) argues that change should be driven by a sense of moral purpose, the drive to act with the intention of making a positive difference to the lives of people (Ryan, 2008). For Fullan moral leadership can bring about large-scale school improvement, and he opens his book, *'The Moral Imperative of School Leadership'*, with the rallying call, 'the quality of the public education system relates directly to the quality of life that people enjoy, with a strong public education system as the cornerstone of a civil, prosperous, and democratic society' (2003:3). My moral purpose is informed by previous experiences as a teacher and leader,

as well as the observations and experiences of those with whom I work and study. Indeed, 'the building block is the moral purpose of the *individual* teacher. Scratch a good teacher and you will find a moral purpose' (Fullan, 1993: 10). In the following section, I detail my professional context. I provide background to the shaping of my moral purpose, which was the driving force throughout the research.

My professional context

I began my teaching career seventeen years ago as a newly qualified teacher (NQT) in a primary school in Newcastle-upon-Tyne. Previously, I volunteered at inner-city play schemes in Liverpool, led youth work with children from sectarian communities for a Northern Irish community relations charity and spent a summer working in South African townships. Both my parents were teachers, as were my paternal grandfather, maternal grandmother and maternal great grandmother. When I was young my parents fostered children, who lived with us for short periods. By the time I embarked on my teaching career, I was already acutely aware that many children were not as fortunate as me; many had not been taken on visits to the library, had their incessant questions answered or enjoyed the financial security I had as a child. Early in my career, my moral purpose was already well formed.

This was further developed when after four years teaching in Newcastle-upon-Tyne, I moved to Atlanta, Georgia in America. Outside familiar cultural norms, the poverty, discrimination and lack of aspiration appeared even more marked. When I returned to England, I joined another primary school in Harpenden, Hertfordshire. The contrast was striking. These children, though their lives were not perfect, enjoyed the benefits of a middle-class home and community, which impacted positively upon their educational achievement. Nevertheless, I remained fervent that education could make a difference and that 'every child needs a champion' (Pierson, 2003).

As my career progressed, my moral purpose was strengthened. I became an Advanced Skills Teacher (AST), a role which was introduced in 1998 to reward excellent teachers who chose to stay working in classrooms, rather than following other routes to promotion through leadership (Blake, Hanley, Jennings and Lloyd, 2000). As an AST I was judged, through external assessment against a range of criteria, to demonstrate excellent classroom teaching practice, and the role involved supporting teachers in other schools, across Hertfordshire Local Authority. Whilst I learnt a lot, it was clear to me there were a number of flaws in this approach, which resulted in limited impact: firstly, there was no opportunity to support teachers within my own school; secondly, my deployment was often seen as a quick remedy to repair failing teachers, with little opportunity to embed change; thirdly, the approach naively assumed that by working with teachers my excellent practice would somehow rub off on them, rather like stardust, and fourthly I worked in isolation, so the powerful influence of each school's culture and core values, the glue that holds an organisation together (Fullan, 2003), remained largely untouched. During this time, I was beginning to form an understanding of the way in which teachers learn and improve their practice, although I was not yet able to articulate this fully.

I became impatient to develop my understanding of leading change. Whilst teaching in Harpenden, I designed, led and managed a teacher-led development work project (TLDW) that aimed to change practice and build knowledge in my school. This experience ignited my passion for non-positional teacher leadership. In November 2009, I obtained my Master's in Education from the University of Cambridge, having developed a commitment to school improvement through collaboration and empowering teachers. Subsequently, I was instrumental in establishing and tutoring on the first cross-phase Stevenage TLDW Group, including both primary and secondary teachers (Frost and Durrant, 2002). I was also a tutor on the HertsCam MEd, contributing to the International Teacher Leadership (ITL) project in Athens, Greece (October, 2009), Zagreb, Croatia (October, 2010) and Belgrade, Serbia (October, 2011). After facilitating at a teacher leadership summit at Fruška Gora, Serbia, I co-wrote a chapter in *'Transforming education through teacher leadership'* (Miljević, Herbert and Ball, 2014).

My thinking has been shaped by these experiences, and I am in agreement with the ITL project's findings.

> Teachers really can lead innovation; teachers really can build professional knowledge; teachers really can develop the capacity for leadership, and teachers really can influence their colleagues and the nature of professional practice in their schools.
>
> (Frost, 2011: 57)

My moral purpose includes a commitment to collaboration, knowledge building and teacher leadership, which I explore in Chapters 2 and 4. By September 2009, I had become a deputy headteacher at Woolenwick Junior School in Stevenage, Hertfordshire. I was charged with improving the quality of teaching and learning in a school where pupils' attainment was historically low (Ofsted, 2009). Working alongside teaching and learning advisors (TLAs), I learnt a lot and was afforded time to design, lead and manage interventions, developing many skills. In Chapter 2, I argue that the delivery and dissemination prescriptive approach adopted by the National Strategies (2008), restricts teacher leadership and erodes teachers' self-efficacy (Bandura, 1997). Leadership in primary schools has been narrowed to a data-driven model of positional subject leadership, with the sole measure of success being an improvement in test results.

As I began my research in 2011, I was approached with an exciting opportunity to work for Stevenage Educational Trust (SET), a charitable organisation in its fledgling stages. The aims of the trust were to support the best possible opportunities for the young people and their families who lived in Stevenage and the surrounding area (www.educationtrust.org.uk). The trustees asked if I would work for SET one day a week initiating continued professional development (CPD) opportunities; this was an invitation I gladly accepted. In order to intertwine my various roles and professional concerns, I always envisaged my research as reaching further than the confines of my own school. I wanted to build upon the connections I had made across Stevenage and invigorate others to strive towards a common goal. With a strong moral purpose, I intended to support other teachers in rekindling their own moral purpose, experiencing

the self-efficacy I still felt. I was anxious to enable teachers to participate in bottom-up, emancipatory solutions, which would reap the reward of improving pupil progress.

The political context

Unfortunately, my moral purpose and the changing political landscape were not closely aligned. The rapid and relentless barrage of political initiatives and policies affecting primary education in England, led to initiative overload, which often resulted in interventions not reaching their full potential and effectiveness (Frost and Durrant, 2003; Ofsted, 2010a). In this section, I argue that the rapidity of change, leading up to and during the course of my research, influenced both mine and others' thinking. As schools and their leaders reached saturation point, in a target driven culture (Watkins, 2008), teachers were exhausted and demoralised (Hargreaves and Fullan, 2012). As I discuss in Chapter 8, the consequence for my research was headteachers' became increasingly risk averse.

I began my research in September 2011. On 12th May 2010 the Conservative party, led by David Cameron, and the Liberal Democrat party, led by Nick Clegg, published a coalition agreement (Guardian, 2010), and the Academies Act (2010) promoted the reform of schools in order to ensure that new providers could enter the state school system. Michael Gove, the Secretary of State for Education, renamed his department the Department of Education (DfE) and swiftly replaced the 'meddlesome' 'Every Child Matters' agenda with 'helping children achieve more', symbolically removing the rainbow motif from outside the government buildings (Jones, 2012). He also announced plans for schools rated as 'outstanding' by the Office for Standards in Education, Children's Services and Skills (Ofsted) to become academies (Harrison, 2010), the first of a succession of changes.

Gove made clear his commitment to 'significant' funding for children from poorer backgrounds (the pupil premium grant). It was widely reported that this emphasis was

driven by his own childhood experiences. He argued that Labour had failed to break the link between social class and school achievement. Quoting research, he indicated that by the age of 6, children of low ability from affluent homes were still out-performing brighter children from poor backgrounds; he said that this gap grew larger throughout pupils' school careers, stating, 'in effect, rich thick kids do better than poor clever children when they arrive at school and the situation as they go through gets worse' (Shepherd, 2010). The academic achievement of children from disadvantaged backgrounds has retained a high profile, and as pupil premium funding increased, so did accountability. Perhaps Gove's and my moral purpose were more closely aligned than I had originally thought.

Simultaneously, primary schools were also grappling with another policy shift; Gove announced the national curriculum for England would be restructured, which I viewed as an unnecessary and retrograde step. He claimed that this was needed because left-wing ideologues had under-mined education, resulting in 'countless children condemned to a prison house of ignorance' (Paton, 2010). Subsequently, the white paper (DfE, 2010) declared the compulsory study of foreign languages, a shake-up of the league tables, trainee teachers spending more time in classrooms and former troops being offered sponsorship to retrain as teachers in order to improve discipline (Collins, 2010). Gove also announced subject experts would be brought in to review the national curriculum to combat the 'anti-knowledge culture', 'ignorance of science' and low expectations (Paton, 2011). When the draft curriculum was published, Gove was accused of suffering from a 'blinkered, almost messianic, self-belief, which appears to have continually ignored the expertise and wisdom of teachers, headteachers, advisers and academics, whom he often claims to have consulted'. Alexander, heading British primary education's largest review in 40 years, declared; 'it is surely proper to ask whether heaping abuse on members of the electorate, because they hold different views, is what government in a democracy is about', describing the proposed reforms as 'neo Victorian' (Manning, 2013). Such changes were in direct contrast to the emancipatory self-efficacy which I was determined my research would engender. Unfortunately, the pedagogical wisdom of classroom teachers had no place in the wider political landscape.

In addition, changes to pay, pensions and workloads roused the profession's ire. This led to several national strikes, and Gove denouncing teachers as 'enemies of promise' (Gove, 2013). In a cabinet reshuffle, Morgan replaced Gove, marking a distinct shift in rhetoric. At her first party conference, she spoke of teachers as 'heroes', marveling at their dedication and claiming she cared for each and every school (Mason, 2013). She described a 'shocking and sobering' workload crisis. However, having secured a conservative victory in May 2015, she launched a new primary curriculum and assessment regime. Amid the turmoil and in the shadow of budget announcements, the Education Excellence Everywhere White Paper (DfE, 2016a) was released, which asserted that all schools would become academies, pledged to continue pupil premium funding and to enhance school-led continued professional development.

In summary, the national agenda continues to have a significant impact upon the capacity of schools. Cranston describes 'an era of standards-based agendas, enhanced centralised accountability systems where improved pupil learning, narrowly defined, becomes the mantra for school leaders, who themselves are subject to enhanced accountabilities' (2013: 131). I shared with many the concern that there was a real danger that teachers' resilience and self-efficacy was being eroded (Bandura, 1997; Day and Gu, 2014). If the research was to be successful, underpinned by my moral purpose rather than the turbulent national context, I needed to remain cognisant of these pressures. Likewise, I intended to take account of the historical and cultural context in which my research took place. In the following section, I offer an explanation of the demographic makeup of Stevenage and how socio-economic context affects pupils' attainment. I contend that this context was important in shaping my research. I then place the challenge in Stevenage within the wider national context of the low attainment of disadvantaged pupils.

The historical and cultural context of Stevenage

Stevenage, situated 30 miles north of London, is the first product of the New Towns Act (Greater London Plan, 1944), which was passed by the post-war Labour government. It

was derived from an essentially statist mechanism to facilitate the overspill of population from the congested metropolitan area of London to a green-field site in Hertfordshire, creating an entirely new urban structure. Lewis Silkin, the minister for Town and Country Planning, endeavoured to convince local residents, when he announced the new town was to go ahead.

> In the towns, there is an almost complete sense of isolation. I should like somehow to build our new town so that this neighbourly, friendly, social spirit is not lost. I want the new towns to be beautiful. I am a firm believer in the cultural and spiritual influence of beauty…We, in this country, stood together and suffered together while fighting for an ideal, for a democracy in which we believed. I am sure that this spirit is not dead in Stevenage and, if you are satisfied that this project is worthwhile, and for the benefit of large numbers of your fellow human beings, you will be prepared to play your part to make it a success.
>
> (Lewis Silkin, cited in Collings, 1987: 7-8)

This infectious optimism, conveyed by Claxton (1992) in his book, *'The Hidden Stevenage'*, described the designing of a town fit for heroes returning from World War Two, and in 1946 Silkin declared, 'Stevenage will in a short time become world-famous…People from all over the world will come to Stevenage to see how we, here in this country, are building for the new way of life (cited in Younge, 2012: 10). Gary Younge, a journalist who grew up in Stevenage, notes, 'the very creation of Stevenage New Town was underpinned by the notion that there was indeed such a thing as society, that it thrived through community and that government had a role in nurturing and sustaining both' (2012:19). I wondered if there could be a more suitable setting for me to initiate my collaborative, emancipatory project.

Despite planners' admirable intentions, Younge suggests the cracks in Stevenage's community, which are so evident today, were always there. He describes the inhabitants sense of displacement, with feelings of geographical ambivalence, in a town with unremarkable topography; most residents associated home with the bombed London borough from which they had been displaced or perhaps another country, such as Barbados or India. Younge claims this lack of connection or attachment to a sense of

place, was environmental rather than social and had nothing to do with deprivation; 'the physical space we inhabited was shaped not by family ties, cultural affiliation or group identity but by some random, indifferent and entirely elusive force' (Younge, 2012:13).

Nevertheless, in the 1970s Stevenage's future still looked bright. It boasted several firsts, including an all-pedestrian shopping centre, a comprehensive cycleway system, the Lister Hospital, Grampian Hotel, a new railway station, a covered market and a twin-auditoria cinema. Industry developed attracting large, modern, hi-tech and science-based employers including ICL computers, British Aerospace and the Water Research Laboratory. In the space of 40 years, Stevenage had grown from a market town of 6,000 people to a thriving New Town of 76,000 (Collings, 1987).

Subsequently, Thatcherism and The Housing Act (1980) re-shaped Stevenage, giving council tenants the right to buy their home. While residents immediately felt wealthier, the town itself simultaneously became poorer (Younge, 2012). Stevenage's wider reputation began to change, with inequalities between different parts of the town emerging. British Aerospace absorbed school-leavers for apprenticeships, and at its peak, it was relied upon by an eighth of the town's workforce. Younge describes a town in the 1980's that undervalued education. Continuing on to higher education was unusual, as there was plenty of work with wages that were considerably more lucrative than continuing to study. More recently, government ministers have warned that the 22 new towns that were built between the 1940s and 1970s are in danger of falling into a 'spiral of decline', fostering areas of deprivation with high unemployment and growing housing needs, and that successive government programmes to regenerate urban areas have overlooked these towns' needs (Transport, Local Government and the Regions Committee, 2002).

This chronology begins to explain what Stevenage has become. Propelled by the housing market collapse and economic recession, Queensway, once the hub of the town centre, is now littered with boarded-up shop fronts, charity stores, discount stores, amusement arcades and loan shops. Locally-run businesses have now been taken over by chain

stores. By 2010, Stevenage had become an electoral weathervane, voting for the winning side in every general election since 1974. Today, with a population of 81,000, Stevenage is the smallest district in Hertfordshire, and with 21.5% of the population under 16 years of age, the district also has the youngest population in the county (District Profile, 2012). 3,650 of these children live in poverty (Stevenage Health Profile, 2011).

According to the Index of Multiple Deprivation published by central government, Stevenage is the most deprived district in Hertfordshire and scores poorly on a range of measures, including teenage pregnancy (34.7 per 1000, 2004-06), unemployment (the highest in Hertfordshire), single-parenthood (23.5%) and occupation of social housing (30% of all children live in housing rented from the Council) (CSF Planning and Improvement Team, 2008). Seven of the 30 most deprived Middle Super Output Areas in Hertfordshire are clustered in Stevenage wards. The 'tartan rugs' created as a visualisation of a range of data create a colourful yet depressing picture, highlighting the challenges facing Stevenage including over-crowding, domestic violence, childhood obesity and anti-social behaviour (Child Poverty Needs Assessment, 2013). Over half (65%) of the 52 Super Output Areas in Stevenage suffer more income deprivation than the national average and Stevenage is the most health-deprived area of Hertfordshire (Hertfordshire Community Foundation, 2008).

Across the 47 Stevenage schools, educational attainment is low (So Stevenage, 2011). The combination of low results in examinations, a high rate of school absence and low numbers staying on in further education does not paint a promising picture. In 2012, the percentage of 11-year-olds in Stevenage attaining a Level 4+ in both English and maths (73.2) fell below the Hertfordshire (82.3) and the national (80.0) average (Hertfordshire County Council, 2013). This picture is mirrored in adult qualifications. In a local newspaper article, Borough Council leader Sharon Taylor lamented the poor attainment: 'I can't believe these constant changes among senior staff in Stevenage schools is helping…our young people need the best results that they can achieve to succeed in what is a very tough market for jobs right now and if we're not doing this we're letting them down' (Gill, 2013). However, Stephen McPartland, member of parliament for Stevenage,

added a different slant: 'results in Stevenage schools have not been good enough for many years. The changes in leadership are part of an ongoing process and I'm delighted that we are making significant progress' (Gill, 2013). Despite the pervasive performativity culture and the temptation for schools to pit against each other in a competitive climate, many Stevenage schools faced similar challenges, as the government became increasingly concerned about the persistent low attainment (Shepherd, 2010).

Disadvantaged pupils: our 'long tail of underperformance'

Successive governments have concerned themselves with the low educational achievement of disadvantaged pupils. Tony Blair, famously said, 'ask me my three main priorities for government, and I tell you: education, education, education' (1st October 1996). As I mention above, Gove attempted to break the link between social class and school achievement, radically changing the way schools were funded and how closely these children's education was tracked. Wilshaw, Chief Inspector of the Office of standards in education, affirmed that 'the quality of education is the most important issue facing Britain today. In the long term, our success as a nation – our prosperity, our security, our society – depends on how well we raise and educate our young people across the social spectrum' (Ofsted, 2013). When Theresa May became prime minister, she committed to 'fighting against the burning injustice that... if you're a white, working-class boy, you're less likely than anybody else in Britain to go to university' (13th July 2016). These politicians' moral purpose seemed to aligned with my own.

The pupils of Stevenage are the 'invisible minority' of Hertfordshire's underachievement and I agree that this is a 'burning injustice'. The Organisation for Economic Co-operation and Development (OECD) termed this the 'long tail of underperformance' (2010a). Children who live in low-income homes are more likely to suffer from multiple physical and psychological stresses such as substandard housing, family breakdown and chaotic home environments (Evans and Kim, 2013); these factors influence their educational achievement (Rowland, 2015).

The sociological debate about the influence of social class on educational achievement is long standing. Reay (1998) explored the impact of social class and identity, as did Skeggs (2004) in, *'Class, Self, Culture'*. Bourdieu (2002) identified forms of capital held by individuals, which contribute to social advantage. Gazeley and Dunne (2005) present a convincing case that being working class is often associated with a deficit model and negative stereotypes, while Gewirts (2001) argues that middle class parents are more likely to hold an advantaged position when interacting with professionals (Todd and Higgins, 1998). Such studies tend to present a rather impenetrable disadvantage associated with a working class upbringing.

A grim picture was also painted by *'Access and achievement in urban education'* (Ofsted, 1993). Returning to this paper, Bell (2003) drew upon Renzulli (1998) to conclude that the, 'rising tide of educational change was still not lifting all boats'. He highlighted the challenge of 'disconnected' schools, just as Stevenage is disconnected from the rest of affluent Hertfordshire. The report, *'Unseen children – access and achievement 20 years on'*, highlighted that in some communities the poverty of expectation is worryingly engrained, with large groups of disadvantaged pupils performing poorly. It asserted that, 'if we could get the earlier years right for everyone, that would make much more of a difference' (Ofsted, 2013: 7). Of particular concern was the low attainment of too many white British pupils from low-income backgrounds (Cassen and Kingdon, 2007; Sharples, Slavin, Chambers and Sharp, 2011; King and Welch, 2012; Mongon, 2013).

More optimistically, Wilshaw asserted, 'the link between disadvantage and academic failure is far from being iron law' (Ofsted, 2013: 4). Strategies for successfully raising achievement at a classroom and whole school level, include: the rigorous monitoring of data and its effective use in feedback; planning, support and intervention, ensuring access to the highest quality teaching; providing strong and visionary leadership; and working with pupils and parents to increase engagement and raise expectations. Good teaching is most significant for pupils from disadvantaged backgrounds, who gain the equivalent of a year and a half of learning, whereas the same pupils only advance by half a year with poorly performing teachers (Sutton Trust, 2011). I explore this in Chapter 2.

What difference can schools and their teachers really make?

I was interested to explore the extent to which schools could affect change. The lack of cultural and social capital in some communities runs far deeper than simple income disparity between the rich and poor (Feuerstein, Rand, Hoffman and Miller, 1980). Coleman explains, 'the resources devoted by the family to a child's education interact with the resources provided by the school – and there is a greater variation in the former resources than in the latter' (1995: 365). Therefore, even the best of schools cannot fully compensate for the cumulative inequalities of material poverty and lack of opportunity. MacBeath and Mortimore (2001) claim effectiveness researchers have persistently underscored the correlation between social background and educational attainment. Although their work was published over 15 years ago, many of MacBeath and Mortimore's key points, which I summarise in the figure below, still resonate today.

Fig 1.1: Learning from school effectiveness and improvement research

- school education cannot compensate for society – we must have scrupulous respect for the evidence on socio-economic inequality;
- schools can make a difference – being in an effective school is a crucial determinant of life chances for many individual people;
- effects are complex and multi-layered – the most significant are at a classroom level;
- school improvement requires more than borrowing remedies from other countries;
- that we are learning, and still have a lot to learn, about how schools improve;
- that a salient dimension of school improvement is helping schools to be more confident, self-critical and more skilled in research and evaluation;
- that we only make dramatic advances in educational improvement when we develop a deeper understanding of how people learn and how we can help them to learn.

Over time the school effectiveness versus school improvement debate has grown in complexity and sophistication. School improvement addresses the raising of pupils' achievements and the school's ability to manage change (Reynolds, Hopkins, Potter and Chapman, 2001). MacBeath and Mortimore (2001) highlight a tension between researchers and policy makers. Whilst researchers are concerned that policy makers do

not consider issues in enough depth, nor do they proceed with caution and circumspection, to policy makers this often appears as ambivalence and equivocation when clear-cut answers are needed. I echo MacBeath and Mortimore's call for educational gatekeepers to have the courage to listen more intently to the voices of researchers. I intended for my research to bridge this gap, as I held the position of both an academic and a practising school leader.

I was drawn to the numerous studies that are unambiguous in recognising that while social background continues to play a strong influential role, schools are not helpless in promoting educational and social mobility (Rutter, Maugham, Mortimore, Ouston and Smith, 1979; Mortimore, 1998; Scheerens, 1997). In a meta-analysis by Sammons, Mortimore and Thomas (1996) the characteristics of the 'outliers', the most effective schools, were reduced to 11 salient factors. These included high expectations, purposeful teaching and a concentration on learning and teaching. Subsequent studies recognised the impact the quality of teaching can have upon educational performance (Rivkin, Hanushek and Kain, 2005; Rockoff, 2004; Slater, Davies and Burgess, 2009). Indeed, there is a growing body of research that argues teachers are the most important factor in influencing pupil achievement (Hanushek and Kain, 2006), an influence which is at its most acute for disadvantaged pupils (Hanushek, 2011). I return to this argument in Chapter 2.

Conclusion

I begin this chapter by exploring my moral purpose and charting initial explorations into my professional focus, briefly outlining my career to date. I then explore the pressure of political policies upon primary school education, followed by an outline of the historical and cultural context of Stevenage. In summary, my moral purpose, the needs of the school and town within which I work, and the national political agenda share a common thread: we have a moral imperative to focus our attention upon disadvantaged pupils in order to close the gap between them and their more advantaged peers. Whilst this gap

cannot be closed by education alone, school effectiveness research confirms that schools can have a positive impact on pupils' achievement. The analysis in this chapter provides a rationale for my focus and an impetus to drive forward the research. I conclude this chapter by explaining how I narrowed my focus to research aims, which remained in review throughout my research.

I had two research aims, which determined the direction and impact of the research. The first aim, to positively impact upon the educational achievement of disadvantaged pupils, I outline in this chapter, and the second in the conclusion of Chapter 4. I also present a definition of disadvantaged pupils and why this is particularly pertinent to Stevenage. Furthermore, part of the process for driving educational standards forward must be to improve classroom teaching, by building upon best practice, learning from each other and providing opportunities for school staff at all levels to reflect upon how outcomes for young people of Stevenage can further be improved.

In Chapter 2, I argue that we need to link educational achievements, what is happening in classrooms and wider government policy. With an increased focus upon the pupils themselves, grounded within classroom practice, we can begin to affect change. To this end, I am drawn to Pedder, James and MacBeath's characterisation of classrooms as 'crucibles of learning': 'in order to develop classrooms in this way, teachers, their pupils and their schools, together with local and central government need to accept responsibility for developing and restructuring teaching and learning roles and relationships within them' (2005: 237). I intended for my research to accept and embrace this responsibility. In Chapter 2, and subsequent chapters, I explore ways in which this can be achieved.

Chapter 2

Understanding teachers' professional learning and building knowledge

As I outline in Chapter 1, socio-economic factors, including the lack of social and cultural capital in some communities, can have a pervasive influence on children's educational achievements. This is prevalent in towns such as Stevenage, as pockets of deprivation stifle children's aspirations and future educational and economic success (Wilshaw, 2013), influencing political decisions and funding policies of successive governments. Nevertheless, an increasing body of research confirms that a child's experience at school can make a significant difference to their educational outcomes (Ofsted, 2013). As I explore in this chapter, the quality of teaching is a key factor (Hanushek, 2011).

I begin by arguing for a sustained focus upon the quality of teaching. I chose this focus because this is a variable upon which my research can have a positive impact. I explore the traditional solution of improving the quality of teaching, which assumes a deficit model and is often termed continued professional development (CPD); I outline what is generally understood by this term and the development of the concept, providing a historical summary. Next, I explore current thinking around best practice in CPD, arguing that certain approaches are far more effective than others. I examine the role that effective CPD can play in building, creating and transferring knowledge, which is vital to maintaining improvements in the quality of teaching. Finally, I outline a case for schools effectively supporting professional development, by facilitating structures which enable joint practice development (JPD).

Concentrating the quality of teaching

In Chapter 1, I cite MacBeath and Mortimore's (2001) discussions around school effectiveness. Whilst schools cannot fully compensate for the socio-economic influences

on a child's education, school effectiveness research repeatedly reaffirms the impact the best schools can have; schools that embrace certain factors (Sammons, Mortimore and Thomas, 1996) can make a difference to the educational outcomes of disadvantaged children, such as many of those who are growing up in Stevenage. These factors include a concentration on learning and teaching. This is reasserted by Sir Michael Wilshaw, who in a report entitled, *'Unseen Children'* stresses that, 'exceptional schools can make up for grave disadvantages faced by young people' (Ofsted 2013: 5).

What is increasingly clear is that teacher effectiveness plays a very considerable part in school effectiveness, and schools which maintain a relentless focus upon teacher effectiveness reap results. As early as 1995, Hopkins, Stoll, Myers, Learmonth and Durham identified four features of effective schools: enquiry and reflection by staff; collaborative planning; staff development, and involvement of pupils at all stages of the process. The importance of the quality of teaching has subsequently been explored in more detail and been given increasing credence. In Hattie's (2003) seminal paper, *'Teachers make a difference: what is the research evidence?'*, he explores the sources of variance in pupil achievement, reaching the conclusion that the largest effect over which an education system can have influence is indeed teacher effectiveness. This was reiterated in McKinsey's report, which identified the best performing educational systems based upon international data; the report concluded that, 'the quality of education cannot exceed the quality of its teachers' (2007). This raised many questions, which the UK government addressed in their white paper entitled, *'The Importance of Teaching'*. Whilst I remain dubious about some of the solutions put forward to rectify this problem, such as simply recruiting better qualified graduates and removing those deemed to be failing, I am convinced by the potential impact of improving the quality of teaching.

This argument is increasingly supported by quantifiable data. Research shows that pupils taught by the most effective teachers have learning gains four times greater than those of the least effective (Sanders and Rivers, 1996). Over a three-year period, a high performing teacher can make a 53 per cent difference to pupils' attainment (McKinsey, 2007). Raising teacher quality is vital, and is the policy direction most likely to lead to

substantial gains in school performance (OECD, 2005). Furthermore, highly effective teaching has the greatest impact on disadvantaged learners (Sutton Trust, 2011). There is a growing body of research which argues that teachers are the most important influencing factor on disadvantaged pupils' achievement (Hanushek, 2011).

Expertise and effectiveness are not simply attributed to years in service. Hattie's (2003) term 'expert teachers' is different from 'novice' versus 'experienced' teachers. He argues that the key distinguishing feature is not the teacher's acquisition of subject knowledge, which must be present, but the development of pedagogical content knowledge, which he explains is the way knowledge is used in teaching situations. In fact, the difference between the educational outcomes of a child taught by an expert teacher compared to a less effective teacher, can account for about 30 per cent variance. In the figure below, I distil the attributes of Hattie's expert teacher.

Fig 2.1: Key dimensions of expert teachers

1. identify essential representations of their subject;
2. guide learning through classroom interactions;
3. monitor learning and provide feedback;
4. attend to affective attributes;
5. influence student outcomes.

The challenge becomes to fill Stevenage primary schools with expert teachers. One solution is to recruit better teachers. This is one of the recommendations of the UNESCO report, of which Frost offers a sceptical summary in his blog, 'recruit more teachers, recruit better teachers, train teachers, train teacher educators, send teachers to the right places, incentivise teachers, regulate teachers, give teachers a better curriculum, train teachers in assessment techniques and collect data about teachers. There is a depressingly familiar pattern here. It's so top-down' (2014). The current teacher shortage makes such recruitment (and retention) unlikely.

Therefore, if we cannot recruit expert teachers, we need to grow them. My quest became to support Stevenage's teachers to enable them to adopt many of the traits outlined by Hattie (Fig 2.1). One approach is to assume that by means of rigorous training, novice teachers who fall short of the accolade of expert, will move along the continuum until they reach the required standard. The traditional CPD approach has evolved from this assumption. In the following section, I chart the growth of CPD and the thinking behind the policy and funding decisions made by successive governments. I include this in order to outline the pervasive influence which this deficit model has had on schools' approach to teacher training. I then critique this approach and suggest more effective ways to facilitate teachers' professional development, rather than unquestioningly adopting traditional approaches.

The growth of continued professional development

Seventy years ago, coinciding with the Butler Education Act, the McNair Report (1944) focused on the training of teachers. Whilst initial teacher education was still to be established, this report highlighted that teachers should have regular training in order to update their skills. In many countries, such updating is still focused on subject knowledge (Shulman, 1987). However, the McNair Report addressed the wider improvement of teachers themselves. Much later, the James Report (DES, 1972) highlighted the necessary link between teachers' development and the development of the curriculum or particular aspects of practice (McBride, 1989).

By the late 1980s, the Department for Education and Skills began to encourage the rise in schools of development planning (Hargreaves and Hopkins, 1991). In 1988 in–service training (INSET) days were introduced, in an attempt to ensure that professional development was more coordinated and not left to the choice of individual teachers. Schools increasingly became accustomed to conducting school audits, establishing development priorities, drawing up action plans and organising INSET. However,

attempting to address teachers' individual needs, as well as the needs of the school, remained a challenge.

Indeed, a decade after the establishment of one-size-fits-all INSET, the quality of much CPD was still poor: 'a clear and continuing commitment to professional development throughout a career should be at the heart of teachers' professionalism… much existing training is unsystematic and unfocused' (DfEE, 1998). As my teaching career began, there was a national determination to place professional development at the heart of teachers' professionalism. In 2001, shortly after the introduction of the national curriculum, this determination translated into the costly government initiative entitled, 'The National Strategies' (2001). Willam (2010) brought this enormous expenditure into sharp focus highlighting the fact that the 500 million pounds spent on the roll-out of the National Primary Strategy (NPS) resulted in just one extra pupil reaching Level 4 (expected attainment for 11-year-olds) per school. This largely ineffective initiative, prompted Ofsted to assert that improvements in learning and teaching are most effective when teacher development is central to individual schools' improvement planning, and when CPD is used as a key strategy for improvement (Ofsted, 2006).

As my career progressed, I took on more leadership responsibilities, with an increasing role in developing the practice of novice teachers. In 2005, the overall responsibility for CPD passed to the Training and Development Agency (TDA), who in 2007 asserted that teachers have a professional responsibility to engage in effective, sustained and relevant professional development throughout their careers. Promisingly, the TDA (2007) called for all teachers to have a commitment to collaboration and co-operative working in order to share effective practice. This signaled that policy makers may be recognising the flaws in deficit model which assumed that teachers lacked the necessary expertise. However, by 2010, the TDA web guide to CPD provision had been closed down and was subsequently rolled back into the DfE, with a reduced remit focusing upon recruitment and initial training. We seemed to step back several decades.

As this brief summary would suggest, the historical effectiveness of much CPD is in doubt. This was confirmed by the OECD's (2008) intensive study of teacher development, including the Teaching and Learning International Study (TALIS). Over half the teachers surveyed indicated important curricular and pedagogical areas where further development was necessary, and three quarters reported that attempting innovative approaches in the classroom would not be encouraged by senior managers. The OECD called for change: 'the quality and nature of continuing training available is very uneven…successful reform cannot wait for a new generation of teachers; it requires investment in the present teacher workforce' (2010a:18).

I was concerned that when CUREE carried out a survey of CPD for the TDA (2009), it found that on average schools reported spending less than one-per-cent of their budgets on CPD, with just under half of this spent on supply cover costs. In addition, 37 per cent of schools rarely or never evaluated the impact of CPD and of the rest, only 7 per cent evaluated the impact on pupil attainment. The survey found the most common form of training attended was listening to a lecture or presentation, and only one per cent of CPD had the characteristics of transformative professional development. I discuss the factors that support such transformation below.

Early in my research, the DfE (2012) introduced a new set of Teacher Standards, which are now incorporated into the appraisal process. Therefore, in many schools the link between CPD and these externally determined criteria has been tightened. Appraisers seek ways to monitor teachers against the standards, and appraisees provide evidence to confirm that they are working towards achieving each standard. Such evidence often takes the form of attending a training course, observing an outstanding teacher or closer monitoring and feedback by a senior leader. I maintain that this approach again adopts a familiar deficit model, assuming the teacher needs to be up-skilled in order to meet the required standard. Compounding the problem, most schools devise CPD structures to react to external drivers such as dealing with changes in Ofsted frameworks, impending inspections and government policy changes, rather than developing their workforce (Teacher Development Trust, 2012).

In summary, at the onset of my research CPD had unfortunately become synonymous with training or perhaps observing best practice, often in another school. Wiliam (2010) argues that this well-rehearsed model of teacher professional development has been based on the idea that teachers are lacking important knowledge. For the last twenty years, most professional development has therefore been designed to address these deficits. The result has been an increase in teachers who are more knowledgeable, but no more effective in practice. This approach shows little real impact on the improvement of teachers or the attainment of the pupils who they teach. This is primarily due to the lack of consideration given to how best to structure effective professional development or how to facilitate the process of knowledge creation and transfer (Hargreaves, 1999).

In the following section, I consider the emerging research that questions which approaches are most effective in enhancing teachers' professional development, including exploring how to scaffold teachers' learning. This is important because it provides a rationale for my future research and project design, with the intention of positively impacting teacher learning. Next, I explore the process of generating and transferring professional knowledge, in order to gain a better understanding of how to improve the quality of teaching. By identifying what is successful, I was able to deepen my understanding, which subsequently informed the design of my development project.

Characteristics of effective professional learning

Through my reading and own professional experience, I was disheartened to find that much of what teacher educators espouse about learning theory does not seem to have been transferred to teacher education. We know that cognitive, emotional and environmental influences, as well as prior experience, all play a part in understanding how people learn. A constructivist view of learning emphasises how important the active involvement of learners is in constructing knowledge for themselves (Piaget, 1926). The teacher acts as a facilitator who encourages pupils to discover principles for themselves and to construct knowledge by answering open-ended questions and solving real-world

problems. Curiosity and discussion are encouraged, as well as promoting the pupils' autonomy. Dewey (1933), a pragmatist who believed that reality must be experienced, argued that human beings learn through a 'hands-on' approach. His view of the classroom was deeply rooted in democratic ideals, which promoted the idea of an equal voice among all participants in the learning experience. These approaches do not seem to have been replicated in many of the approaches to CPD, which I describe above.

Drawing on these early yet seminal educational theorists, I reason that much of CPD has been ineffective, due to the failure of those who implemented it to understand the way in which teachers learn. Cordingley, Bell, Evans and Firth (2005) were an exception, and have been influential in reshaping more recent approaches to CPD. In Fig 2.2, I outline the key factors they identify as influential in ensuring success.

Fig 2.2: Successful professional development activities

a) the use of external expertise linked to school-based activity;
b) observation and feedback;
c) reflection and experimentation;
d) an emphasis on peer support;
e) scope for teacher participants to identify their own CPD focus;
f) processes to encourage, extend and structure professional dialogue;
g) processes for sustaining the CPD over time to enable teachers to embed the practices in their own classroom settings;
h) recognition of individual teachers' starting points.

I found this list heartening, as it resonated with much that I had learnt about CPD from both my own experiences as a teacher and leader. Cordingley et al. (2005) move away from a delivery model, placing a far greater emphasis on human relationships and connections. This list welcomes flexibility, encouraging leaders to embrace CPD that empowers teachers to identify their own needs and shape their own opportunities for reflection and dialogue. These approaches align much more closely with those that argue for structures and interventions which 'awaken the sleeping giant' of 'teacher-as-researcher' or teacher leadership (Stenhouse, 1975; Elliott, 1991 Frost, Durrant, Head and

Holden, 2000; Katzenmeyer and Moller, 2001). I critique the writings of these academics in Chapters 3 and 4.

Throughout my career I have rarely experienced CPD that promotes such depth of learning or metacognition. Weston (2014) asserts that the most effective professional development starts by identifying a specific group of pupils and an area of learning to develop. Only then should teachers choose an approach. This, he argues, focuses on the ends rather than the means, by beginning with the outcome in mind. He gives the example, 'How effective is *peer tutoring* at improving the *understanding of angles* in *underachieving year 8 girls*?', and suggests the Lesson Study cycle could be implemented to explore this. I further explain the structure of the Lesson Study cycle in Chapter 3.

I was drawn to Wiliam's (2010) argument. He asserts that the key realisation must be that we need to help teachers change habits rather than acquire new subject knowledge, and therefore we need to explore the kinds of structures that can do this. Teachers should exercise choice, to find ideas that suit their personal style, and to develop the flexibility to take other people's ideas and adapt them to work in their own classrooms. Teachers need to take small steps and be accountable for developing their practice. Because changes in practice are so difficult, they should also be given support to change. He argues for a culture shift which recognises that teaching is a complex craft, and asserts that by rigorously focusing on practice, teachers can continue to improve throughout their career.

As I read and reflected, I began to plan a project which focused less on an expert disseminating knowledge and more on supporting teachers. Having concluded that the dissemination of best practice is an inadequate approach to improving schools (Fullan, 1993), I decided that instead of approaching development as the filling or re-filling of leaky bucket, I would focus on supporting teachers to fill the bucket themselves. Lemov, Woolway and Yezzi explain that, 'we realised we would have to approach teaching like tennis…a single workshop wouldn't really make people better unless it caused them to

practise a key skill multiple times' (2012: 7). I planned to provide the opportunity for deliberate practice (Gladwell, 2008), recognising the complexity of teaching.

Building knowledge

I prefer the term knowledge building rather than knowledge management (Collinson and Parcell, 2004), because I want to indicate the particular dialogic and incremental nature of this complex process. In the following section, I explore this process, both in its creation and transfer, as this is vital in the design of effective CPD. Next, I summarise how some schools have responded to the call to overhaul their approach to CPD. Having developed my understanding of the building of knowledge and examining effective models, I was better placed to design my own development project to impact upon teacher effectiveness.

I was drawn to Hargreaves' (1999) argument for the need to generate better knowledge and practices. Huberman (1992) introduced the notion of teacher as *tinker*, based on the work of Levi-Strauss, to illustrate the inability of teachers to make a significant contribution to the creation of professional knowledge due to their lack of engineering skills and expert knowledge (Huberman, 1993). In contrast, Hargreaves argues that tinkering is a forerunner to knowledge creation. Indeed, many of the practices I identify in Fig 2.2 encourage teachers to tinker. This is echoed by Stigler and Hiebert who assert that, 'a profession is not created by certificates and censures but by the existence of a substantive body of professional knowledge, as well as a mechanism for improving it, and by the genuine desire of the professions' members to improve their practice' (quoted by Fullan, 2001: 253).

In order to support teachers in tinkering, I needed to develop my understanding of the process of enabling knowledge creation. Hargreaves (1999) describes knowledge creation in terms of the interplay between explicit and tacit knowledge. Knowledge creation and transfer is a complex interaction.

> It is about capturing, creating, distilling, sharing and using know-how. That know-how includes explicit and tacit knowledge. Know-how is used as shorthand for know-how, know-what, know-who, know-why and know-when. It's not about books of wisdom and best practices, its more about the communities that keep the know-how of a topic alive by sharing what they know, building on it and adapting it to their own use. It is not a snapshot of what is known at a single point in time, but an evolving set of know-how kept current by people who regularly use it.
>
> (Collinson and Parcell, 2004: 8)

As my own thinking developed, I found the three fields of knowledge (Carter, Cotton and Hill, 2006), which I outline in Fig 2.3, helpful in supporting teachers in making sense of their know-how. These fields are often referred to in writings about Networked Learning Communities and they helped to clarify my understanding of the stages and influences in knowledge creation. By looking closely at each stage in this process, my thinking began to take shape. This analysis crystallised my understanding, and drawing upon both first-hand experience and my reading, I was able to reflect upon why some interventions might be more effective than others.

Fig 2.3: Three fields of knowledge

Three fields of knowledge	**Learning opportunities**
What do we know? The knowledge of practitioners involved in the discussion.	***Adaptive Learning*** Reshaping what is known and understood.
What is known? The knowledge from theory, research and best practices.	***Additional Learning*** Adding to what is already known.
What new knowledge? The knowledge we can co-create collaborative work.	***Creative or innovative learning*** Discovering new meaning, new through ways of understanding and action.

What do we know?

Some of what teachers know is explicit. It is often referred to as informational knowledge; it is tangible and can often be quantified. This knowledge can be relatively

easily articulated and transferred to others. However, much of what teachers know is based on experience and observation, often called tacit knowledge (Polanyi, 1967). This knowledge is best understood as things we 'just know' but cannot necessarily explain. In practice, explicit and tacit knowledge are not so easily distinguished (Snowden, 2002). Indeed, I contend that many teachers are not accustomed to be asked to articulate either kind of knowledge or to being made aware of how valuable this is to others. Pfeffer and Sutton (2006) describe wisdom as the ability to act with knowledge, while doubting what you know. At the Networked Learning Communities Launch Conference 2002, Desforges described 'a vast corpus of knowledge of pedagogy… the relationship between theoretical and practical knowledge is profound and difficult, with complex interrelations between the two' (cited in Street and Temperley, 2005: 1).

What is known?

While the bank of academic knowledge around teaching is considerable, for many teachers, due to limited time and lack of confidence, it is inaccessible. It is often disseminated to teachers though snapshots, brief summaries or YouTube clips in traditional delivery-led CPD sessions. In designing my development work, I did not want to overlook this stage of knowledge development; to put it in the more colloquial language of teachers, 'why reinvent the wheel?'. The first bullet-point on Cordingley et al.'s (2005) list (Fig 2.2) includes the use of external expertise linked to school-based activity.

What new knowledge?

Rather than thinking about new knowledge or creating knowledge, it is perhaps more helpful think about the effective transfer of knowledge between teachers and schools. Kolb describes learning as, 'the process whereby knowledge is created through the transformation of experience' (1984: 38). Effective learning happens when one progresses through a four-stage cycle: (1) having concrete experience followed by (2) observation of and reflection upon that experience, which leads to (3) the formation of abstract concepts and generalisations, which are then (4) used to test hypothesis in future situations. Kolb and Fry (1975) view learning as an integrated process with each stage

being mutually supportive of and feeding into the next. While the transfer of *book knowledge* (explicit knowledge) may be relatively straight-forward, the transfer of tacit knowledge is much more complex. Indeed, this *fuzzy knowledge* is often referred to as knowledge that cannot be transferred and some argue that neither can it be codified (Cook and Brown, 1999), as it consists of beliefs, ideals, values, schemata and mental models that are deeply ingrained in us, and which we often take for granted. Von Hippel (1994) introduces the idea of *sticky information*, built upon by Szulanski (1996, 2003), who explores the *stickiness* of tacit knowledge; this stickiness often undermines effective knowledge transfer. Fig 2.4 illustrates the continuum of leaky, explicit skills and sticky, tacit skills.

Fig 2.4: Stickiness of tacit knowledge

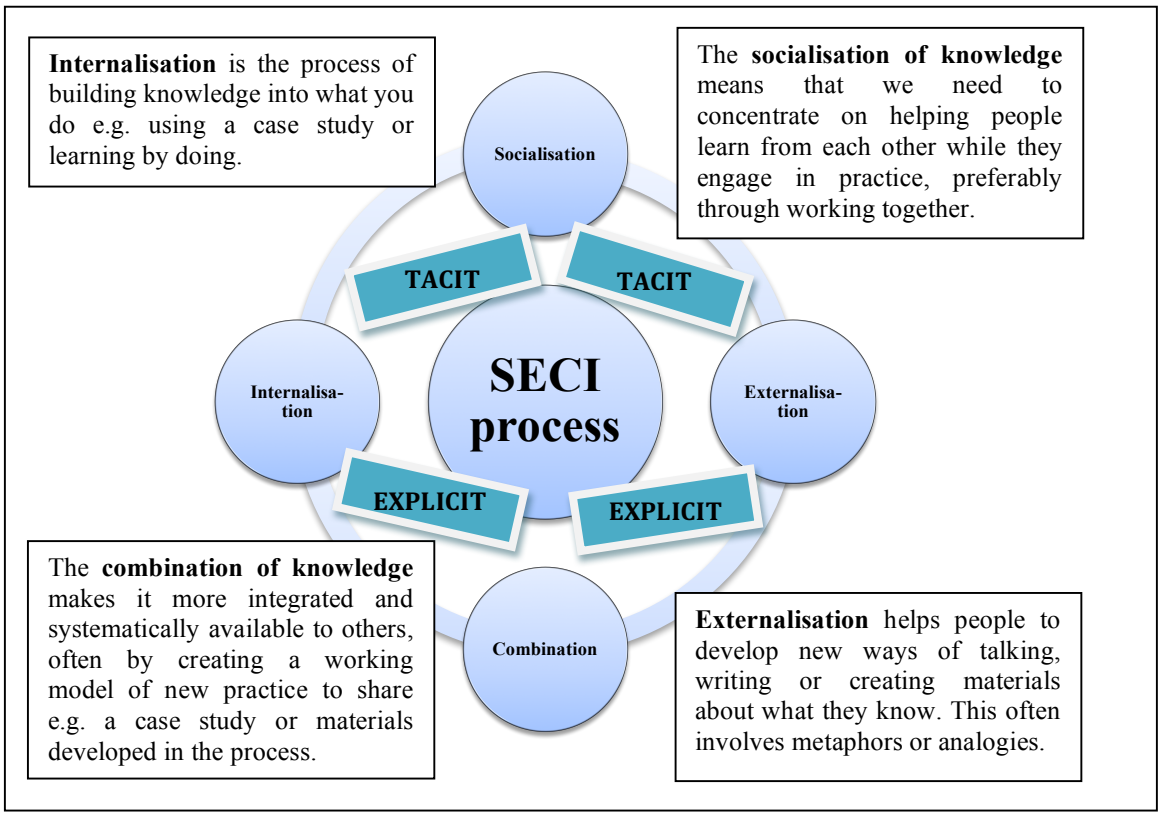
Very Sticky	↑	Deeply ingrained tacit skills
		Tacit skills can be imperfectly articulated
		Tacit skills that could be articulated
Leaky		Explicit skills

Knowledge is sticky when it is *costly* to acquire, transfer and use (Von Hippel, 1994). In teacher professional development, the more tacit the knowledge, the greater the degree of stickiness; the more explicit, the more able it is to leak out into other teachers' classrooms and practices. When William (2010) argues for the need to develop structures to help teachers change habits, he is in part alluding the stickiness of tacit knowledge.

Building upon this, Hadfield (2014) explains the cost of transfer depends upon the amount of knowledge and practice being moved, and how far and wide it transfers. Knowledge exists in very specific contexts, owned and created by particular people. Hadfield calls this *sacred* knowledge, which is hard earned and not easily passed on. Other practices and knowledge is *nested*, meaning it is set within the long-term developments of a school.

Having made the case for sticky knowledge, I explore some ways of capturing knowledge. The SECI model which I depict in Fig 2.5 (adapted from Nonaka and Takeuchi, 1995: 57), addresses the complex social nature of knowledge transfer. It recognises that knowledge management is a combination of processes, and unpicks transfer so that tacit knowledge becomes explicit. The four types of knowledge interaction are socialisation (tacit to tacit), externalisation (tacit to explicit), combination (explicit to explicit) and internalisation (explicit-to-tacit).

Fig 2.5: Four types of knowledge interaction



Each stage in this model needs to be engaged in order to learn effectively, further supporting that the prevalent professional development mode of one-off knowledge dissemination is ineffective (Ball and Cohen, 1999). Rather than typifying CPD as the dissemination of information, I am keen to explore ways in which to facilitate far more complex interactions. Lieberman (1996) summarises professional development as

supporting teachers in new relationships; giving them new roles and tools, by exposing them to new ideas about teaching and learning.

While a summation of existing knowledge is important, it is the creation of new knowledge that really excites me. When discussing innovation, Hargreaves describes the 'creative fusion which arises when mental worlds collide, combine and coalesce around an idea that none of the parties could have devised on their own' (Hargreaves, 2008: 14). In my experience opportunities for teachers to engage in this level of transformation creativity are rare. If teachers could engage in the socialisation, externalisation, combination and internalisation of knowledge, I felt sure that they would begin to experience this synergistic innovation.

New ways of approaching continued professional development

Above, I explore how knowledge is created and transferred. Next, I was interested to explore a new way to understand CPD, and to learn more about schools that are successful in implementing this. I knew that traditional approaches to CPD seemed too simplistic. Sachs (2011), rather than framing CPD as one type of intervention, distinguishes four metaphors of CPD: retooling, remodelling, revitalising and reimagining.

The first two metaphors describe a traditional understanding of CPD, which I detail in the historical summary section of this chapter. Unfortunately, my experience is that the *retooling* approach remains the dominant training model, adopting a practical competency view of teaching. It assumes that the ideas, knowledge and techniques learned can immediately be applied in the classroom, a 'skill-based, technocratic view of teaching' (Kennedy, 2005: 237). CPD as *remodelling* is 'more concerned with modifying existing practices to ensure that teachers are compliant with government agendas… [it] reinforces the idea of the teacher as the uncritical consumer of knowledge and operating at level of improving specific skills as these relate to immediate classroom practice'

(Sachs, 2011: 5). Refreshingly, while retooling and remodelling orientations dominate, Sachs argues that there needs to be a balance between all four.

I was more drawn to the latter two approaches. The *revitalising* metaphor focuses upon teacher renewal, reflection and the examination of beliefs and practices. It places value upon professional learning through collaboration. *Reimagining* is a 'transformative view of teacher professionalism', which acknowledges the real complexities of being a teacher. It seeks to develop in teachers their own 'critical and transformative capacities' (Sachs, 2011: 7). Such an orientation recognises the contribution of efficacy to teachers' abilities to successfully conduct their work, be flexible in their classroom teaching, form strong interpersonal relationships and be satisfied with their work (Klassen, Usher and Bong, 2010; Caprara, Barbarenelli, Steca and Malone, 2006). Furthermore, Day and Gu (2014) argue that a more diverse approach to CPD fosters more resilient teachers and schools.

It was these revitalising and reimaging approaches to CPD upon which my development work was designed. Hargreaves (2012a) terms this joint practice development (JPD), an approach to professional development that puts collaboration at its core, focusing on teachers working together in a trusting, democratic environment to improve their own practice and have an impact on pupil progress. It echoes Dewey's (1933) democratic ideals, promoting an equal voice among all participants in the learning experience, is evidence-based and is the foundation of a self-improving system. This is very different to traditional CPD as it requires teachers to work together over a period of time, building expertise and developing interventions, aiming to engage teachers and enabling them to innovate through collaboration. This is a shift away from one-off training courses and INSET days run in isolation towards JPD that is linked with whole-school improvement. It is continuous (not occasional), and everyone is an active participant, fusing learning and development with practice (Hargreaves, 2012b). The following figure details the four guiding principles of JPD (Gregson, Nixon, Spedding and Kearney, 2013).

Fig 2.6: Guiding principles of joint practice development

- Make space for trust, openness and honesty.
- Establish a shared understanding of the educational problem and how it makes educational sense for it to be addressed.
- Share the experience of trying out innovative practices.
- Critically review overall progress together.

More recently practical models of JPD have begun to emerge, perhaps because school leaders have more autonomy than ever before to shape the direction of their school. For example, a group of Teaching School Alliances, with the University of Sussex, undertook a number of projects. These projects involved cross-school groups looking at structured peer observations between teachers, training pupils to give feedback on teaching and learning, and specific activities based around themes such as transition and numeracy (Farrar, 2013). Their experience is highlighted in, *'Powerful Professional Learning: A school leader's guide to joint practice development'* (Hargreaves, 2012a) and, interestingly, all five of the alliances concluded that they will now work concertedly to replace CPD with JPD.

I was encouraged that when adequate resources and importance are conferred upon CPD, with a well-formed understanding of the way teachers learn, results can be impressive. Robinson's (2007) research highlighted that time spent leading teaching and learning is over twice as effective in raising pupil achievement as any other management task. When Ofsted (2010b) revisited this topic in its report entitled, *'Good professional development in schools'*, it found leadership lacking in expertise and inadequate in its evaluation of impact. In the same year, the DfE (2010) published a document entitled *'The Case for Change'* which acted as a precursor to a number of significant changes in education policy. Promisingly, drawing upon a range of research (Hustler et al., 2003; Bolam, 2003; Cordingley et al., 2005; Pedder, Storey and Opfer, 2008) it called for more collaborative CPD, quoting high-performing systems that have strengthened professional learning communities to share and review practice collaboratively. It states that, 'in too many (English) schools, CPD is still understood as focused on leaving the classroom to

attend courses and passive in character, rather than the fundamentally classroom and practice-based approach which is known to be most effective' (2010: 11).

I agree with Brighouse and Moon's (2013) criticism of Ofsted who are prone to characterising professional development as a managerial problem; if schools' managers planned, implemented and evaluated through logical links, policies would work. They argue that this minimises the need for teachers to engage fully, developing a sense of pride and ownership. This managerialist approach leads to a school culture where collegiality is contrived (Hargreaves and Dawes, 1990). I explore the challenges facing school leaders in Chapter 4. Cordingley (2007) also warns that by making training internal, senior members of staff give whole-school sessions that adopt a one-size-fits-no-one approach.

The Learning to Learn project, within the TLRP programme, showed low levels of team teaching, joint research and evaluation and peer observation (Pedder et al., 2005). Opfer and Pedder (2011) found that teachers described CPD activities which often deviated from the TDA definition of effective CPD, primarily delivered through lectures, presentation and discussion. These teachers reported little active learning. Whilst Brighouse and Moon warn against comparing teaching with other professions, they lament the poor professional development that is available to most teachers in England, who have no professional body to defend them against the intrusions of micro-managing ministers (2013). Drawing upon a number of studies Pedder et al. (2005) found leadership of professional support to be strategic, disjointed and erratic. Teachers often view learning with colleagues in classrooms as high risk, since the challenges to teachers and their pupils can be considerable, requiring them to develop resilience and self-confidence in order to take the risks involved in collaborative working. Therefore, the institutional support that is essential for such professional development to flourish is indispensable if high quality educational provision is to be sustained. Wiliam (2010) argues in favour of leaders creating a culture for the continuous improvement of practice, and keeping the focus on a small number of things which are likely to improve outcomes for pupils, encouraging the taking of sensible risks.

Despite apparent successes, Hargreaves (2012b) recognises that JPD can be difficult to establish and embed in schools. Leaders therefore need to guarantee that this sort of development is in the school's life-blood, ensuring that it remains a collective priority. This is the approach that needs to be prioritised and actively modeled by senior leaders. With the right culture, commitment and challenge in place, JPD has the potential to open up professional ownership of both personal and wider school improvement. It was with this in mind that I designed my development project. I wondered if I could engender the necessary culture, commitment and challenge in Stevenage schools.

Conclusion

The case for focusing upon improving the quality of teaching is compelling, particularly for those teaching the most disadvantaged pupils. For the last eighty years, the predominant way of addressing this has been to assume a deficit model, with perceived experts disseminating knowledge via training. However, this approach is flawed because it assumes that all knowledge is explicit, and because this is not the way teachers learn. Since the creation and transfer of tacit knowledge requires socialisation, externalisation, combination and internalisation (Nonaka and Takeuchi, 1995), more flexible professional development, emphasising observation, feedback, peer support, teacher self-efficacy, reflection and experimentation, needs to be developed. Teachers need to learn-by-doing rather than learn-by-being-told.

Promisingly, where a school can develop the internal conditions that enable teachers' mental worlds to collide, combine and coalesce (Hargreaves, 2008), the benefits are clear. According to Robinson (2007) taking part in collaborative enquiries into improving teaching and learning has the single greatest impact on improving educational outcomes for pupils (cited by Dudley, 2015: 60). I was therefore determined to support structures that develop a culture that enables JPD; by promoting revitalising and reimagining approaches (Sachs, 2011) I hoped to enable leaders to break free of the shackles of the traditional approach to CPD.

As I conclude this chapter, I return to the first aim of my research, to positively impact upon the educational achievement of disadvantaged pupils. I now had a clearer idea about some of the values and principles, which would underpin my research. As I explain in more detail in Chapter 5 and 6, I endeavoured to maintain a commitment to my values in my ethical stance, research design and data collection. This included my engagement with participants and the reporting of their voices, opinions and experiences.

My first principle was a commitment to improving practice. This drew upon the arguments concerning the difference an effective teacher can make to children's achievement (Sanders and Rivers, 1996; McKinsey, 2007; Sutton Trust, 2011; Dunford, 2013). If my project did not succeed in improving practice, I would not be meeting my aim. My second principle centred upon the values of trust, openness and honesty. This was initially drawn from the guiding principles of JPD (Fig 2.6), outlined by Gregson et al. (2013), who have themselves been influenced by the work of writers who promote a more collaborative, reflective approach to teachers' professional development (Cordingley et al., 2005; Hargreaves, 2012a). In Chapter 4, I further explore these values in my discussion of the cultural factors, which would need to be established.

Finally, I intended for my research to produce new approaches to pedagogy and knowledge, drawing from the professional outcomes of revitalising and reimaging CPD (Sachs, 2011). I wanted to make the invisible visible and saw approaches to knowledge as two-fold; knowledge creation and transfer between teachers, including new or revitalised pedagogical knowledge, and the creation of knowledge as an intention of the research itself. I return to this in the conclusions of Chapters 3 and 4.

As I explain in this chapter, traditional approaches to CPD have been far too narrow. Therefore, I investigated a scaffold to enable JPD to flourish, the Lesson Study cycle. In Chapter 3, I explore this approach, examining why it has such an impressive history of success. Following this, in Chapter 4, I unpick the nature of collaboration and the factors needed for its success. Throughout my research, I remained focused upon improving teaching and the outcomes of pupils in Stevenage.

Chapter 3
Exploring the Lesson Study cycle

So far, I have argued the case that to improve the educational outcomes of disadvantaged pupils, we must focus upon developing expert teachers. For the transfer of tacit knowledge and the creation new knowledge, schools must develop the conditions to enable joint practice development (JPD) to thrive through authentic professional development opportunities (Cordingley et al., 2005), allowing the revitalising and reimagining metaphors (Sachs, 2011) to prosper. In this chapter, I argue that this can be developed through the Lesson Study cycle.

Lesson Study is a cyclical process of in-school, classroom-based, collaborative professional development, which is widely practised in South East Asia, and is becoming increasingly common in the Western world. In this chapter, I begin by outlining the origins and evolution of Lesson Study. Next, I explore each step of the cycle, followed by a summary of the challenges I may face in sustaining this intervention. Building upon the work of Elliott (2013), I argue that such an intervention could realise the notion of 'teacher-as-researcher' (Stenhouse, 1975), enabling the transfer and building of new knowledge. My thinking draws upon reading and discussions with those experienced in facilitating Lesson Study. I found attending The World Association of Lesson Studies (WALS) 9th Annual International Conference at the University of Gothenburg, Sweden (September 2013) particularly helpful, as it provided me with an opportunity to learn from those around the world. Throughout this chapter, I draw upon this learning and reflection.

Origins and evolution of the Lesson Study cycle

Lesson study is a specific approach to professional learning and a form of cyclical classroom enquiry that focuses on improving an aspect of teaching and learning. This is

developed through a collaborative, pupil-focused study. Through the cyclical process teams of teachers' plan, teach and observe, and then reflect upon their shared lesson. The same team repeat this cycle several times, building on observations and feedback in order to improve their lesson and accelerate pupil progress.

Lesson Study has its roots in South East Asia, where it has been widely practised for over a century. Nevertheless, parallels can be drawn between the Lesson Study cycle and action research, with its cyclical approach (Kemmis and McTaggart, 1982), plan-do-review structure and reflective threads (Schon, 1983). In Japan, Lesson Study is a well-established approach to JPD, embedded in schools since the 1870s; therefore, it pre-dates the tradition of action research developed in the Western world by over 70 years (Dudley, 2011). Similarly, in China, a country comprising over 200 million pupils and 15 million teachers, Lesson Study has been practiced for 110 years. Chen (2013) argues that the over-theorisation of pre-service training in China necessitates ensuring that teachers have opportunities to hone their practice and, therefore that Lesson Study makes the best use of scarce resources.

Lesson Study came to the attention of Western educators almost by chance during the Third International Mathematics and Science Study (TIMSS) in the 1990s. As Asian teachers described this collaborative, knowledge building cycle academics began to recognise its potential to address the stagnation, which they lamented was taking a grip on Western educational systems (Stigler and Hiebert, 1999). They found that over a period of fifty years Japanese educators had made a concerted effort to develop a system that has led to gradual, incremental improvements in teaching. South East Asia has subsequently gained further credence, as the Programme for International Student Assessment (PISA) provided a means for international comparison, confirming the region's well-established, outstanding academic success (OECD, 2010b). Lewis (2002a), an influential proponent of Lesson Study in the Western world, recognises that a teacher-led process of sustained professional development, in an education system that 'discourages professional isolation' (Collinson and Ono, 2001: 227), might be a major

contributing factor to the success stories of Japan and surrounding countries. This resonates with Cordingley et al. (2005) and Sachs' (2011) observations.

The original Japanese version of Lesson Study is heavily culturally influenced, and is enabled by a nation-wide structure which supports the collaborative process. As part of *kounaikenshuu*, a continuous process of school-based professional development, almost all teachers in Japan participate in *jugyou kenkyuu* (Lesson Study). Emphasis is placed on learning in the classroom, rather than attending external training or being instructed by a specialist. Yoshida's account of Lesson Study was brought to a broader public audience in Stigler and Hiebert's (1999) book, *'The Teaching Gap'*. They surmised that Lesson Study was so effective because it recognised that, 'teachers must be the primary driving force behind change. They are best positioned to understand the problems that students face and to generate possible solutions' (Stigler and Hiebert, 1999: 135). The Lesson Study cycle is now practiced in over 28 countries, becoming increasingly widely known and adapted for use across geographical and cultural boundaries. At the first WALS Conference (2013) held outside South East Asia, Sweden hosted 620 delegates, who shared over 100 presentations. In China, Lesson Study provided a context for teachers to de-contextualise curriculum reform, by making connections with their own discourse; this has allowed teachers within one school to use the same language to describe their practice and to generate new ways of focusing upon pupils (Chen, 2013).

Building upon Lewis' (2002b) influential and enthusiastic promotion of the Lesson Study cycle in America, between 2003 and 2006 the TLRP Research Training Fellowship (Dudley, 2009) conducted a pilot with fourteen schools to explore the benefits of Lesson Study in England. This research focused on a pedagogical approach to formative assessment that could be transferred from teacher-to-teacher, school-to-school and network-to-network. Drawing on Black and William's (1998) six principles to guided classroom application of formative assessment, teachers developed approaches, enabling them to interpret the principles of assessment for learning. In all, over 100 study lessons were carried out, with the group coming together to compare their outcomes and experience. This was English teachers' first glimpse at the potential of Lesson Study.

Although it was anticipated that Lesson Study would contribute to cross-school collaboration and networking, as seen in Japan (Fernandez and Chokshi, 2002), this was not as successful as was hoped. While communities of practice (Wenger, 1998) did come together to disseminate, there was little evidence of practices transferring across schools and being adopted in new settings (Dudley, 2012). Knowledge interaction (Nonaka and Takeuchi, 1995) was limited. While Dudley recognises the value of inter-school links, he suggests that the development of the social capital necessary for genuine collaboration would take more time than this pilot study permitted. I explore this challenge in Chapter 4, examining the conditions needed to foster this collaboration. Subsequent projects such as those by the National Literacy Strategy (NLS), Edge Hill University, the Borough of Camden and the Education Endowment Foundation have continued to generate success stories, and there are an increasing number of schools where the Lesson Study cycle is having an impact.

Effectiveness of Lesson Study

I was drawn to the Lesson Study cycle because it was rooted in classroom practice and it appeared to provide a structure to nurture the professional learning which I hoped to develop. It is designed to recognise that classrooms are amongst the most complex working environments in which any professionals have to operate; information about the 30 learners engaged in lesson activities comes at a teacher so quickly, the Japanese say that 'a lesson is like a swiftly flowing river' (Lewis and Tsuchida, 1998). Therefore, teaching is like negotiating a canoe through rapids; whilst a teacher has to have a plan, during a lesson he/she will need to make hundreds of decisions, which cannot be pre-planned (Dudley, 2012). English teachers often refer to these decisions as assessment for learning (Black, Harrison, Lee, Marshall and William, 2002; Clarke, 2005, 2008, 2014).

Such complexity resonated with my own observations and experience, as did the challenge of supporting colleagues to develop skills to enhance formative assessment. Studies into how teachers cope with the complexity and speed of classroom interaction

(Wragg, Wikely, Wragg and Haynes, 1996) have found that the rapid internalisation of practice knowledge can be drawn upon unconsciously when it is needed in the classroom. In Chapter 2, I explore the dynamics of knowledge creation. Such opportunities for tacit knowledge (Polanyi, 1967) to be transferred through knowledge interaction (Nonaka and Takeuchi, 1995) are limited, as teachers tend to practice in isolation. Other teachers seldom get an opportunity to see others' tacit knowledge manifested in action. Lesson Study has the effect of slowing down the frenetic rate of classroom interaction and allowing sticky, tacit knowledge (Von Hippel, 1994; Szulanski, 1996) to leak more easily (Hadfield, 2014). It is effective because it is 'a system for building and sharing practitioner knowledge' (Lewis, Perry and Friedkin, 2009: 142), which is a procedurally tight, methodical and disciplined process (Sarkar Arani, 2006).

Lesson Study is attractive because it acknowledges classroom complexity and holds the potential to unlock practitioner knowledge. Dudley, interviewed by Maddern (2012), describes Lesson Study as enabling teachers to see their pupils with fresh eyes, drawing upon assessment for learning strategies. It allows teachers' practice knowledge to travel between classrooms. Through joint planning, observation and analysis, teachers can compare the learning observed with the learning that they imagined, becoming conscious of influencing factors and externalising knowledge (Nonaka and Takeuchi, 1995).

Lesson Study avoids adopting the deficit assumption predominant in many Western approaches to professional development (Wiliam, 2010). Teacher's practice can be observed away from the context of appraisal or judgement of performance, supporting experienced teachers' learning alongside their novice colleagues. This safe arena allows teachers to rehearse the skills of an expert teacher (Hattie, 2003), without the threat of oppressive external assessment. Teachers at Caddington Primary School have been developing Lesson Study, as explained by headteacher, Sue Teague, and senior teacher, Amanda Howes (WALS Conference 2013). I found it useful to hear about their journey within the context of the English education system, as many comments echoed my own thinking. Sue described teachers escaping from their 'boxes' to become learners, cross-phase learning and a distinction between Lesson Study and the appraisal process.

I found it useful to summarise the seven key *pathways* to improvement (Lewis, Perry and Hurd, 2004), in the figure below. I return to these pathways in Chapter 5, when building my conceptual framework. I exemplify these pathways in the subsequent section, as I examine the structure of Lesson Study in more depth.

Fig 3.1: Seven key pathways

1. increased subject knowledge;
2. increased pedagogical understanding;
3. increased ability to observe pupil learning;
4. stronger collegial networks;
5. a stronger connection between daily practice and long-term learning aims;
6. greater teacher motivation and sense of self-efficacy;
7. an improved bank of lesson plans.

Lesson Study structure: unpicking the steps in the cycle

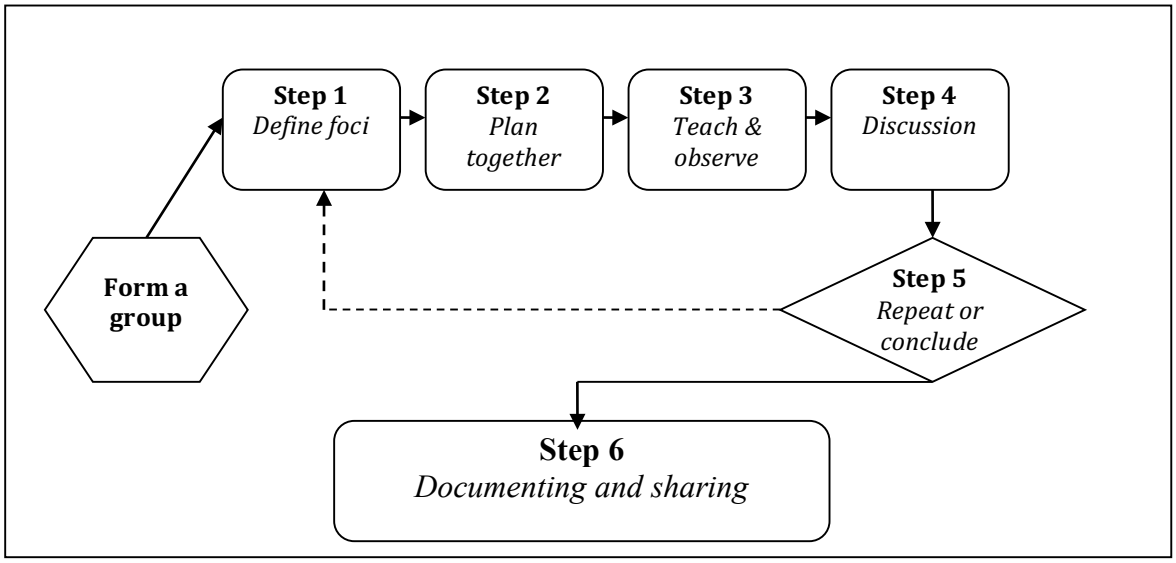
I was convinced by accounts of Lesson Study, and decided that, in order to effectively facilitate its implementation, I needed to gain a detailed understanding of its mechanics. I reflected upon each step and its importance in scaffolding professional learning. Clarke (2014) asserts that the implementation of Lesson Study must keep its original principles at the forefront, whilst enabling the detail to be as practical and flexible as possible. As I unpicked each step, I also made decisions about my own interpretation and implementation. I detail these decisions below.

The Lesson Study process begins by gathering a group of teachers, often with different social standings within the school's hierarchy. However, within the group, all members are equal, and this inclusivity is an essential principle underpinning the cycle. This resonates with Hattie's observation that, 'we have in education a long history of innovation but it rarely touches but some chosen few' (2009: 254). Lofthouse (2015) describes a gap between early career mentoring, which offers support and critical friendship to novice teachers, and aspiring leadership programmes. Lesson Study offers a model of peer coaching so teachers can share good practice, address issues that interest

them and focus on teaching and learning. Coaching is distinguished from mentoring as it can be accessed in between distinct career transitions, is less based on formal judgments and is orientated towards professional development through learning connections. I return to this discussion in Chapter 8.

Participants follow a series of steps as they move through the Lesson Study cycle. In Japan, this process can extend to five years, although in England it is more likely to be condensed. Teachers begin by talking about how to make the group productive and supportive. Ground-rules are then formulated and revisited at each meeting (Lewis, 2002b). This fits well with the protocol associated with a community of practice (Wenger, 2008), and I was drawn to the democratic foundation of this approach. I give greater attention to the concept of a community of practice in Chapter 4. The group follows a cycle of professional development, which is depicted by Cerbin and Kopp (2011); I have made some slight adaptations, mainly for clarity, in the diagram below.

Fig 3.2: The Lesson Study cycle



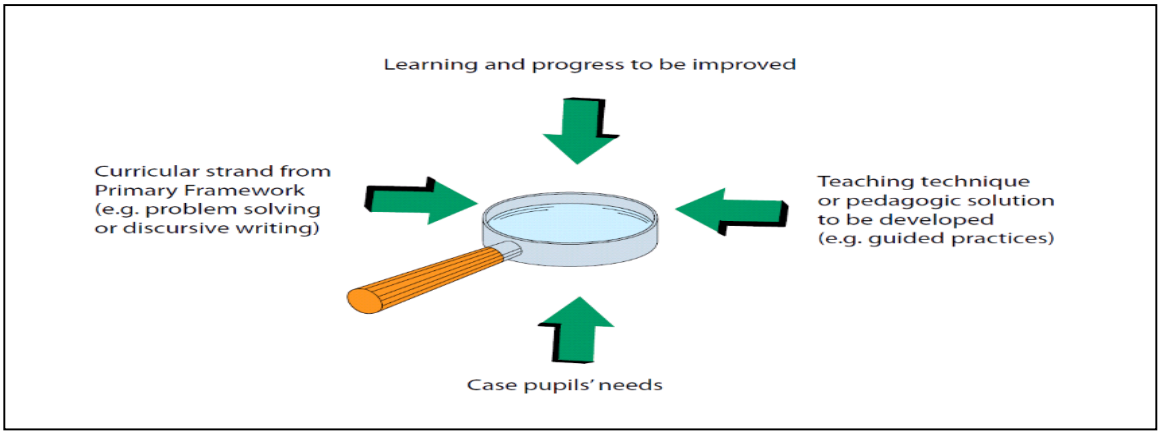
Step 1- determining the foci

The group begins by identifying and analysing an area of need in pupil learning. Teachers then enquire into developments in teaching that are likely to have an impact, as Lesson

Study is based on the premise that practice can always be improved, as can pupil learning. This approach to learning aligns with Sotto's assertion that, 'it makes no sense to decide how one is going to teach before one has made some study of how people learn' (1994: 29), and Marton and Booth's (1997) variation theory, which explicitly focuses teachers' attention on the quality of pupils' experience of the 'object of learning'.

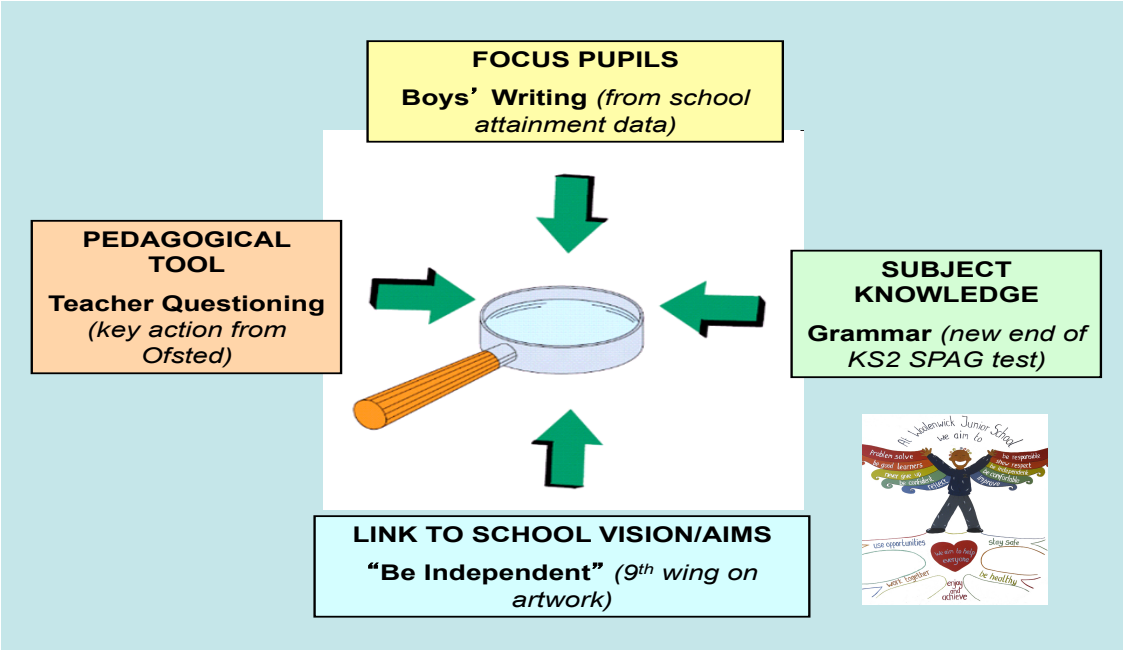
During this initial step, teachers concentrate upon simultaneous foci; for Japanese teachers, these include long-term pupil development goals, such as a desire to learn cooperatively, alongside more academic foci such as specific learning objectives or topics that are persistently difficult to teach. Yoshida (2013) explains that the Japanese curriculum develops the mind alongside acquiring curriculum content and knowledge, arguing that Lesson Study had made a significant contribution to Japan's 'focused, coherent and consistent education system'. Lewis et al. (2004) note that these dual foci can sometimes puzzle American educators, who are unused to the connection between long-term vision and immediate lesson objectives and outcomes. I wondered if this was why this has been omitted from the illustration below (Fig 3.3), published by the National Primary Strategy (NPS, 2008: 6), who extolled the virtues of Lesson Study. I was keen that in the design of my development project, participants clarified and paid attention to long-term goals, considering the kind of young adults Stevenage teachers were helping to shape. This links to Lewis, Perry and Hurd's (2004) fifth pathway, 'a stronger connection between daily practice and long-term learning aims' (Fig 3.1).

Fig 3.3: Determining your Lesson Study foci



For my intervention to be successful, I needed to focus upon whole school priorities determined by each school's improvement plan. These were typically shaped by the analysis of examination data, the information gleaned from formal monitoring activities, such as lesson observations, and the ever-changing national policy agenda. This often leads to rather narrow agenda, driven by the fear of an inspection from the Office for Standards in Education (Ofsted). In Japan, every school has a wider research focus which is independent of the Lesson Study cycle, adding to the school's emerging bank of knowledge (Wake, Foster and Swan, 2014). Building upon the looking glass illustration, in Fig 3.4, I include an example of how these multiple foci could be interpreted for an English school in order to support whole school improvement.

Fig 3.4: Linking Lesson Study foci to whole school improvement priorities



Step 2 – collaborative lesson planning

The Lesson Study group then work together to plan a single lesson, designed with their foci in mind. Japanese teachers often begin by looking at books or articles produced by other teachers who have studied similar problems (Stigler and Hiebert, 1999), building upon a pre-existing bank of knowledge which has been acquired by previous Lesson Study groups. This investigative step is called *kyozaikenkyuu*. Japanese teachers regard

lessons as sacrosanct, so extremely detailed lessons plans are produced (Wake, 2014) around very well-developed materials and textbooks, so that each part of the lesson flows (Clarke, 2014). However, Lewis (2002b), the most experienced promulgator of Lesson Study in America, recommends seeing the lesson as part of a unit rather than stand-alone, and suggests resisting the temptation to cram too much into one lesson or allowing the lesson plan to become too rigid.

In England, there has unfortunately been far less emphasis on building upon pre-existing knowledge; this links to the adaptive and additional learning identified in the 'three fields of knowledge' model (Carter, Cotton and Hill, 2006; Fig 2.3), but it has been erased entirely from the NPS Lesson Study exemplification for teachers in England. This is perhaps because Lesson Study is in its infancy and so there is a far less well-developed library of studies to draw upon. In an action research cycle this is often referred to as reconnaissance stage (Mills, 2014). The preliminary gathering of information includes taking time to reflect on your own beliefs, and the nature and context of a general idea. It can be as simple as talking with other teachers in order to gauge their perceptions. This reconnaissance, including reviewing related literature, takes the form of self-reflection, description and explanation. In the English model, greater emphasis has been placed on the case study pupils, around whose needs the lesson is designed. This chimes with Harris (2012) who stated that effective professional learning should focus on the needs of the learner first. Teacher should work collaboratively to improve pedagogy so that those needs are met.

During this step, there are sharp contrasts between the Japanese and English models. In Japan, subject matter is inherently interesting and fascinating in its own right, therefore teachers see little need to make it more engaging. Typically, lessons start with pupils tackling a challenge activity, whilst teachers watch methods and encourage pupils to persevere even if they are beginning to struggle. Methods are noted and then shared with a class. Japanese teachers use a large whiteboard so methods, ideas and words can be recorded and connections made (Clarke, 2014). Such a process is termed *neriage*, referring to blending a clay pot back together after it is broken. This metaphor is

paralleled to building knowledge back together though lesson plenaries (Wake, 2014).

In the English model, this collaborative planning process extends beyond a paper exercise. The term *lesson plan* incorporates more than a written document but also a shared understanding of teaching and learning intentions that its production-in-action facilitates amongst all teachers (Wake, Foster and Swan, 2014). This also extends to the practical preparation for the lesson, which is a joint endeavour. I envisaged Stevenage teachers would relish the opportunity to plan collaboratively, as I suspected that the planning of individual lessons was rarely afforded extensive dedicated time. In my experience, collaboration outside of the Lesson Study cycle is more likely to consist of teachers sharing resources or adapting each other's lesson plans.

Step 3 – teaching and joint observation of the study lesson

Next, one teacher teaches *kenkyuu* (the study/research lesson), while the other members of the group observe. This *live* observation is considered invaluable, although on occasion it is electronically recorded as well, for later analysis and discussion. In Japan, there is an emphasis on teacher autonomy, since however detailed the plan, any utterance during a lesson can change its direction (Wake, 2014). Elliott explains that, 'teaching a lesson is an integral part of a cumulative research process in which practical hypotheses developed from discussions of data are systematically tested in action' (2011: 4). The observing Japanese teachers leave their own classes without supervision, appointing two pupils to serve as class monitors (Stigler and Hiebert, 1999). This is a practice less transferable due to significant cultural differences, which is met with much hilarity when described to English teachers. Teachers experienced in Lesson Study also suggest that it is advisable to draw up a lesson observation protocol before this part of the cycle begins.

Observers typically use the lesson plan as a template to make observations, sometimes supplemented with checklists or focal questions (Cerbin and Kopp, 2011). The observers' focus on the behaviour and learning of the pupils. Lewis (2002a) found that placing learning, rather than subject content, at the centre of the process is a welcome shift for teachers in an overly content-driven curriculum. NPS guidance (2008)

recommends the teacher starting each lesson as if 'zooming in' on the case pupils with a forensic focus, and then 'panning back' to allow the whole class to come into the frame. Observers should try to capture case pupils' responses, looking for evidence of progress. Lewis (2002b) proposes that the data collected could include academic learning, motivation (she cites observations about children's 'shining eyes') and social behaviour. Teachers develop an increased ability to observe pupil learning, the third *pathway* highlighted by Lewis et al. (2004).

In England, Lesson Study groups often record case pupil interviews, either digitally or in note form, immediately after the study lesson. The NPS (2008) suggests a set of questions to glean pupils' perspectives on what worked for them, what they felt they learned, and how they think the lesson could be changed if it were taught again to another class in order to make it work even better. I was drawn to placing pupils and learning at the heart of the process. Dudley (2009) reports that teachers value the incorporation of pupils' voices, claiming significant positive effects upon pupil progress. I liked the non-threatening observation approach and inclusion of pupils' voices, intended to facilitate genuine professional learning, and further enhance the triangulation of data collected.

At each step, the cultural influences of each education system cannot be overstated. In her keynote speech at the WALS Conference in 2013, Chen provided a fascinating insight into the differences between Chinese and Western culture and thinking, explaining how this has influenced teachers' perceptions and professional development. Philosophically, the Chinese regard action as more important than words; Chen quoted commonly used sayings such as, 'observe one's actions whilst listening to one's talk', 'a gentleman should act more and speak less' and 'knowing is the beginning of action and action is the fulfilment of knowing'. When she interviewed Chinese teachers, they compared the knowledge of external experts to 'knowledge in a museum'; in contrast, they understood teaching to be 'knowledge in a workshop'. Chinese teachers also take a more holistic view of teaching than their Western counterparts, describing a *lesson eye* and taking into account the influence of 'yin and yang' (fire and water) in their lessons. This view, Chen argues, embraces a greater moralisation of teaching, urging teachers to

'practice what they preach', echoing Hamachek's assertion that 'consciously we know what we know, and unconsciously we teach who we are' (1999: 209).

Step 4 – post-lesson discussion

The teachers' post-lesson discussion must take place as soon as possible after the lesson has been taught. In Japan, roles during this discussion are clearly defined and include a facilitator, who keeps the debriefing on track. NPS guidance also recommends electing a chair and provides a proforma (2008: 12) to direct the discussion. Stigler and Hiebert (1999) assert that as all the group members feel responsible for the outcome of their plan, they are in effect critiquing themselves, redirecting the spotlight from a personal evaluation to a self-improvement activity. This resonates with the reflective approach advocated as part of the action research process (Schon, 1983), building upon Lewis et al.'s (2004) *pathways* (Fig 3.1). Lewis (2002b) produced a helpful protocol to guide this post-lesson discussion, which I intend to share with teachers and detail below.

Fig 3.5: Post-lesson discussion protocol

- The teacher who has taught the lesson speaks first. He/she has the chance to point out any difficulties in the lesson before others can point them out.
- The lesson belongs to the whole group: it is 'our' lesson, not 'your' lesson.
- Discussion focuses on the data collected at the study lesson – on the pupils and the learning, not the teacher.
- All lessons (however wonderful) can always be improved.
- Mistakes are embraced. Much can be learned from imperfect lessons.
- Rather than seeking originality, greatest importance is placed on whether the lesson promotes learning.

As the group debrief, they are supported by a *Koshi,* who is a commentator on the process. The *Koshi*, someone with *elderly wisdom*, plays a particular role and is afforded a significant status (Wake, 2014); this is best translated as a *knowledgeable other,* who moderates and/or advises others (Watanabe and Wang-Iverson, 2005). In Japan, a university professor, district supervisor or principal from another school usually fulfils this role. In America, this role as been fulfilled by *experienced or master teachers*

(Lewis, 2002a). In English examples of Lesson Study, a *lesson study coach* has taken on a similar position (NPS, 2008).

I had some reservations about the inclusion of a *knowledgeable other*. A core principle of Lesson Study is the equality of all participants. In a project run by Edge Hill University, academics worked with several schools, constructing teams including two classroom teachers and one *expert* or *leading* teacher (WALS Conference 2013). I noticed a tension in that teams were created on the premise that all members were equal, yet I was reminded of the quotation, 'all animals are equal, but some animals are more equal than others' (George Orwell, Animal Farm, 1945). It is important that the *knowledgeable other* role is not to teach the team or overly direct their work (Stepanek et al., 2007), but to guide. Their main purpose is to support teacher learning by providing information about content or new ideas, or a different perspective. Nevertheless, I fear that this may simply, if unintentionally, replicate a traditional model of continued professional development (CPD), with a perceived expert disseminating best practice (Fullan, 1993). For English teachers who are entrenched in this retooling and remodelling approach to professional development (Sachs, 2011), the principle of equality could be quickly eroded. Also, genuine collaboration depends upon trust, in order to accrue social capital (Fullan and Hargreaves, 2012), a concept I explore in Chapter 4. As the English education system narrows its focus on teacher competence (Kennedy, 2005), I think it is misguided to assume that the inclusion of a senior leader or external consultant would not have a significant effect.

I remained convinced that the Lesson Study cycle could reap huge benefits in terms of teachers' professional development. Dudley, interviewed by Maddern (2012), observed that the process enabled schools to create a culture of teacher learning through talk. In the English examples, the post-lesson discussion also draws heavily upon what has been gleaned from the pupil interviews, alongside the pupil-focused notes made by the observers, chiming with Sotto's (1994) assertion about studying learning rather than teaching. Placing an importance on in-depth discussions is recognised by Scheopner who asserts that, 'teachers value supportive relationships with their colleagues, but structures

need to encourage teachers to work together, take advantage of one another's feedback, expertise and knowledge' (2010: 275). I think that Lesson Study provides this structure.

Step 5 – *Reflecting and revising*

On the next occasion, the group meet, they revise and re-plan the study lesson. For example, they may change the materials, activities, problems posed or questions asked, basing their changes on specific misconceptions in the first study lesson. In this process, teachers are innovating, refining and modifying their practice, and as they tinker they create new knowledge (Hargreaves, 2007). This is an example of JPD (Hargreaves, 2012a), where teachers become autonomous professionals transforming practice by reimagining (Sachs, 2011). They become expert teachers (Hattie, 2003), who adopt a problem-solving stance and make better decisions (Fig 2.1), with Lesson Study providing a scaffold to encourage teachers to become reflective practitioners (Dewey, 1933; Schon, 1983). This process enables teachers to 'view their own practices critically without being blinkered by assumptions about their immediate settings' (Desforges, 2004).

As teachers collaboratively plan and tinker (Hargreaves, 1999) with their study lesson, the cycle has begun again; this is the second loop. In Japan, this revised lesson is usually taught to a different class, often by another member of the group. Eventually, all members of the faculty are invited to attend the study lesson, often resulting in there being more teachers than pupils in the classroom (Stigler and Hiebert, 1999). This has not been replicated in English examples, as re-teaching of the same lesson is not practical or beneficial, and inviting too many participants to observe the lesson could both affect pupil outcomes and result in teachers 'putting on a show'. In English examples, members reflect upon what they have learnt in order to plan a subsequent lesson, usually with the same case pupils and taught by the same teacher. This cycle comprises of three repeating loops, including collaborative planning, teaching/observing and group reflection. Each loop is informed by evidence gleaned from tightly focused observations of case pupils and what is learnt from pupil voice.

Step 6 – documenting and sharing the findings

Once the Lesson Study cycle has been completed, the final step is to document and disseminate the group's findings. The NPS (2008) suggests capturing parts of the process through video or digital photography to aid presentations to other staff, or to create a *learning wall* in the staffroom, where groups can display their work (photos, notes, observations, discussion outcomes, pupil voice interviews and tentative conclusions) in order to generate talk about professional learning (Rosenholtz, 1989) long after the formal sharing is over. In Stevenage, I envisaged us making use of the Stevenage Educational Trust (SET) website, as well as creating a portfolio or a presentation at a marketplace event.

There is also merit in more formal dissemination. In Japan, most Lesson Study groups write a report, including failures as well as successes (Dudley, 2011), which are often published in a book held in the teachers' resource room. Yoshida's presentation at the WALS Conference in 2013 showed photos of bookstores where shelves were stacked with publications by teachers, *open house* sessions where teachers visited other schools and cross-district conferences where a lesson was watched (on the stage) and then discussed. In America, organisations have designed webpages for dissemination, such as the 'Lesson Study Showcase' created by the Center of Advancing Teaching and Learning (www.lessonstudy.blogs.com). In England, Pete Dudley has established Lesson Study UK (www.lessonstudy.co.uk), including published Lesson Study reports. At this step, the sixth and seventh pathways (Lewis et al., 2004) are most prominent; greater teacher motivation and sense of self-efficacy, and an improved bank of lesson plans (Fig 3.1).

Challenges to sustaining the Lesson Study cycle

As I planned to convince others of the benefits of the Lesson Study cycle, I needed also to be aware of the pitfalls and barriers. Doig and Groves (2012), drawing on experience in Australia, highlight a number of factors that militate against the direct transfer of Japanese successes to other cultures. For example, they highlight the high status and

retention of teachers, stability in educational policy, the less individualistic quality of Japanese culture, and the more flexible Japanese approach to scheduling study lessons and subsequent debriefings. Below I identify three barriers that need to be overcome if Lesson Study is to be successful in Stevenage.

The first concern is time. The tyranny of time is a constant lament of teachers. Leonard Bernstein, the American composer, conductor, author, music lecturer and pianist, famously said, 'to achieve great things, two things are needed: a plan, and not quite enough time'. The Lesson Study cycle provides that plan and structure; despite crammed timetables, senior leaders can create opportunities for teachers to collaborate in professional learning. If I were to succeed in convincing schools that this process would significantly improve classroom practice, part of the challenge would be ensuring that they dedicated enough time to it.

Secondly, Lesson Study does not provide a clear, rapid route to addressing teacher competency. Stigler and Hiebert (1999) chart the concentration on long-term continuous improvement as a benefit of the process, with a consistent focus upon pupil learning. This facilitates a direct improvement in teaching in context and enables purposeful collaboration. Nevertheless, the Lesson Study cycle does not fit well into the current performance management and competency process.

> Lesson study means far more than just walking through a set of specific activities. It means building a set of pathways that enable continual growth of knowledge, interpersonal resources and motivation required to improve instruction in the classroom and beyond.
>
> (Lewis et al., 2004: 22)

Finally, the success of Lesson Study depends upon a degree of trust established between the senior leadership team and their teachers, trusting that teachers will embrace the process and work collaboratively in order to improve the outcomes for pupils. Teachers must trust that senior leaders will not hijack the process as an opportunity for covert monitoring and performance management. Trust encompasses goodwill, respect,

openness, honesty, confidence in competence, reliability and forgiveness (Tschannen-Moran, 2004; Reed Kochanek, 2005). It is part of social capital, one of the three components of professional capital (Fullan and Hargreaves, 2012), which I discuss in Chapter 4. Fostering trust, openness and honesty is a guiding principle of JPD (Gregson, Nixon, Spedding and Kearney, 2013), as I detail in Fig 2.6. I return to the importance of trust in Chapter 7 and 8.

I was determined that these barriers could be overcome as there are a number of examples where Lesson Study has enjoyed success, reaped huge benefits and flourished in schools and districts across the Western world. In a thought provoking plenary at the WALS Conference in 2013, Yuefeng Zhang, Lewis, Bergqvist and Hansson each described Lesson Study in their context and countries (Hong Kong, USA and Sweden). They highlighted some of the key features for the sustainability of Lesson Study, which I collate in the figure below.

Fig 3.6: How can Lesson Study be sustained?

1. The vision must be established and maintained.
2. Teacher development must be a deliberate act.
3. It must be a 'core kernel' routine.
4. There must be a collaborative, trusting, supportive culture.
5. Teachers must be allowed to be curious, creative and self-motivated.
6. The process must be adapted and integrated into daily practice.
7. Internal trainers and mentors must be cultivated.
8. Teachers must own the process.
9. Policy makers and administrators must value the process.
10. Work and findings should be shared.

My optimism for the Lesson Study cycle is shared by experts in both teaching and academic spheres. Elliott, a leading proponent of the benefits of Lesson Study, explains why he regards its growth as an opportunity to realise the concept of 'teacher-as-researcher' (WALS Conference 2013). I explore this in the next section in this chapter.

Realising the notion of 'teacher-as-researcher'

The notion of 'teacher-as-researcher' is not a new one; Stenhouse coined the phrase in 1975, arguing that it was at the centre of the new curriculum development. His vision was for the development of 'teachers-as-researchers' to be a powerful way to inform policy and practice, and it became the beginning of the action research tradition in the UK. Subsequently, Elliott (2013) argued that an overprescribed curriculum leaves little space for the true realisation of Stenhouse's vision, as is my experience. Elliott summarised Stenhouse's ideas that 'teachers-as-researchers' should be part of a broader theory of curriculum development and change, seen as curriculum 'change agents' and should frame the nature of knowledge as an object of speculative understanding. Building upon these principles, he makes the bold claim that Lesson Study provides a new context for furthering the development of Stenhouse's ideas.

Central to promoting teachers as researchers is an understanding of professional knowledge creation, which I explore in Chapter 2. Stenhouse (1975) asserted that instruction, which presumes that research and scholarship yield fixed and authoritative knowledge, distorts the nature of knowledge and is anti-educational. Later, Elliott (2011) claimed that knowledge should be understood as interpreted by speculative thinking and open to reconstruction. Discussion around pedagogical aims and procedural principles should be at the heart of the teaching and learning process, with the focus being on how these can be realised inside the classroom. The key to long-term improvement is to generate, accumulate and share professional knowledge (Nonaka and Takeuchi, 1995), theorised in the SECI process model (Fig 2.5), which holds discussion at its centre.

I found the Lesson Study cycle's potential to realise the notion of 'teacher-as-researcher' attractive. Many of Elliott's critics have claimed that he is anti-theory, yet he states, 'theory has a very important role to provide teachers with syntax and shared vocabulary, in which to talk about the problems of practice and to articulate their findings'. Therefore, the interpretation of facts, informed by pedagogical theories and made explicit in practice, enables teachers to bring tacit theories (Polanyi, 1967) to the surface. Lesson

Study provides an opportunity for teachers to enact the principles of action research. Elliott (2013) also notes that when academics write about action research, there is a tendency to emphasis the methodology rather than outcomes, so that the development work of teachers is disconnected from the development of a systematic body of knowledge. Lesson Study often involves case studies that are not trying to generalise. However, teachers find themselves agreeing and providing universal insights, distilled by groups. These findings are then often made publically accessible. Figure 3.8 outlines Elliott's argument that Lesson Study resonates with Stenhouse's original vision. In summary, the notion of 'teacher-as-researcher' has rarely been realised, and after 50 years of building professional knowledge, Elliott laments we still in the initial stages. The Lesson Study cycle is a welcome exception.

Fig 3.8: Elliott's three principles of action research

Action research in education is:

- a form of curriculum development which is intricately linked with teachers' pedagogical development;
- focused on the practical problems of realising educational aims and objectives, which cannot always be stated at the beginning, as refining your understanding is part of the process;
- theoretically informed and is a way of testing theory to generate new public, professional knowledge.

Conclusion

In this chapter, I set out the case for employing Lesson Study in order to develop JPD, presenting a description of the origins and evolution of the cycle, including its transfer to the Western world. I detail each step in the cycle, giving consideration to the benefits and challenges. The guiding principles of JPD (Fig 2.6) align with those of Lesson Study, including a shared understanding of an educational problem (Step 1 and Step 2), a shared experience, trying out innovative practices (Step 3), and critically reviewing the

process together (Step 4 and Step 5). In Lesson Study, there is an opportunity to develop 'teacher-as-researcher', which Elliott (2013) claims has rarely been achieved.

My principal aim remained the same, which was to positively impact upon the educational achievement of disadvantaged pupils. By gaining a more in-depth understanding of Lesson Study, I further clarified my values, determined that these would guide the methodology, intervention and my interaction with participants. In Chapter 4, I return to the seven pathways (Fig 3.1) identified by Lewis et al. (2004) and Elliott's (2013) interpretation of 'teacher-as-researcher'.

Drawing upon my emerging understanding of Lesson Study, I developed a third principle, which shaped my research approach. This was to frame the nature of knowledge as an object of speculative understanding, elicited from Stenhouse's (1975) concept of 'teacher-as-researcher' and Elliott's (2013) later interpretation. I add another outcome, which I explain in Step 6, that my research should aggregate insights and share information (Lewis et al., 2004; Dudley, 2011). I intended to share conclusions in a variety of ways, including through presentations, wider discussions and written contributions. In Chapters 7 and 8, I draw upon these presentations and discussions, as they form part of my reflective critical narrative.

As a school leader and in my role with Stevenage Educational Trust (SET), I was in a position to positively influence the quality of teaching. However, I did not intend to replicate a tried intervention; my context, as I outline in Chapter 1, influenced my research design. In Chapter 4, I explain the place of this intervention within wider collaboration, including the plan for my research to span several schools across Stevenage. I also convey my optimism for what I hoped could be achieved in building professional capital. I believed that if my research design was given enough careful consideration, I could be an agent of change (Fullan, 1993).

Chapter 4

Building professional capital and a community of leaders through collaboration

Traditional approaches to continued professional development (CPD), which I outline in Chapter 2, often assume a deficit model and that knowledge is easily transferred. Hargreaves (2012a) calls for an approach to professional development that puts collaboration at its core, such as Lesson Study, as I outline in Chapter 3. Here, my argument moves beyond the superficial criticism of senior leaders in Stevenage schools, by Sharon Taylor (leader of Stevenage Borough Council) and Stephen McPartland (Member of Parliament for Stevenage), which I detail in Chapter 1. In this chapter, I explore more fundamental approaches to school improvement, including shifts in culture and ethos, which promise to have long-lasting positive impact. The purpose of this chapter is to explore collaborative cultures that enable joint practice development (JPD) to flourish (Hargreaves, 2012a; Gregson, Nixon, Spedding and Kearney, 2013).

Below I argue that developing structures and cultures, which foster genuine collaboration, provide a forum for teachers to thrive and to enable them to develop their professional knowledge. It is within these cultures that Lesson Study will experience greatest success. According to Robinson (2007), taking part in collaborative enquiries into improving teaching and learning is the single most important action a leader can take to improve educational outcomes. By engineering a collaborative, research-rich culture, leaders can break free of the shackles of the traditional approach to CPD. Also, teachers can experience a sense of self-efficacy (Bandura, 1997), which other traditional professional development models do not allow.

As my research progressed, my reflections and analytical approaches also changed. My role became more senior and strategic, and unsurprisingly, my focus shifted towards whole school improvement and the crucial part that teacher effectiveness plays in achieving wider goals. The more I learnt about how to develop teacher effectiveness, the

more I realised it is inextricably entwined with school improvement: 'the quality of an education system cannot exceed the quality of its teachers' (McKinsey, 2007). Simultaneously, I undertook the National Professional Qualification of Headship. As my career evolved alongside my research, I found the two becoming ever more linked. Strangely, I found myself spurred on by the government's paper on the importance of teaching, which places importance on self-improvement and schools and professionals learning from one another (DfE, 2010).

In this chapter, I explore the factors which enable professional capital thrive. First, I consider human capital, the development of knowledge and skills in teaching, including passion and moral commitment. Next, I highlight the barrier of teacher isolation and why this must be overcome in order to generate social capital, the interaction and social relationships within a learning community. Then, I discuss decisional capital, the ability to make discretionary judgments reasserting a sense of professionalism and agency. Next, I explore the nature of collaboration and factors needed for it to flourish. I explain what I mean by a community of enquiry, including some caveats to its success, dealing with the benefits of both intra- and inter-school collaboration, followed by a discussion around some of the possible pitfalls. I then shift attention to how this community could contribute to school improvement by building capacity and creating a community of leaders. I conclude by returning to my aims, and reflecting again upon the values underpinning the research.

Building professional capital

I intended for my research to growth professional capital, in order to facilitate the development of expert teachers (Hattie, 2003), impacting upon disadvantaged pupils' achievement (OECD, 2011; Sutton Trust, 2011). Unfortunately, the policy makers in the English education system have adopted a predominantly short-term, non-renewable business capital model. This assumes that the purpose of education is to support business and markets, and favours a teaching force that is young, flexible, temporary, inexpensive

to train and replaceable wherever possible by technology. Finding and deploying good teachers then becomes about seeking and allocating existing individual human capital; the focus is upon hunting for talented individuals, working them hard and perhaps providing monetary reward or promotion (Pink, 2009). Fullan and Hargreaves (2012) warn against such a narrow focus, designed to serve the short-term interests of business capital. They argue that it comes at an immense price and carries dangerous assumptions about the nature of the teacher.

I was concerned that without a strong and relentless focus upon professional capital, schools would continue to miss lessons from other countries, which provide far more effective models of how to produce teacher fulfilment and effectiveness, and do not adopt strategies of rewarding or punishing individual teachers with measures like test-driven, performance-based pay. The most successful countries (Finland, Singapore, and Canada) develop the whole profession so that pupils repeatedly encounter good teachers (Fullan and Hargreaves, 2012). These countries attract and develop the professional capital of all their teachers, in all schools, day after day, year after year.

For me, the challenge of growing professional capital involves a long-term investment in teachers' professional development. High-quality teaching requires highly committed teachers, who are thoroughly prepared, continuously developed, properly paid and well-networked, in order to maximise their own improvement and to be able to make effective judgments together using all of their collective capabilities and experience (Fullan and Hargreaves, 2012). I was convinced that the Lesson Study cycle, introduced in the right whole school conditions, could overcome these challenges. The professional capital which I wanted to foster has three components (human, social and decisional capital), although these strands are not entirely distinct and separate. In reality there is much overlap, and each capital is hard to distinguish. I was interested in the interplay between the three strands, and how teachers' 'moral purpose' (Fullan, 1993) or 'moral imperative' (Fullan and Hargreaves, 2012) is realised.

Human capital

Human capital refers to the quality of the individual teacher, drawing upon talent, qualifications, knowledge, preparation, skills and emotional intelligence. This resonates with Hattie's (2003) summary of the characteristics of expert teachers (Fig 2.1), upon which a superficial understanding of much deficit-orientated CPD is predicated. Ways to accrue greater human capital include recruiting from the top tiers, raising the profile of teaching and raising pay; these are all strategies which have been tried by the current government, with little lasting, proven success. This, Fullan and Hargreaves (2012) argue, is because human capital cannot be accumulated by solely focusing upon individuals, challenging the second deep-seated notion that teaching is an act performed alone, as an individual, in isolation from all other teachers in the vicinity (Little, 1990a; Rosenholtz, 1991). Human capital must be complemented by social capital, with the deliberate building of teamwork, enabling teachers to learn from each other, within and across school networks, thereby engendering cultures of communication and learning.

Social capital

Social capital refers to the quality of the group, encompassing trust, reciprocity, collaboration, collective responsibility, mutual assistance, professional networks and 'push, pull and nudge' (Hargreaves, 2011). Primary schools can be lonely places; Lortie (1975) described teacher isolation, a pervasive model embedded since at least the 19th century, as one of the main structural impediments to improving teaching and pupils' learning. In Chapter 2, I refer to Huberman's depiction as teachers as *tinkers*.

> Essentially teachers are artisans working primarily alone, with a variety of new and cobbled together materials, in a personally designed work environment. They gradually develop a repertoire of instructional skills and strategies…through a somewhat haphazard process of trial and error…Teachers spontaneously go about tinkering with their classrooms.
>
> (Huberman, 1992: 136)

Such isolation does not facilitate knowledge transfer (Collinson and Parcell, 2004), and in such conditions the human capital accrued neither transfers nor flourishes. Huberman's observations were reflected in the work of Miles, Saxl and Lieberman (1988), which

highlighted teachers' isolation and its effects; they also discovered that building collegial relationships was a complicated process. As a classroom teacher and senior leader, I have frequently observed the detrimental effects of this isolation and am therefore drawn to facilitate collaboration. In countries where pupils outperform those in the UK (PISA, 2012), collaboration among teachers is essential. Teachers also feel opportunities to collaborate with colleagues are crucial to teacher retention (Wheary, Groome and Rankin, 2012). In the current climate, where two out of five teachers leave the profession within their first five years of teaching (NUT, 2016), we must explore ways to rekindle teachers' moral purpose, and to develop more supportive collaborative networks.

Social capital, groups working hard in focused and committed ways to bring about substantial improvements, can raise individual human capital. Fullan and Hargreaves (2012) argue that an effective team, school or system, lifts everyone. Ways of generating social capital include developing deep professional learning communities, school networks, developing collective responsibility for attainment, creating a shared language, devising collaborative tools and giving collective rewards. Furthermore, for Fullan and Hargreaves, social capital strategies are at the cornerstone of transforming the curriculum.

One way of understanding social capital is by dividing it into three categories: *bonding*, *bridging* and *linking* (Putnam, 2000). *Bonding* social capital connects people based on a sense of common identity. This offers teachers security and support, developed and recognised in different ways in a school setting, either working for or against the school aims. *Bridging* social capital stretches beyond a sense of shared identity, and helps people to build relationships with a wider, more varied set of people than those in the immediate school environment, helping people to 'get on' not just 'get by'. This could span beyond one school to create inter-school bridges. *Linking* social capital connects people or groups across differences in status, enabling individuals to connect with others, who they would not otherwise interact with easily in a hierarchical school structure.

Decisional capital

Decisional capital, a term coined by Fullan and Hargreaves (2012), refers to expertise in judgement and decision-making. The essence of professionalism is the ability to make good discretionary judgments, making decisions in complex situations of unavoidable uncertainty. Decisional capital is acquired and accumulated through structured and unstructured experience, practice and reflection, enabling teachers to make wise judgements. Since drawing upon the insights and experiences of colleagues enhances decisional capital, social capital is actually an integral part of this capital. Deliberate practice (Gladwell, 2008) and reflective practice (both in and on action) also help to develop a teacher's decisional capital.

Through exercising decisional capital teachers experience self-efficacy (Bandura, 1997) and change agentry (Fullan, 1993). The concept of self-efficacy is not straightforward (Tschannen-Moran and Woolfolk Hoy, 2001). Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals. Bandura's research shows that high perceived self-efficacy leads teachers to set higher goals and increases the likelihood that they will dedicate themselves to those goals. As a teacher's confidence grows, they become more motivated to participate in certain actions (Golas, 2010). TALIS (2013) found that teachers who collaborate more with their colleagues, teaching jointly in the same class, observing and providing feedback on each other's classes, engaging in joint activities across different classes and age groups, and taking part in collaborative professional learning, report a greater sense of self-efficacy (OECD, 2014). Fullan (2014) in his paper addressing the 'half-truths' of TALIS, advocates for *collective efficacy*, which encompasses self-efficacy.

By nurturing teachers' confidence and developing a collective sense of pride, I was certain that the teachers who participated in my research would become change agents, experiencing more self-efficacy and collective efficacy. As Lieberman and Miller (2000) maintain, when teachers cast off the mantle of technical and managed workers, and assume new roles as researchers, meaning makers, scholars and inventors, they begin to expand the vision of who they are and what they do.

Forming a genuinely collaborative group

In order to develop professional capital, it became apparent that I needed to foster genuine collaboration. Collaboration is a recursive process of working with others to tackle a task, achieving shared goals. It is most successful 'when colleagues engage in a dynamic process of interpretation and evaluation of practice, (so) they enhance their own practice and that of the profession' (Borko, 2004: 13). The principles of genuine collaboration resonated with my own values, as well as the interconnected components of professional capital. In this section, I clarify my understanding of a community of practice, exploring intra- and inter-school collaboration, including some of the possible pitfalls.

In the 1980s, research started to show the benefits of teachers working together collegially. Little (1990b) charts gains in pupils' achievement, higher quality solutions to problems, increased confidence among staff, an environment in which teachers support one another's strengths and accommodate weaknesses, support for new teachers, and staff with access to an expanded pool of ideas, materials, and methods. Collaboration increases teachers' self-efficacy, and creates supportive, collective efficacy (Fullan, 2014). Although apprehensive that collaboration may accommodate teachers' weaknesses, I welcomed access to an expanded pool of ideas, in order to produce new approaches to pedagogy and knowledge. Little also claims that collaboration can impact upon disadvantaged pupils' educational achievement; this resonates with Biesta's (2007) assertion, which I detail in the introduction, that we should not accept given problem definitions and predetermined ends. I summarise below the benefits of collaboration (Fig 4.1), identified in the prolific literature on the subject. I return to this figure later in this chapter to highlight some ways in which the benefits of collaboration can be maximised. These remained at the forefront of my research design.

Many of these points echo my assertions in previous chapters, such as enhancing teachers' own practice (point 6), or earlier in this chapter, such as the building of trust and social capital (point 4). Some of the key pathways that underlie the success of the

Lesson Study cycle (Fig 3.1), are also reflected in Fig 4.1 (for example point 3 and point 5). Collaboration can impact upon my stated aim (point 8). All these possible benefits have helped to shape my values, which I revisit in the conclusion of this chapter.

Fig 4.1: Benefits of collaboration

1. necessitate participation and engagement (Wenger, 1998);
2. increase capacity in individual schools (Eastwood and Seashore Louis, 1992);
3. facilitate development of shared purpose for pupil learning and collective responsibility to achieve it (Newmann and Wehlage, 1995);
4. build trust and therefore social capital (Frost and Durrant, 2002; Fullan and Hargreaves (2012);
5. build knowledge through discussion to enhance collective understanding (Bereiter, 2002);
6. foster the dynamic process of interpretation and evaluation of practice to enhance teachers' own practice (Borko, 2004);
7. capture the collective intellectual power of teachers as an asset;
8. lead to higher levels of pupil achievement (Rosenholtz, 1989).

Considering a community of enquiry

I intended my research to centre upon leading a group of teachers dedicated to collaborative enquiry. I wanted this to be an opportunity to share experiences and ideas, to support one another and to air and address frustrations. Stevenage Educational Trust (SET) had already begun the moulding and strengthening of a community of Stevenage schools, and I intended to build upon these links. Jackson and Street uphold, 'informed and disciplined professional enquiry as a foundation for a self-regenerative and self-sustaining learning system' (2005: 2). I found this definition both compelling and exciting, as in a rapidly changing political landscape, I reasoned that this model should have more longevity. I intended to form a community of enquiry to span both intra-school boundaries, such as year group teams developing both *bonding* and *linking* social capital (Putnam, 2000), and to *bridge* inter-school divides across Stevenage. I discuss the challenges this poses in greater detail below. Using Lesson Study to facilitate this community of enquiry, I envisaged this spanning several Stevenage primary schools. I present a diagrammatic model (Fig 6.7) for this collaboration in Chapter 6.

I needed to define the purpose and intentions of this collaborative group, however the academic language is inconsistent, due to varied and disparate development. Groups are variously referred to as examples of collaborative enquiry, professional enquiry, communities of enquiry and professional learning communities, although all lead to teachers questioning, reasoning, connecting, deliberating, challenging and developing problem-solving techniques (Lipman, 2003). I wanted to move beyond the assumption that enquiry is separated from practice (Carr and Kemmis, 1986), as I was keen to ensure that this community did not merely inquire. It needed to act if it was to impact upon the outcomes of disadvantaged pupils.

In my search to define this group's intended purpose, I was drawn to the concept of a community of practice. Wenger (2008) defines this as a group of people who share a passion for something that they know how to do, such as teach, and who interact regularly to learn how to do it better. In communities of practice, learning comes about by social participation through experience and practice (learning as doing), through meaning (learning as intentional), through community (learning as participating and being with others) and through identity (learning as changing who we are). A group begins by identifying a problem and through practice enhance the body of knowledge, such as methods, stories, cases, tools and documents. This problem-solving and knowledge-sharing approach can lead to innovation, personal and professional development of new strategies. This resonates with the structure of Lesson Study.

As I mention above, I was committed to an inter-school network, connecting various Stevenage primary schools. One of the stated roles of the SET was to 'provide opportunities for staff development and training, that gain the benefits of economies of scale and allow Stevenage teachers to share good practice and expertise across the town' (SET flyer, 2011). While there were some established networks in Stevenage, they were mainly among secondary schools, developed around school leadership or pastoral care. At the onset of my research, there were few opportunities for classroom-based teachers from different schools to collaborate, and any contact was sporadic, often via social networking. I recognised few models of deliberate and genuine collaboration, with an

explicit focus on school improvement; I proposed that my research would give this deliberate collaboration the status and kudos it deserves.

I could not identify many opportunities for classroom teachers to share expertise. Jackson and Street (2005) imagine a profession where teachers are committed to developing the learning of children in other schools as well as their own. Katzenmeyer and Moller support this view stating that 'preparing students to live productively in the 21st century is no small task; the potential for accomplishing it is heightened when the vast talents of all human resources are developed and then empowered to make a difference in the schools of tomorrow' (2001: 135). Sergiovanni suggests that 'developing a community of practice may be the single most important way to improve a school' (2001: 139). The case for facilitating both intra- and inter-school collaboration was strong.

I proposed to form a network of schools committed to shared learning and collaboration. However, from the onset I was aware of the challenges posed by working with lots of different schools. Nationally, there have been several examples of school-to-school networks including Education Action Zones, Excellence in Cities, Creative Partnerships and Primary National Strategy Learning Networks. Networked Learning Communities had the explicit aim of supporting the non-hierarchical, collaborative development of 'collective intelligence', defined as 'a measure of our ability to face up to problems that confront us collectively and to develop collective solutions' (Lacey, 1988: 94), and also as 'empowerment through the development and pooling of intelligence to attain common goals or resolve common problems' (Brown and Lauder, 2000: 234). There were certainly common collective problems faced across Stevenage schools, so this seemed like a good starting point.

I was interested in the benefits of these networks, which include opportunities for teachers to both consume and generate knowledge, prompting ideas that challenge teachers rather than merely prescribing generic solutions (Lieberman and Miller, 2004). This is a vision of reform that excites, encouraging risk taking in a supportive

environment, and a community that respects teachers' knowledge as well as knowledge from research and reform (Carter, Cotton and Hill, 2006). I felt compelled by the conclusion below, which resonates with my previous discussions around knowledge creation and collaboration.

> social learning …starts from an assumption that schools know more than they use… collaboration has to be led, facilitated and supported, over time. When this happens, partnerships mature, as representatives of diverse learning communities learn how to learn from one another's differences. A feature of such maturity is when colleagues are able to disagree, whilst still remaining cordial. In such circumstances, disagreement stimulates mutual challenge, genuine reflection and a willingness to explore new possibilities for moving practice forward.
>
> (Ainscow, Muijs and West, 2006: 10)

There are clear, documented benefits to collaboration. However, the inter-school component, which I intended my research to facilitate, is less proven, and it is this collaboration in particular which I explore below.

Intra- and inter-school collaboration

I planned to facilitate a collaborative group spanning several Stevenage schools. I was determined to ensure that this collaboration enabled participants to retain their moral purpose, enhancing rather than diverting them from their role as teachers. As Fullan observed, 'scratch a good teacher and you will find a moral purpose' (1993: 1).

Despite the compelling arguments for the benefits to collaboration (Fig 4.2), both at an intra- and inter-school level, such collaboration is still not commonplace. Lortie (1975) characterised schools as 'egg crates', in which teachers are kept apart and predominantly work in isolation. Such isolation, as discussed above, does not facilitate knowledge transfer (Collinson and Parcell, 2004) or grow social capital. Whilst intra-school collaboration is often stifled, inter-school collaboration is even less commonplace. I wanted to play a part in assuring the future inter-school collaboration in Stevenage. As Fullan laments, 'schools are in the business of teaching and learning, yet they are terrible at learning from each other' (2007: 92).

My values are echoed in the call for teachers to collaborate with their competitors. At the early stages of my research's conception, I was perhaps naively optimistic that Stevenage could overcome the notion of competitors, building upon the collegiate networking already established by SET.

> The core principles that draw on and build professional capital in schools are the same as those that cultivate professional capital through an entire system...They are about developing your commitments and capabilities, pushing and pulling your peers, exercising collective responsibility together and collaborating with your competitors across the whole system for the great good that transcends us all.
>
> (Fullan and Hargreaves, 2012: 146)

The hazards of collaboration

I was mindful of some of the hazards of collaboration, which I envisaged as being particularly acute when working across schools. Firstly, I guarded against contrived collaboration. Cultures of contrived collegiality are characterised by, 'a set of formal, specific, bureaucratic procedures to increase the attention being given to joint teacher planning, consultation, and other forms of working together' (Fullan and Hargreaves, 1991: 78). Despite best intentions, whilst these structures may bring teachers together and foster the implementation of new programs, structures alone will not necessarily foster the deeper, more substantial and more productive informal linkages, norms, and shared commitment found in collaborative settings. If I imposed this contrived collaboration upon teachers, my project would act as an impediment to their already busy working lives. In reality, the bureaucratic, hierarchical nature of schools could conflict with a genuine collegial approach to teacher development.

I was aware that bringing people together does not necessarily produce better outcomes. I needed to organise collaborative work to engage people and support them to move them beyond their established patterns (Cross and Parker, 2004). For collaborative networks to be successful, they must do more than just create connections (Hargreaves, 1994). Initially, this collaboration would centre on creating such connections, however I was determined my research, supported by the scaffold of Lesson Study, would go beyond

casual relationships. I planned to avoid comfortable collaboration, which can become thin and superficial, addressing short-term concerns rather than thornier issues (Fullan and Hargreaves, 1991).

Another pitfall is the danger of deindividuation, stifling divergence and originality. Certain conditions are needed, and Ainscow et al. warn that, 'in the absence of such conditions, collaboration tends to take on the features of 'groupthink', where existing beliefs encourage participants to collude with one another in staying firmly on what they see as safe ground' (2006: 10). I was also wary not to 'accommodate weaknesses' (Little, 1990a). Surowiecki (2004) suggests four parameters to counteract the pitfalls of superficiality, groupthink and lack of challenge: allow for diversity of opinion, value independence, ensure decentralisation with localised, needs-based foci, and plan for aggregation as a way of bringing contributions together. Fostering a climate of genuine professional learning includes affording teachers' responsibility. Mutual accountability, with a collective focus on pupil learning, can be enormously powerful (Fullan, Rolheiser, Mascall and Edge, 2001). This chimes with the reimagining metaphor of CPD (Sachs, 2011), which I explore in Chapter 2.

Finally, I was determined that my collaborative group would have impetus and drive. I was aware all participating schools would be different, and some would exist as isolated workplaces where teachers worked largely alone in their rooms, interacting little with their colleagues and keeping practice to themselves. It was likely that in these schools, teachers would feel separated from one another, seldom engaging in professional conversation, sharing or problem-solving (Little, 1990b). In other schools, teachers would regularly engage in professional dialogue, sharing ideas, knowledge, and techniques, and participating in collaborative problem-solving around classroom issues (Rosenholtz, 1989). Part of my challenge would be to work successfully with both types of schools. In the subsequent section, I explore the wider benefits of such collaboration, moving beyond the gains to individual teachers and their classroom practise, to potential whole school impact.

Capacity building and school improvement

In Chapters 2 and 3, and in this chapter, I present a rationale for the benefits of collaboration to individual participants. I intended for my research to build the capacity of its members and therefore their individual schools. I knew my project would also need to develop a school's collective capacity. Capacity building is concerned with creating the conditions, opportunities and experiences for collaboration and mutual learning. Building capacity depends on intentionally fostering and developing opportunities for members to examine their existing thinking and challenge what they do against these new ideas, knowledge, skills and dispositions (Harris, 2001). Newmann, King and Young define capacity as, 'the collective competency of the school as an entity to bring about effective change' (2000:12). This resonates with Fullan and Hargreaves' (2012) definition of professional capital. It is this capacity to manage change, respond positively to new challenges, be able to develop, reflect and refine professional practice, that excites me. I hoped I could extend this to build the collective competency of a town.

I wanted my research to impact upon capacity building. Stoll, Fink and Earl (2003) make a distinction between internal and external capacity. Internal capacity building relates to believing in success and making connections, attending to motivation, understanding and experiencing emotions, engaging in community, and finding time to inquire, create and practise. External capacity building leans more towards recognising the importance of learning for all, by respecting and promoting professionalism, supporting continuous learning, getting to know your school and understanding that all schools are not the same, creating new designs for working with and networking schools, offering friendship and developing deep learning. Such actions build social and decisional capital. Furthermore, organisational capacity 'implies that schools are structured to support connection rather than separation, diversity rather than uniformity, empowerment rather than control, and inclusion rather than dominance' (Mitchell and Sackney, 2000: 78). I was reminded of Dewey's (1933) democratic ideals. Eastwood and Seashore Louis assert that 'the single most important factor for successful school restructuring and the first order of business for those interested in increasing the capacity of their schools is building a collaborative

internal environment' (1992: 215). I became increasingly aware that building capacity was more complicated than I had first thought.

Whole school improvement

I intended my research to contribute to whole school improvement. Over time, numerous national models have attempted to reform the thinking and practices of practitioners, with the explicit intention of increasing pupils' success in schools. However, too often reforms have only accomplished superficial changes (Katz, Earl and Jaafar, 2009), perhaps due to the predominance of the deficit model, which I critique in Chapter 2. School improvement and the transformation agenda bring about change by strengthening the capacity of staff. Many schools have become performance sects, who value results over process and view learning as transfer rather than as the making of meaning and identity (Hargreaves, 2003a). Furthermore, Bangs and Frost (2011) argue the importance of approaches to teacher and school development that put teachers at their centre. If this could be achieved, teachers would have enhanced opportunities to influence both policy and practice.

From my observations, as I discuss Chapter 1, the accountability agenda has a particular prominence in Stevenage schools. Holding schools to account for their performance, or perceived under-performance, depends on schools having people with the knowledge, skill and judgement to make the improvements (Elmore, 2007). Therefore, collaborative enquiry could support schools in learning to do things they do not yet know how to do (Katz et al., 2009), by building the schools' organisational capital. The National College of School Leadership (2013) concluded that collaboration can act as a powerful means of strengthening the capacity of schools to address complex and challenging circumstances.

I planned my research would be committed to authentic school improvement. Hopkins (2001) insists that externally generated change, driven by a government approach to reform agenda, does not impact sufficiently on the classroom, often having short-term effects before reaching a plateau. He documents authentic school improvement as being achievement-focused, empowering in aspiration, research-based and theory-rich, context-

specific, capacity building, enquiry-driven, implementation orientated, interventionist and strategic, externally supported and systematic. This list resonated with the rationale which I outline in Chapters 2 and 3. Convinced that a careful structured community of practice, incorporating Lesson Study, could play a part in authentic school improvement, I wanted to facilitate Senge's notion of learning organisation, 'where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together' (1990: 3).

A learning organisation is best understood as 'a group of people continually enhancing their capacity to create what they want to create' (Senge, 1991: 42). However, Fielding (2001) is critical of this account, which is drawn from a business model, and he regards as a deeply humanistic view driven by a desire to help individuals express themselves creatively through the process of work. Fielding asserts that Senge is unclear about the relationship between organisation and community, and that he does not encourage critical reflection on the power structures nor the ultimate purpose of education. In designing my research, I planned to give consideration to the influences of power and control, and their invisibility, within the various educational communities.

I was aware of the possibility of conflicting cultures of Stevenage schools. In 'learning enriched schools' (Rosenholz, 1989), CPD is planned, professional learning is a priority, new knowledge is welcome and teachers make a conscious decision to seek it out, often deepening professional dialogue. However, I was naive in presuming that all participating schools would be so learning enriched. I critique this assumption in greater detail in Chapters 7 and 8.

Building capacity and professional capital through the Lesson Study cycle

I was convinced that Lesson Study could help build professional capital. As I outline in Chapter 3, several of Lewis, Perry and Hurd's *pathways* (2004) relate directly to the accrual of human capital; increased subject knowledge, increased pedagogical understanding and increased ability to observe pupil learning (Fig 3.1). More

importantly, Lesson Study is built on collaboration, necessitating trust, reflexivity and reciprocity. Therefore, its success depends on the building of social capital. Lewis et al. state that 'ideally, the interpersonal bridges built during lesson study enable collaboration well beyond the research lesson, increasing the coherence and consistency of the learning environment' (2004: 20). Lesson Study also builds decisional capital, which as I explain above is intrinsically linked with social capital. It facilitates self- and collective efficacy, and enables teachers to be agents of change.

If my research was successful in accruing professional capital, it would have a significant, far-reaching and transformative effect, both for individual teachers and schools. Through my involvement with the Stevenage Teacher-Led Development Work (TLDW) group, I had already witnessed the ripples of reflective action having a greater impact than participants initially envisaged. I planned to empower teachers to realise their professional worth, whilst still maintaining the centrality of their teaching roles, supporting them in becoming instigators of change and innovation. Additionally, I intended my research to contribute to authentic and lasting whole school improvement, building both internal and external capital.

A community of learners and leaders

I regarded Lesson Study as a vehicle to facilitate genuine collaboration and capacity building. I wanted to grow professional capital, by engendering collective efficacy and a community of learners. I also wanted to create a community of leaders, so individuals feel a deep sense of empowerment and autonomy, and a personal commitment to the work of the school (Mitchell and Sackney, 2000: 93)

There are varying definitions of leadership, many of which are restrictive and divisive. My enthusiasm for teacher leadership, whom may or may not hold formal positions of responsibility, is drawn from my longstanding involvement with HertsCam (see introduction for explanation). At the end of Chapter 3 I explore the claim, initiated by Stenhouse (1975), who proffered the concept of 'teacher-as-researcher'. Later scholars built on this, including Frost (2013), whose thinking is at the core of HertsCam. This

particular way of supporting teacher leadership brings together evidence gathering with the leadership of collaborative processes, focusing on improvements in teaching and learning (Frost and Durrant, 2003). This aligns with the metaphor of a sleeping giant, referring to the dormant capacity of many teachers to exercise leadership.

> In some schools, we have not permitted the sleeping giant of teacher leadership to wake up and fully stretch its muscles…we always knew the giant was there, but most often we ignored its potential. Sometimes we stepped over the sleeping giant deliberately. Instead of valuing teachers' expertise, we brought in the experts to fix the teachers by providing them with the answers…however once teachers awaken to the potential of their role as leaders, the power of the giant with not be stopped.
>
> (Katzenmeyer and Moller, 2001: 92).

I was keen to find a way to waken this giant in Stevenage schools, in order that we might slowly break free of the shackles of expert advice and of the deficit model which I describe in Chapter 2. This would offer an alternative to external support and would also provide an alternative to a hierarchical, authoritarian school structure, which depends upon those in a formal position exercising leadership. It would build professional capital and, by developing a community of learners and leaders, I would promote the development of participating teachers, pupils and the school as a whole. This would create leadership density (Sergiovanni, 2001), building upon the assumption that a successful school is one in which the maximum degree of leadership is exercised by the maximum number of people.

Conclusion

In this chapter, I argue that the accrual of human capital alone is insufficient. I am confident that the Lesson Study cycle will foster both social and decisional capital, the other two essential components to professional capital. Furthermore, by forming a genuinely collaborative community of teachers, with clear focus and structure, and a determination to improve practice through action, I argue that the benefits will be wide-

reaching. I intended this community of learners and leaders to span several schools, contributing to whole school improvement, including building capacity and increasing leadership density.

In returning to my aims, values and outcomes, I recognised a number of gaps in my thinking. My first aim, to positively impact upon the educational achievement of disadvantaged pupils, remained central. I added a further aim, to create new knowledge about how the Lesson Study cycle can build professional capital. This is an amalgamation of the arguments I develop in Chapters 2, 3 and 4, and gave my research a specific focus which distinguished it from many other writings about Lesson Study.

I added a fourth principal, which was to approach learning as doing, learning as intentional, learning as participating and being with others, and learning as changing who we are (Wenger, 2008). My final principal was to cherish genuine, authentic collaboration, to 'awaken' a community of learners and leaders. This draws on many assertions (Mitchell and Sackney, 2000; Ainscow, Muijis and West, 2006; Sergiovanni; 2001); the verb 'awaken' implies that there is a dormant potential lying within many teachers, which Katzenmeyer and Moller (2001) suggest has not been paid enough attention. I hoped to broaden my research beyond a set of predetermined, external criteria used to judge teacher competence. I did not intend to become overly obsessed with pupil performativity. My final desired outcome was to impact upon teachers' and schools' professional capital (Fullan and Hargreaves, 2012). This also incorporates Putman's (2000) categorisation of bonding, bridging and linking social capital, as well as self-efficacy (Bandura, 1997) and change agentry (Fullan, 1993).

In Chapter 5, I draw on these discussions, and on the preceding three chapters, to outline my conceptual framework. Then in Chapter 6, I present a rationale for my methodology. The chronology of this thesis suggests that my thinking was clearly formed before I embarked upon my research design and project plan. In reality, the process was far more messy (Marshall and Rossman, 1995). Repeatedly, I reflected on and adjusted my values and desired outcomes. They provided a sturdy foundation for my conceptual framework

and methodology, which I detail in Chapter 5 and Chapter 6. They also acted to reaffirm that my research had a purpose and impact. This compelled me to continue with this process, when at times my fulltime work commitments seemed to swamp my ability to focus upon my research.

Chapter 5

Formulating a conceptual framework and research questions

Building upon the arguments in Chapters 1, 2, 3 and 4, which constitute a rationale for my research design, in this chapter I present a conceptual framework. This is the lens through which I view my research, as well as a filter when monitoring the data. The conceptual framework, which I detail in this chapter (Fig 5.2), is a synthesis of these discussions. This is a system of concepts, assumptions, expectations and theories that supports and informs my subsequent methodology (Miles and Huberman, 1994).

In Chapter 1, I present a rationale for my moral purpose, which is to impact upon the educational achievement of disadvantaged children in Stevenage. Then, in Chapter 2, I explore my hypothesis that this can be best achieved by improving upon the quality of teaching (OECD, 2011; Sutton Trust, 2011), and by providing teachers with opportunities to tinker with their practice (Hargreaves, 1999). In Chapter 3, I outline that Lesson Study facilitates professional learning and knowledge creation and transfer. In Chapter 4, I argue that this scaffold has the potential to enable the growth of professional capital (Fullan and Hargreaves, 2012), and advance schools' collective capacity (Harris, 2001); I also explore how genuine collaboration can foster a community of leaders, enhancing teachers' self-efficacy (Bandura, 1997) and collective efficacy (Fullan, 2014). In each of these chapters, I conclude by returning to my aim, values, principles and outcomes. These values, principles and desired outcomes have emerged from my reading, reflection and professional experience.

My research is action-based. I detail the research methodology in Chapter 7, including my planned project. In this chapter, I construct a conceptual framework, explaining my thinking in both graphic and narrative form. I shape a realistic and relevant research question (Maxwell, 2013), and set of research sub-questions, which are influenced by my aims, research stance and desired outcomes (Fig 5.1). The decision to begin with aims and stance, from which questions are formed, was heavily influenced by an action or

project planning approach, which I explain in more detail in Chapter 6. Rather than predetermining questions at the onset of my research, they evolved from ongoing deliberations and readings; they are broad and overarching.

Values and moral purpose shaping my research stance

The conceptual exploration in Chapters 1, 2, 3 and 4, culminates in a clarification of my aims and desired outcomes, which constitute the rationale for research. The theories and assumptions underpinning this rationale are explained in greater detail in the conclusions of each of the previous chapters, as is my moral purpose. It is why I do what I do (Davies, 2006). My moral purpose is shaped by values, which include integrity, emancipation, respect, honesty and authenticity.

These values inform my research stance. Aristotle proposed that 'character is that which reveals moral purpose, exposing the class of things man chooses and avoids'. My choices are informed by these values, and as Fullan (2007a) explains, moral purpose is about both means (the way I approach and conduct research) and ends (aims and desired outcomes). I adopt an axiological perspective in which researchers make their values known in their study and actively report upon their values and biases (Saunders, Lewis and Thornhill, 2007). Such a stance demands an explicit commitment to reflexivity and leads me to question what is intrinsically worthwhile and why (Lee and Lings, 2008). I outline my aims, research stance and desired outcomes in the figure below, with reference to sources that I have drawn on in developing my thinking.

My moral purpose, shaped by these values, informed my ethical research principles (Fig 6.2), which influenced the research design. I explore these principles in more detail in the ethical considerations section of Chapter 6.

Fig 5.1: Aims, research stance and desired outcomes

Aims:

a) To positively impact upon the educational achievement of disadvantaged pupils;
b) To create new knowledge about how the Lesson Study cycle can build professional capital.

Research stance:

a) That practice can and should be improved (Sanders and Rivers, 1996; McKinsey, 2007; Sutton Trust, 2011; Dunford, 2013);
b) That trust, openness and honesty should be fostered (Cordingley et al., 2005; Hargreaves, 2012a; Gregson et al., 2013);
c) That knowledge is an object of speculative understanding (Stenhouse, 1975; Elliott, 2013);
d) That learning has profound influence. It is approached as doing, as intentional, as participating, and as changing who we are (Wenger, 2008);
e) That genuine, authentic collaboration can 'awaken' a community of learners and leaders (Mitchell and Sackney, 2000; Sergiovanni, 2001; Katzenmeyer and Moller, 2001; Ainscow, Muijis and West, 2006).

Desired outcomes:

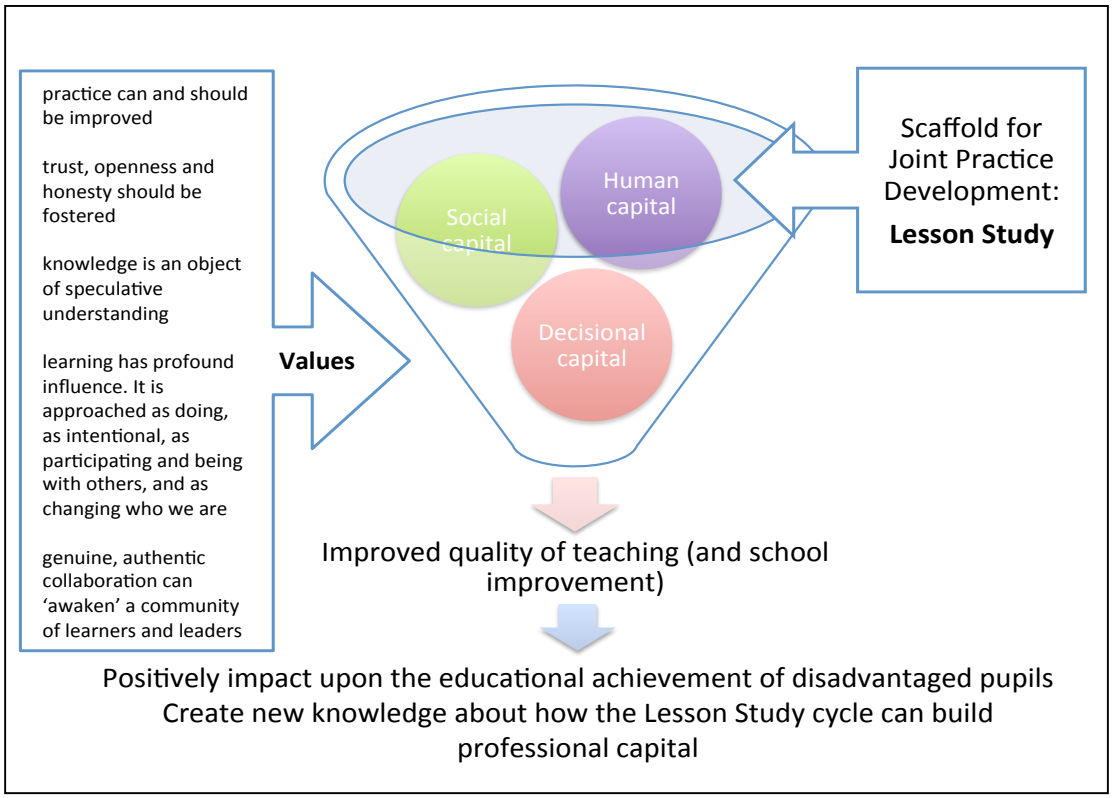
a) To improve educational achievement for disadvantaged pupils;
b) To produce new approaches to pedagogy (Sachs, 2011);
c) To aggregate insights and share information (Lewis, Perry and Hurd, 2004; Dudley, 2011);
d) To grow teachers' and schools' professional capital (Fullan, 1993; Banduara, 1997; Putman, 2000; Fullan and Hargreaves, 2012).

Formulating my conceptual framework

My conceptual framework, which I constructed from the theories and arguments I outline in Chapters 1, 2 3 and 4, as well as professional conversations, experiences and observations, has two key purposes. The first is to act as a lens through which I viewed the phenomenon I explored, the reality I observed. This was my theoretical perspective. As I explain in Chapter 6, this aids my reflexivity. The second purpose of this framework was to filter the data I collected during my research, in order to help me to make informed decisions about what data to collect, how to understand and sort the information, and how to approach my subsequent analysis. Although the graphic I

present in Fig 5.2 is fully-formed, it is more accurate to regard this as a depiction of my emerging understanding.

Fig 5.2: Conceptual framework



In Fig 5.2 I draw upon the image of a funnel. In the text box to the left of the diagram, I detail five statements, which outline my research stance (Fig 5.1). The arrow is intended to denote that these influence the shape and direction of my thinking, my research design and the way in which I interpreted the data collected.

As I explain in Chapters 2 and 3, I chose Lesson Study to facilitate joint practice development (JPD), which puts collaboration at its core. This is shown in the textbox to the right of the diagram, again with an arrow to denote the principles of JPD's influence (Fig 2.6). JPD focuses on teachers working together in a trusting, democratic environment to improve their own and others' practice. Lesson Study has a well-

established tradition (Lewis, Perry and Hurd, 2004), with a set of assumptions underpinning it, which influenced my research design and data collection.

I contended that the carefully structured Lesson Study cycle would facilitate the growth of professional capital. This is depicted in the above graphic as the wide, conical mouth of the funnel, encasing three spheres, which make up professional capital: human, social and decisional capital. I explain this in more detail in Chapter 4. The purple, green and red balls, representing the three components of professional capital, interact with each other, within the structure of Lesson Study. The data I collected was analysed with this in mind. My research design has clear intended aims: the first is to improve the quality of teaching, positively impacting upon the educational achievement of disadvantaged pupils, and the second is to create new knowledge about how Lesson Study can build professional capital. The Lesson Study cycle funnel channels the *liquid*, improvements in the quality of teaching, through the narrow stem of the funnel.

Towards research questions

Perhaps unusually, rather than beginning with a research question that I wanted to answer, I started with one main aim, which was later added to and enhanced. It was out of this aim, my moral purpose and my subsequent reading and reflection that my values emerged, which I revisit in the conclusions of Chapters 1, 2, 3 and 4. It was not until these were clearly articulated and polished, that I was ready to pose further research questions. Whilst the concepts I depict in my conceptual framework (Fig 5.2), such as professional capital (Fullan and Hargreaves, 2012), are borrowed from elsewhere, I built the structure and the overall coherence. It is from this framework that my research questions were formed.

Much of the guidance in structuring an action research project suggests formulating a research question (or questions) from which aims and objectives are derived. Many qualitative researchers see a question as a beginning point; once a satisfactory question is

in place, a study can begin (Agee, 2009). However, Creswell notes, 'our questions change during the process of research to reflect an increased understanding of the problem' (2007: 43). Additionally, 'reflecting on and reformulating the research questions are central points of reference for assessing the appropriateness of the decisions you take at several points' (Flick, 2006: 105). Furthermore, neither the model of school improvement nor the process of lesson planning, with which I am familiar, utilise pre-determined questions. Project or action planning typically starts with an aim. Reversing the process so questions arise *from* school improvement aims also echoes the approach commonly adopted within teacher-led development work (Frost, 2013). Therefore, my research question was distilled from my aim, research stance and desired outcomes (Fig 5.1) and conceptual framework (Fig 5.2), which both draw on the concepts, assumptions, expectations and theories I explore in previous chapters. After much deliberation, drafting and redrafting, I decided upon an overarching research question, underpinned by a set of three research sub-questions, which I outline in the figure below.

Fig 5.3: Research question and sub-questions

Research question: How can Lesson Study build professional capital?

Research sub-questions:
1. How can Lesson Study be most effectively deployed and adapted?
2. How can Lesson Study build professional knowledge?
3. How can genuine, authentic collaboration 'awaken' a community of learners and leaders?

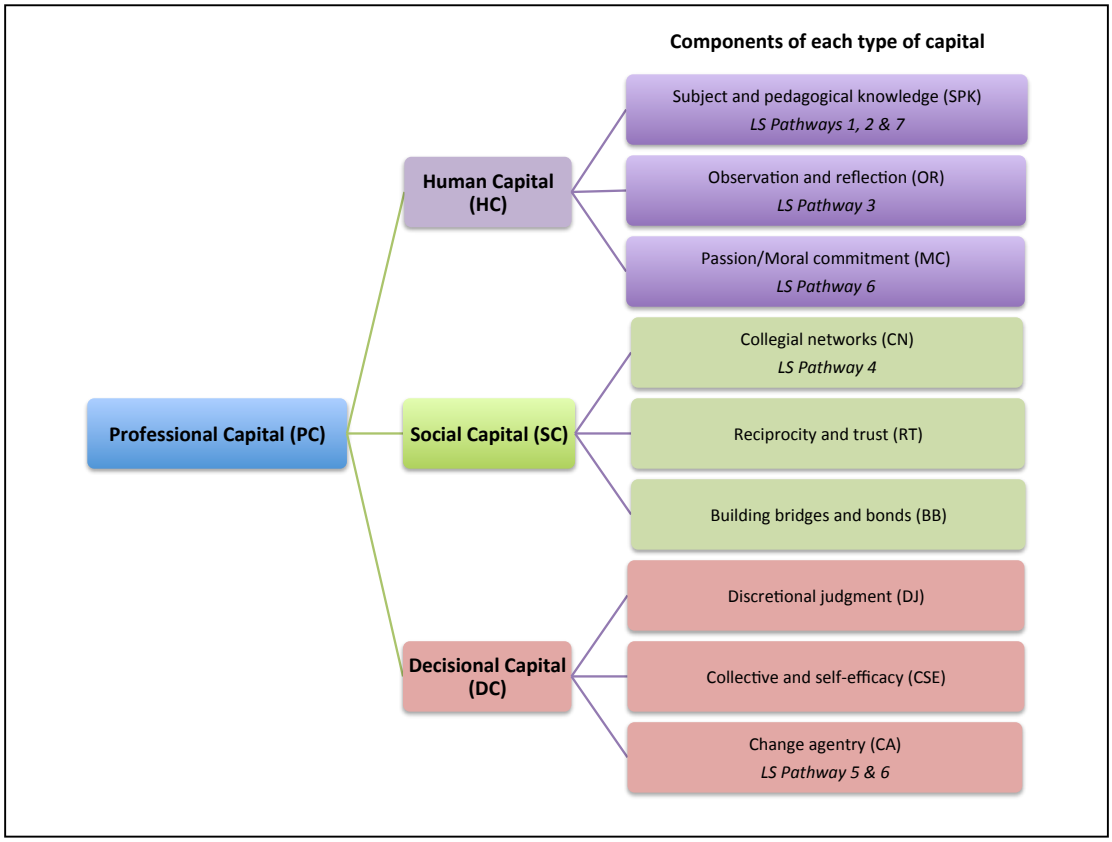
My overarching research question underpinned the research and project design. It refers to both Lesson Study, drawing upon the body of literature I explore in Chapter 3, and building professional capital, comprised of human, social and decisional capital. I devised a diagrammatic framework in order to untangle the various strands of the concept. I settled upon a tree diagram (Fig 5.3a), which is an attempt to separate the components that make up each strand of professional capital, interwoven with the seven pathways (Fig 3.1), identified in Lesson Study literature (Lewis, Perry and Hurd, 2004).

The first branches segment the three aspects of professional capital, human, social and decisional (Fullan and Hargreaves, 2012), with a further branch entitled 'Components of each type of capital'. The categorisation is my own, although I drew heavily on explanations in previous chapters. The bracketed letters are to help with clarity when coding data, which I explain in Chapter 6.

In the purple boxes, I untangle the sub-strands of human capital. Highly qualified teachers have content knowledge, understanding of child psychology, emotional intelligence and capability in relationships. In determining this categorisation, it became clear that Lewis et al.'s (2004) pathways primarily focus upon the accrual of human capital. I entitle the first strand 'subject and pedagogical knowledge' (SPK), drawing on Hattie's (2003) characterisation of expert teachers (Fig 2.1), which includes developing deeper representations, improved pitch and differentiation, and increased accuracy of feedback to pupils. Pedagogical knowledge links to the second and seventh pathways: increased pedagogical understanding and an improved bank of lesson plans.

The second strand refers to observation and reflection (OR), related to the third pathway, increased ability to observe pupil learning. Data collected during Lesson Study could include academic learning, motivation and social behaviour (Lewis, 2002b). Therefore, teachers develop an increased ability to observe pupil learning, characterised by Chen (2013) as the *lesson eye*; I was interested in teachers' reflection and how it develops their professional capital. In the third strand, I highlight teachers' passion and moral commitment (MC), which is connected to their moral purpose (Fullan, 1993) and the sixth pathway, greater teacher motivation.

Fig 5.3a: Professional capital and Lesson Study



The green boxes relate to social capital, including trust, collaboration, collective responsibility, peer pressure, mutual assistance and networks. The first strand, collegial networks (CN), draws from Lewis et al.'s (2004) fourth pathway. Benefits of networks include opportunities for teachers to consume and generate knowledge, ideas that challenge rather than merely prescribe generic solutions, a vision of reform that excites, encouraging risk-taking in a supportive environment, and a community that respects teachers' knowledge alongside knowledge from research and reform (Lieberman and Miller, 2004). The second strand, reciprocity and trust (RT), are recurring themes in literature on both Lesson Study and collaboration. The third strand incorporates Putman's (2000) bonding, bridging and linking social capital (BB), considering the impact of both intra- and inter-school collaboration. I envisaged that social capital would be evidenced through improved teacher talk.

The red boxes describe the components of decisional capital, a term coined by Fullan and

Hargreaves (2012), referring to teacher judgment, honed through experience and lots of practice. Decisional capital is the ability to reflect both alone and together on their practice, and to adjust practice to improve pupils' learning accordingly. The first strand is discretionary judgment (DJ), referring to teachers' confidence in making their own decisions, taking risks and acting upon pupil voice. The second strand refers to teachers' development of self-efficacy (Bandura, 1997) or collective efficacy (Fullan, 2014) (CSE), evidenced in teachers articulating a growing wisdom and a sense that they are making a difference. The third strand is change agentry (CA). Teachers may impact on whole school improvement and pupils' academic outcomes and behaviours, feeling less like puppets in an overbearing system and more empowered to affect change. These strands draw upon Lewis et al.'s (2004) fifth and sixth pathways: a stronger connection between daily practice and long-term learning aims, and greater teacher motivation and sense of self-efficacy.

My subsequent research sub-questions were an attempt to further interrogate this overarching question. The first question explores the mechanics of Lesson Study, the second the role of knowledge creation and transfer, and the third the role of collaboration in engendering learning and leadership. This third sub-question relates to my determination to develop teacher leadership. These questions were not in addition to my exploration of professional capital but rather further ways of unpicking the intended positive impact.

The first research sub-question is a practical consideration of how to best facilitate Lesson Study within a busy English primary school, drawn from the literature I detail in Chapter 3. Answering this question was most important in the early stages of my research, which I recount in Chapter 7 (Episode 1). I posed this question to ensure the future success of my research, however, it proved of interest throughout my journey and I repeatedly reflected on how Lesson Study could be best deployed and adapted within my context. Those interested in my research asked the most questions about these practical considerations. This was particularly true of those active within the HertsCam network, who were already committed to encouraging teacher leadership.

Fig 5.3b: First research sub-question

How can Lesson Study be most effectively deployed and adapted?

i. practical considerations (e.g. supply cover, impact on the timetable);
ii. formation of teams (e.g. balance of expertise, different year groups);
iii. improvements/adaptations to the cycle (e.g. time scale, proformas);
iv. challenges and barriers.

My second research sub-question specifically addresses knowledge building, drawing on literature about knowledge creation and transferring and its role in continued professional development. I was interested in unpicking how the participants in my research engaged in this process. The figure below is an attempt to anticipate the kind of examples of knowledge building that I might discover, although I knew from the onset that this list was not exhaustive.

Fig 5.3c: Second research sub-question

How can Lesson Study build professional knowledge?

i. make tacit knowledge explicit - the transfer of 'sticky' knowledge;
ii. create of new 'cognitive artefacts' (e.g. common goals, synthesis of ideas);
iii. come to a deeper understanding through interactive questioning, dialogue, and continued improvement of ideas;
iv. apply transferred knowledge (subject or pedagogical) to new situations.

This second research sub-question relates to my research stance; I frame the nature of knowledge as an object of speculative understanding. One intended outcome was to produce new approaches to pedagogy (Fig 5.1). This interlinks with my interest in the accrual of human capital, most easily understood as building professional knowledge. For example, the application of transferred knowledge (subject or pedagogical) to new situations, translates to the first sub-strand of human capital in Fig 5.3a.

My third research sub-question addresses the collaborative principles of Lesson Study, with the capacity to build professional capital. This drew upon the arguments I rehearse in Chapter 4.

Fig 5.3d: Third research sub-question

How can genuine, authentic collaboration 'awaken' a community of learners and leaders?

i. enhance teachers' own practice;
ii. build trust and social capital;
iii. generate evidence of 'teacher-as-researcher';
iv. encourage a sense of empowerment and autonomy.

This relates to my research stance that genuine, authentic collaboration can 'awaken' a community of learners and leaders. As I explore in the conclusion of Chapter 4, the verb 'awaken' implies a dormant potential that through a collaborative process can be released and empowered. This draws upon the work of Katzenmeyer and Moller (2001), who suggest that all teachers have this capacity within them. This sub-question overlaps human, social and decisional capital, and upon reflection, it is perhaps another way of stating my commitment to the building of professional capital.

Conclusion

In this brief chapter I clarify my values, which inform my research stance. I construct a conceptual framework for my research, drawing together a system of concepts, assumptions, expectations and theories which I explore in Chapters 1, 2, 3 and 4. I also outline my research question and sub-questions. These align with my research stance and conceptual framework, providing a lens through which to make sense of the data collected.

In Chapter 6, I detail my methodology, culminating in the tools I planned to use to gather my data. My conceptual framework guided me to select appropriate methods and to justify my research design (Maxwell, 2013). In Chapter 7, I present a critical narrative of my research, referring back to my conceptual framework as I reflect on and unpick my data. As becomes apparent in Chapter 7 and 8, some of the categorisation I detail here was not as clear-cut as I had thought at its conception. As I collected and analysed my data, through a reflexive process, I engaged with and reshaped my conceptual framework. This is particularly true of the terminology and categorisation in Fig 5.3a, which I reviewed and adjusted throughout my research.

Chapter 6

Designing a methodology and developing a project design

My overarching research aims were to positively impact upon the educational achievement of disadvantaged pupils, and to create new knowledge about how Lesson Study can build professional capital. In Chapter 2, I argue for a focus on developing teachers' expertise, presenting a case for the importance of joint practice development (JPD) (Hargreaves, 2012a). In Chapters 3 and 4, I argue that Lesson Study could facilitate the growth of professional capital (Fullan and Hargreaves, 2012). I explain my research stance (Fig 5.1), conceptual framework (Fig 5.2) and research questions (Fig 5.3) in Chapter 5.

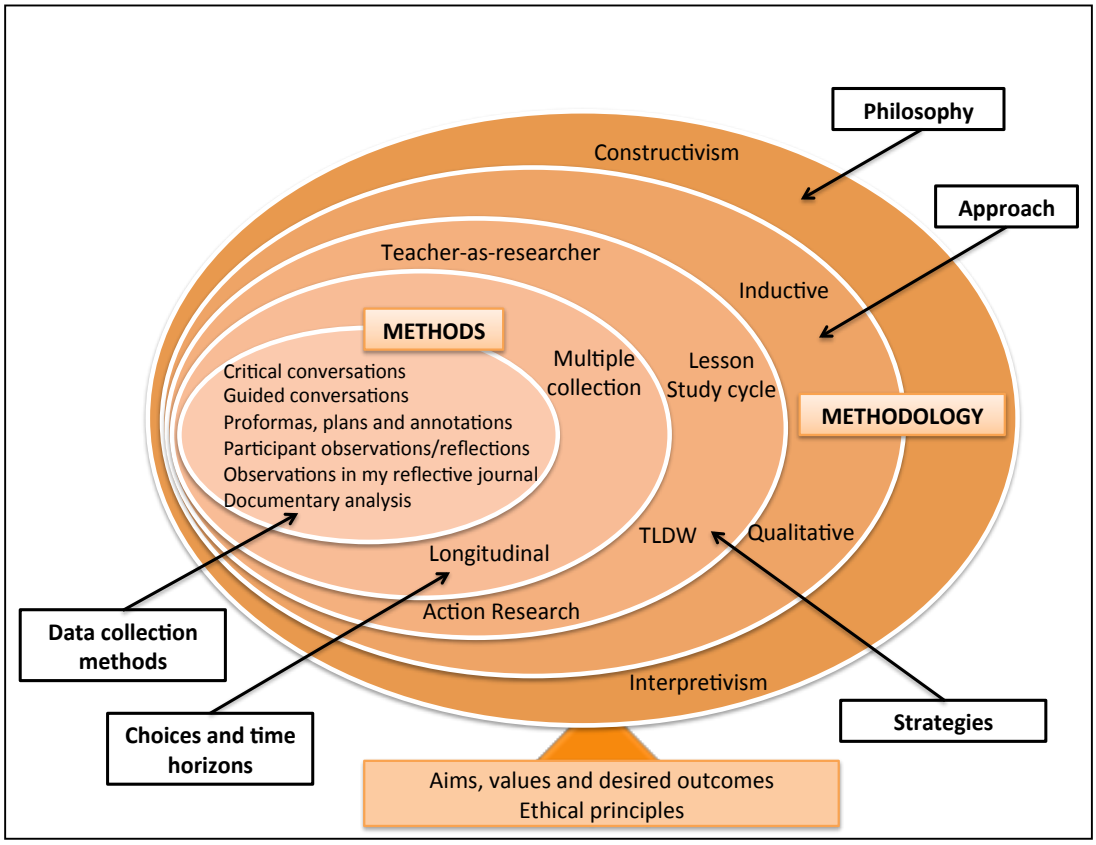
In this chapter, I detail the justification for my project design, presenting a comprehensive explanation of the rationale behind the research methodology, and unpick the stages in my project. My methodology is action-based research, and I draw heavily upon a model of action research. Throughout my plan there is a strong improvement strand, influenced by my experience of teacher-led development work (Frost and Durrant, 2002). Whilst I drew upon various strands of action-based research, it was my aims, research stance and desired outcomes which ultimately guided my decisions.

I begin by outlining the philosophy that informed my methodology and overarching research strategy. This prefaces a discussion on ethics, detailing the ethical principles that underpin the methodology. Next, I explore the nature of my methodology, influenced by the action research tradition, outlining my role as 'teacher-as-researcher' (Stenhouse, 1975). I also discuss envisaged challenges of project leadership. I detail the step-by-step explanation of my plan, making reference to the Lesson Study cycle, which sits within a wider research process. Finally, I explore proposed methods and tools for data collection, followed by an explanation of my interpretation and analysis of this data.

Philosophy and approach: my research strategy

In developing my research strategy, I found Saunders, Lewis and Thornhill's (2007) illustration helpful. In the model below, each layer of the onion illustrates a consideration in the research process, depicting the diagrammatic progression of research methodology. As suggested by Bryman (2012), I exploit its adaptability to define and explore the layers of my methodology. Drawing upon Roberts' (2015) research, I added roots to my onion.

Fig 6.1: My research onion



I began first with my aims, research stance and desired outcomes, determined that my research would have a discernible positive impact on both teachers and pupils, and that it would be embedded within, rather than imposed upon, teachers' daily practice.

The first layer encapsulates my philosophical stance. Assumptions, shaped by my research philosophy, provide a justification for the way in which I undertook the research (Flick, 2011). My research is structured with an ontological framework, specifically constructivism. As argued by May (2011), the researcher's philosophical stance inevitably defines the type of knowledge being investigated. This philosophy assumes that there is no external reality and instead is it multiple and relative (Hudson and Ozanne, 1988). Therefore, as an observer I create inherent meaning of social phenomena, making it difficult to interpret in terms of fixed realities (Neuman, 2003). My lens shaped both the research and my conclusions, which are speculative and constructed through my interpretation of reality.

By adopting an interpretivist philosophy, it follows that I assume a more personal and flexible research structure (Carson, Gilmore, Perry and Gronhaug, 2001), in order to make better sense of what I perceive. As an interpretivist researcher, I entered the field with some prior insight into the research context. This philosophy assumes that a fixed research design is insufficient due to a complex, multiple and unpredictable reality (Hudson and Ozanne, 1988). I therefore remained open to new knowledge. Use of such an emergent and collaborative approach is consistent with the interpretivist understanding that humans have the ability to adapt, and that no one can gain prior knowledge of time and context-bound social realities. My philosophical and research stance are of course closely aligned, and much of what I discuss here resonates with the points I outline in Fig 5.1. Common to the social sciences, interpretivism typically lends itself towards qualitative data collection, relying on small numbers of respondents, in order to illuminate their subjective experience. I intended to explore how teachers interpret their own reality (Bryman and Allen, 2011). This attractive challenge necessitates designing a methodology to explore social phenomena (Feilzer, 2010), shaped as much by respondents as myself as researcher.

My approach is best understood as inductive (Silverman, 2013), as I start with observations and theories, that are then formulated towards the end of my research (Goddard and Melville, 2004). In solely inductive studies, no theories apply at the

beginning of the research and the researcher alters the direction of the study after the research process has commenced. This does not entirely reflect my stance, as I committed myself to action and therefore had a strong theoretical perspective. Inductive reasoning is often referred to as a 'bottom-up' approach to knowing, in which the researcher uses observations to build an abstraction or to describe a picture of the phenomenon that is being studied. Nevertheless, I still drew upon considerable pre-existing research, which I distilled when constructing my conceptual framework (Fig 5.2). I then designed a methodology that moves from general theory to specific knowledge gained through my research and experience (Kothari, 2004). My project design retained flexibility, given the reflexive stance of my research.

My philosophy is premised upon the assertion that action and problem-solving have powerful outcomes, as ways of reshaping and creating new knowledge. Lewin stated that in order to really understand something you should try to change it; 'research that produces nothing but books will not suffice' (1948: 203). I intended to build upon these assertions, planning to change the way teachers experience professional development, how they learn from one another and how they build knowledge. I also intended to produce the desired outcomes which I describe in Chapter 5 (Fig 5.1).

Ethical challenges and considerations

Academics often assume that anyone undertaking research, particularly in the field of education, will give due consideration to the ethical challenges that they might face. To this end, the University of Cambridge provides an ethical checklist, which my supervisor and I were required to read and sign. While I dutifully read and digested this document, and also took account of the BERA guidelines for ethical research (2011), it seemed somewhat artificial to superimpose a set of ethical regulations upon a project which had at its heart a desire to impact upon everyday classroom interactions and to become embedded in participating schools' practices. Learning rather than research remained my

main goal, and I identified myself less as a researcher and more as a practitioner facilitating school improvement.

Both epistemologically and ethically I intended for my research to 'make a difference' and agree that this should be the moral imperative of any research (Zeni, 2000). As a change agent (Fullan, 1993), I considered it essential to contribute to school improvement and pupil outcomes. To do any less would in itself be unethical; I have spent some of my career developing this work, some of my study is funded by public money allocated to my schools, and I feel a moral imperative to impact upon pupil outcomes. Therefore, my considerations centred upon the ethics of action and ethics in context.

Throughout my research, I engage in praxis, the act of reflection and action (Freire, 1970), a cyclical process of experiential learning (Kolb, 1984). Ethics praxis is ethical action, involving a constant interplay between interpretation, understanding and application (Gadamer, 1979), changing both the researcher and the external world. This ethical action requires practical wisdom and reasoning, phronesis, which dictates a moral disposition to act truly and rightly (Grundy, 1987). I discuss the tension of being both researcher and practitioner below, as I explore Macfarlane's (2007) notion of the academic citizen and the responsibility to conduct ethical research. I outline the considerations at each stage of the research process, unpicking the need to establish ethical relationships, acquire informed consent and ensure anonymity.

Academic citizen

I was drawn to the idea of the academic citizen and their community responsibility (Macfarlane, 2007). The ethical paradigms of Macfarlane's work are drawn from Aristotelian philosophy and 'virtue ethics' (Anscombe, 1958; MacIntyre, 1983). Macfarlane describes a disconnect between universities and their communities, resulting in a retreat from citizenship, and claims that academics typically become inward rather than outward looking. Consequently, prestige and kudos rests solely on the personal achievements of the research. He suggests a series of moral virtues for the academic citizen: engagement, guardianship, loyalty, collegiality and benevolence. He also applies

a similarly strong ethical lens to academic leadership, arguing that one should take on the role of model, mentor, guardian, enabler and ambassador. This resonates with my approach to research.

Above, I describe my scepticism regarding regulatory research codes and guidelines. Macfarlane argues that these 'tell researchers what they must *not* do', acting more as 'gatekeepers to the research process rather than ethical mentors or guides' (2009: 4-5). The greater importance he places upon relationships resonates with my stance and aligns with praxis ethics. Macfarlane argues that the researcher often adopts a passive role, rather than viewing themselves as a deeply engaged moral agent who must make ethical decisions in the face of variegated and changing situations. He describes complex ethical decisions that underlie the entire research process. Committed to 'virtue theory' (Macfarlane, 2009), he argues for respect for research 'rules' but also respect for human dignity and the worth of others (Fjellstrom, 2005). The virtues that he highlights are courage, respectfulness, resoluteness, sincerity, humility and reflexivity. He attributes the erosion of these virtues to our performativity culture, with relentless demands regarding research outputs.

This resonates with my reflections on the education system. I determined to draw upon these virtues as the principles to guide my research design. It also aligned closely with my values, which inform my research stance (Fig 5.1).

Fig 6.2: Ethical principles of my research design

- **Courage** – I should not fear failure and I should take risks. I should challenge orthodoxy and add fresh perspectives.
- **Respectfulness** – I should avoid deception, manipulation and partiality.
- **Resoluteness** – I should demonstrate commitment, motivation to succeed and flexibility.
- **Sincerity** – I should endeavour to tell the 'truth', without concealment or exaggeration. I should act authentically.
- **Humility** – I should recognise my contribution is merely incremental in the larger academic contribution to knowledge.
- **Reflexivity** – I should provide 'windows' for reflection.

Ethical considerations at each stage in my research

In designing my research, I identified and thought through the different ethical tensions, so I could justify the decisions I made and the rationale behind them. I endeavoured to balance the protocols of research with the well-established policies and practices of the schools. Wellington (2000) describes ethics as a moral principle or code of conduct that guides what people do and as such, should be at the forefront of any research project and should be continued through to the write-up and dissemination stages. However, I also wanted to avoid overly bureaucratic processes, which Haggerty (2004) terms the 'ethics creep'.

> Ethics is a bit like jazz. It is more than simply following notes on the page. It demands improvisation and an ability to be an interpreter of moods and situations. No two renditions will ever be exactly the same.
>
> (Macfarlane, 2010: 25)

In clarifying my thinking, I drew upon and adapted Creswell's (2007; 2013) work. I developed a staged approach, integrating the action-based nature of my research, something not explicitly addressed by Creswell. I also incorporated my ethical principles (Appendix 6a).

Establishing ethical relationships

My core rationale (Stutchbury and Fox, 2012) was to ensure that I established genuine, authentic collaboration and openness, trust and honesty (Fig 5.1), and it was these, alongside the principles of my research design (Fig 6.2), upon which I made my ethical decisions. Nevertheless, the nature of my personal engagement and insider stance inevitably blurred the boundaries. The power and agency should not reside with me only; as Zeni observes, 'untangling these roles can present knotty challenges' (2009: 256). My greatest challenge as facilitator was to empower others, whilst retaining an oversight of my research. I discuss this leadership challenge later in this chapter.

This dilemma led me to deontological considerations (Kant, 1964), and the principle of not doing harm, as I recognised the vulnerability of some of the participants. Teachers

may not be accustomed to other teachers watching them teach, nor may observers feel that they are sufficiently experienced to take on this role. Such assumptions cultivate a set of characteristics that one might attribute to a perceived expert or a senior leader. In my view this perception is flawed, but it is one that is held by many teachers. In order to minimise the harm of anxiety and feelings of intrusion, I planned to reiterate the underlying principles of Lesson Study and reassure participants. I was drawn to Meyer and Holman's (2006) proposal that caring should be central ethical standard for action research. Throughout my research, I remained as open, honest, fair, truthful and considerate as possible.

Another deontological consideration is the challenge of excessive workload (DfE, 2015). Teachers are busy, having multiple demands on their time, and I was acutely aware of the seemly insurmountable piles of paperwork. I therefore determined that my research would not add to this burden, unless it had a tangible positive effect on teaching and learning. Therefore, when designing my tools and data collection, I avoided time-consuming methods.

I was aware that throughout my research I would need to make difficult decisions. These could include observing poor teaching which was detrimental to the pupils' development or learning, or collecting data which revealed deficits. These are challenging obstacles, yet they mirror those I face in my everyday professional life; they reflect the challenge of educational leadership. I was uncomfortable with Kemmis' (2006) insistence upon 'telling unwelcome truths' about what goes on in the classroom in order to transform practice. Although rarely cited in ethical guidelines, I intended my research to support rather than compromise established relationships. This is where leadership meets research.

Informed consent in the context of professional collaboration

The norms of qualitative research accept that I was involved with participants and may affect or be affected by events; however, this relationship was limited by anonymity and informed consent. In practice, I could not inform participants about everything (Cohen,

Lawrence and Morrison, 2011), and I recognised the need to revise and renegotiate my decisions, in response to unforeseen events.

Anonymity was also negotiated as our conclusions and successes were shared with a wider audience; therefore, on occasion it was neither practical nor desirable. Anonymity assumes participants would want to keep their identity a secret, which was not the case in my research. I was keen that participation was voluntary, however many teachers were required join a team, as part of their continued professional development; this presented an ethical tension. I resolved this by respecting participants' requests for anonymity. In establishing a research protocol, I outlined a code of practice when teachers first met, and ensured I reiterated this regularly. This included a commitment to confidentiality, a concept with which teachers are very familiar. I endeavoured to involve teachers in the validation of my conclusions, presenting information in an accessible way. As such, multiple voices and interpretations are interwoven into the final text (van de Berg, 2001).

The voluntary participation of pupils proved to be more problematic; however, for pupils this is no different from their daily experience of school. Pupils are used to leaders carrying out lesson observations, visitors in their classroom and teachers making notes on their learning. Hubbard and Power (1999) describe the strange world of research where chats with pupils become 'informal interviews', discussion circles become 'focus groups' and pupils' work becomes 'data'. Use of photograph and videos, was conducted in line with schools' digital images policy. Lesson Study is based upon the notion of equality of all teacher participants (Lewis, 2002a); as far as possible, I extended this principle to pupils. I also adhered to data and child protection regulations, as I do in my daily working life.

Nature of my methodology

The third layer of the onion (Saunders et al., 2007) defines my research strategy. Reluctant to select a strategy, I determined my own methodology, primarily adhering to

the ethical principles I outline above, and ensuring the project design enabled me to adhere to my values and desired outcomes (Fig 5.1). In this section, I describe the nature of my methodology, drawing upon the paradigms of action research, 'teacher-as-researcher' and teacher-led development work. I take account of potential leadership challenges and how I envisaged I would overcome these. I define my strategy as a precursor to formulating the project's structure, selecting my tools and process of data collection.

Drawing upon the action research tradition

As I explore in Chapter 3, a Western viewpoint could categorise Lesson Study as an early example of action research. My research is action-based, with Lesson Study integral to my research methodology. Lewin (1948) coined the term action research, describing a process of planning, action and searching. It is 'a small-scale intervention in the functioning of the real world and a close examination of the effects of such an intervention' (Cohen and Manion, 1994: 186); a 'flexible, situationally responsive methodology that offers rigour, authenticity and voice' (Cohen, Manion and Morrison, 2011: 241). Kemmis and McTaggart define that, 'to do action research is to plan, act, observe and reflect more carefully, more systematically, and more rigorously than one usually does in everyday life' (1982: 10). Both my action-based research and the Lesson Study intervention are aligned with these definitions.

My research aligns with the four main stages typical of action research: planning, acting, observing and reflecting (Lewin, 1948). Kemmis and McTaggart (1982) also included preliminary reconnaissance before commencing the first action; I document this in Chapter 7 (Episode 1). Once initial data has been gathered, action can be described and evaluated, which leads to revisions and a second action step. This expansion of the process, depicting a spiral of action, chimes closely with my research. I heeded Hopkins' warning that, 'the tight specification of process steps and cycles may trap teachers within a framework which they may come to depend on and which will consequently, inhibit independent action'. (1993: 54). Elliott (1991) attempts to outline some of the difficulties imposed by the apparent neatness of models when, in his spiral depictions of the action

research process, he introduced 'ors' and 'eithers', in attempt to recapture the messiness of action research. McNiff recognises that rigid, linear models lack the flexibility needed to deal with moving situations; existing models 'simply do not accommodate spontaneous, creative episodes' (2013: 31). Handy reinforces this maintaining, 'as individual human beings we should take delight in this lack of certainty since it carries with it a guarantee of ultimate independence' (1993: 13).

I was determined that my research and professional practice should align. The distinctions between action research and everyday teaching include thinking more deeply about teaching, problem-posing motivated by a quest to improve, research carried out by particular teachers to improve their *own* work and recognition there is not just one scientific method. Kemmis and McTaggart (1982) describe action research as a form of collective self-enquiry, seeking to enable participants to develop a greater understanding of their practices. However, in such a definition, with an emphasis on enquiry, reflection and understanding, practice is not prioritised. This for me is problematic.

I knew from the outset that reflection would happen at every phase of my action-based research and that reflexivity would also be central to the process. Reflexivity is a self-conscious awareness of the effects that the participants as practitioners and researchers have on the research process; that their values, attitudes, perceptions, opinions, actions and feelings feed into the situation being studied and therefore, researchers need to apply the same scrutiny to themselves that they apply to others. Whitehead (1993) regards action research as a value-laden form of enquiry and Gurney (1989) argues the researcher should be both innovator (posing questions) and implementer (investigating the solutions). In unpicking my project design, I explore the process of reflection and reflexivity in greater detail. I also return to reflexivity in Chapter 7, in describing my approach to critical narrative.

I regard my research as a process of reflective, progressive problem-solving, whose success is determined by the extent to which it improves practice. Therefore, I am more drawn to participatory action research, an approach centered on research in communities,

that emphasises participation and action; this builds upon Freire's (1970) work advocating critical pedagogy. Participatory action research seeks to understand the world by trying to change it, through collaborative enquiry and reflection, which aligns with my values (Fig 5.1) and the concepts I explore in Chapter 4. Within this process, 'communities of enquiry and action evolve, and address questions and issues that are significant for those who participate as co-researchers' (Reason and Bradbury, 2008: 1). This action research is a democratic activity (Grundy, 1987), which is both participatory and empowering. Elliott (1991) argues that this is collective, shaped by organisational and structural forces, resonating with the ideas I depict in my conceptual framework (Fig 5.2). This approach moves beyond a reflective action-planning model (Frost, 1995), with an overemphasis on individualistic perspective, to a methodology with an explicit commitment to school improvement and the leading of change. Elliott argues that 'the fundamental aim of action research is to improve practice rather than to produce knowledge. The production and utilisation of knowledge is subordinate to and conditioned by this fundamental aim' (1991: 49).

This obligation to improve practice informs the methodological design, as this is my moral purpose (Frost, Durrant, Head and Holden, 2000). Elliott (2013) asserted that he classifies this production of knowledge as academic knowledge for knowledge's sake, which does not improve practice. Some Chinese teachers refer to this as 'knowledge in a museum' (Xiangming, 2013). Like Elliot, I am concerned with the interpretation of knowledge informed by pedagogical theories, which are made explicit in practice, enabling teachers to bring tacit theories to the surface. Therefore, both my research methodology and the intervention hinge upon improving practice and rendering tacit knowledge explicit. I find that my thinking aligns with the three principles set out by Elliott (Fig 3.8), thereby realising the notion of 'teacher-as-researcher' (Stenhouse, 1975). Such enquiry and improvement is an attempt to break out of the bind associated with the term 'research'. I was careful that the primary audience for my research did not become academics rather than teachers, since this can have a distorting effect (Somekh, 1995). As I explain above, the centrality of practitioners was the ethical foundation upon which my research shaped. Action research is essentially 'insider research' (Lomax, 2007:

168). I was cognisant that my conclusions would offer 'situational' rather than 'scientific' certainty (Hargreaves, 1994). Indeed, it has been argued that the very concepts of 'action' and 'research' are antonymous. While action marries closely with teaching, research values precision, control and replication. Similarly, the benefit of action research is based upon the principle of free-flowing information, with open and unconstrained communication. In my research, I sought to achieve such communication.

The Lesson Study tradition influencing my methodology

I chose Lesson Study, a well-established methodology, which has been rehearsed and refined over many years in South-East Asia (Stigler and Hiebert, 1999; Lewis, 2002a; Dudley, 2009), as my intervention to support inter- and intra-school collaboration. In Chapter 3, I explore this methodology in detail; the design of my project is heavily influenced by this tradition, its structure, collaborative commitment to action and its theoretical underpinnings. Lesson Study sits well within the action research genre (Elliott, 2013).

Donning the cloak of 'teacher-as-researcher'

Although engaged in research, I was resistant to Hargreaves's (1996) assertion that teaching, like medicine, should be a researched-based profession; as I explore in Chapter 3, I prefer the case set out by Stenhouse (1975) for the 'teacher-as-researcher', as a powerful way to inform policy and practice. Here I make the specific point about the creation and synthesis of knowledge.

> Each classroom should not be an island…teachers working to such a tradition should communicate with one another…they should report their work…a common vocabulary of concepts and a syntax of theory need to be developed…If teachers report their own work in such a tradition, case studies will accumulate…professional research workers will have to master this material and scrutinize it for general trends. It is out of this synthetic task that general propositional theory can be developed.
>
> (Stenhouse, 1975: 157)

Unfortunately, the opportunity to synthesise a growing body of knowledge has largely been missed. In my multi-layered approach, I regard both myself and the participating

teachers, as operating as 'teachers-as-researchers' (Elliott, 2013). My role is also to synthesise the knowledge generated by participating teachers, developing theory and improving practice beyond the parameters of the research. Lomax (2007) summarises teacher research as practical, authentic, rigorous, holistic and influential.

Limitations of these approaches

Action-based approaches have their limitations. Most pertinent to my research are Zuber Skerritt's (1996) observations, which identify three key barriers: single-loop learning and an overdependence on experts or senior members of staff; an orientation to efficiency rather than research and development; and a preoccupation with operational rather than strategic thinking and practice. In my research design, I devised a project plan (Appendix 6b), which endeavoured to overcome these hurdles. Zuber Skerritt's work also addresses the issue of conflicting audiences, including the colleagues with whom the researcher has collaborated, colleagues in other establishments and researchers themselves, suggesting that each category is of equal importance. This resonates with the role of the 'academic citizen' (Macfarlane, 2007), which I explore above. Somekh (1995) stresses the significance of writing in the first person, which in itself runs counter to the academic research tradition. I explain this critical narrative approach to my research at the beginning of Chapter 7.

Teacher-led development work influencing my methodology

My thinking and methodology are heavily influenced by the teacher-led development work (TLDW) methodology. As a committed member of HertsCam, I have participated in and supported others in the participation of TLDW. I am inspired by the stories of project impact, both in the UK and internationally. Whilst 'teacher-as-researcher' (Stenhouse, 1975) and action researcher methodologies share with TLDW a clear moral purpose to improve pupils' education and life-chances, the outcomes of practitioner's research often remain confined to their classroom. Frost suggests that schools are 'failing to harness such research for school improvement purposes' (2013: 2). As I detail in Chapter 4 and depict within the representation of my conceptual framework (Fig 5.2), my research focuses on school improvement by improving the quality of teaching.

I share Frost's (2006a, 2007) frustration that many accounts of practitioner research often feature the idea of findings arising from some kind of empirical investigation, which are then reported in the hope that someone in authority will act on them. I have also witnessed this when academics report Lesson Study findings. I was not prepared to leave the responsibility for leading change to somebody else. In contrast to many accounts of practitioner research, the teacher-led development work approach seeks to enable teachers, regardless of their position in the organisational hierarchy, to lead processes of development. Successful teacher-led development work projects have an immediate impact on practice and capacity. They also lead to changes in the routines and structures of the school so that improvements can be embedded and sustained. The leadership of my research could be seen as akin to TLDW as a leadership strategy, 'support[ing] reflection, evaluation, deliberation and decision making' (Frost, 2013: 8).

The step-by-step approach developed by HertsCam is echoed in my approach to project design, including values clarification, negotiation and consultation, and action planning, with the final step focusing on the contribution to professional knowledge. This resonates with my research stance and desired outcomes (Fig 5.1). I was attracted to the TLDW methodology because of its insistence upon enquiry, and focus on collaboration, school improvement and leadership. Central to TLDW is focus on leadership that enables strategic action. The challenge of leadership is to 'act strategically to set in motion a process whereby colleagues are drawn into activities of self-evaluation and innovation' (Frost, 2013: 211). Through this planned, deliberate, systematic and problematised action knowledge can be created. Frost emphasises the importance of shaping enquiry in the pursuit of professional goals, 'rather than to satisfy academic curiosity' (2013:8). This determination to improve, rather than just to prove, remained central to my research.

I have observed that what is often missing from teachers' accounts is a clear articulation of the impact on pupils. Whilst this is present in the model, it is not guaranteed, since the participating teacher determines the design of the project. There are various ways to determine impact, and yet for many TLDW participants, this can appear an afterthought

or something that is lost sight of as the project unfolds. It is for this reason that I was drawn to Lesson Study, since a focus upon pupils is unavoidable. As I outline above, impacting upon pupils was an ethical imperative and aligned with my aims, values and research stance.

Considering validity and objectivity

In justifying my methodology, I gave consideration to the validity of knowledge, since in academic research, judgements are usually far more concerned with generalisations than with immediate improvement. In contrast, research such as mine moves away from the paradigm of scientific discovery, a more positivist approach with rigorous data analysis that purports to uncover a reliable truth (Cohen, Manion and Morrison, 2011), to a model of interpretivism, where knowledge is more speculative and tentative. I explain my philosophical stance above, and my critical narrative retelling in Chapter 7 aligns with this stance. My research sought to achieve a pragmatic validity, defined by the extent to which the knowledge is practical to participants (Kvale, 1995). Worren, Moore and Elliott (2002) observe the level of adoption of new strategies as an indicator of pragmatic validity.

My research is not objective, for while I carefully scrutinised and reflected upon the process, I held a vestetd interest in its success. This rejection of the quantitative scientific approach is perhaps why most literature exploring action research focuses upon the process rather than the findings, and often devotes even less consideration to improvements in practice. Those who engage in research often feel compelled to quantify their findings or impose false measures of objectivity, such as a control group (Denscombe, 2010). I reject this as ethically questionable and as a barrier to reaching my ultimate goal of improving classroom practice.

Working within a much more participatory paradigm, I chose to communicate in a more transactional way (Lincoln and Guba, 2000). I connected more directly with the participants than some researchers, negotiating with them to create and make sense of my conclusions. Also, methodologies such as mine emphasise the complexity and

uniqueness of the contexts in which educational practice takes place (Somekh, 1995), promoting the ethical commitment to improving practice, which is immediate, direct and integrated into the process of enquiry. Therefore, I was drawn to Creswell's (2013) term 'verification' as a substitute for validity, building upon Lincoln and Guba's (1985) evaluative criteria of trustworthiness, credibility and authenticity, and Macfarlane's principles of ethical research design (Fig 6.2). In Chapters 7 and 8, I explore the role of critical narrative in strengthening generalisability and transferability.

Challenges of leadership

Learning from my previous experience working with schools, I was aware of the challenges of leading an effective community of practice. As a change agent (Fullan, 1993) and one who wished to awaken this 'sleeping giant' in others (Katzenmeyer and Moller, 2001), I planned to exercise leadership. Frost and Durrant (2003) define leadership as capacity building, sharing vision and agency, and embracing a final outcome of transforming professional knowledge. Influenced by HertsCam and TLDW, I regarded enquiry as a leadership strategy and leadership as an enquiry strategy, which were inseparable from my role as a researcher. Within this methodology, dialogue, consultation and voice are essential dimensions (Frost, 2013).

One challenge I anticipated was the structure of and competition between schools, which I knew could be at odds with the values of my research. Holly recognises this tension, as 'action research fosters collegiality, informality, openness and collaboration across boundaries, while institutions veer towards the hierarchical, bureaucratic and formal' (1983: 100).

In my project design, I assumed that this thinking had shifted in the last 20 years, and I imagined that more 'leader-rich' cultures had emerged (Mitchell and Sackney, 2000), with greater opportunities for collaboration, where dispersed leadership would be readily supported and embraced. These 'leaderful communities' (Green, 2002) foster an arena in which teachers' contributions are valued and they can exercise their initiative. Whilst I was aware of the influence of hierarchical, bureaucratic structures of schools, upon

reflection I found that I had underestimated these barriers. I explore this challenge in Chapter 7 (Episode 3).

Coordination of the group required intra- and interpersonal skills, including facilitation, understanding of the group process, effective communication, honesty, sensitivity, commitment and trust. I needed to demonstrate my skill and reputability (Wenger, 2008), and to demonstrate competence, credibility and approachability (Katzenmeyer and Moller, 2001). Corey and Corey (2006) describe effective leadership as centring on getting results in a way that inspires trust. I also needed listening, influencing and group skills. Even from the onset, the list seemed daunting.

My competence to lead this group would be established by engendering hope, rooted in confidence that the direction made sense, even if the obstacles seemed insurmountable (Fullan and Hargreaves, 1998). I planned to legitimate the change process, by making the status quo more difficult to protect and by offering opportunities for joint attention to shared issues. As such, I envisaged that the participants would become change agents (Fullan, 1993). Leithwood and Jantzi (2009) summarise a set of considerations when project managing and managing change: set direction by building consensus about vision and strategy; develop teacher capacity through supervision, support and modelling; build collective teacher capacity through collaborative processes; create organisational structures that favour collaboration; and manage resources strategically. This list resonates with many of the responsibilities which I hold as a school leader, and aligns well with the principles of TLDW. There are also parallels with effective models for continued professional development (CPD), which I discuss in Chapter 2.

Determining my project design

My intervention is Lesson Study, a cyclical research process that sits within my broader action-based research, best understood diagrammatically as a transparency overlaid upon the Lesson Study cycle (Fig 6.3). In this section, I begin with a theoretical overview,

then explore how it would support collaboration. I explain each stage in the project design, setting out the milestones for data collection and deliberate reflection. My project plans, of which there are two versions, present a detailed timeline; the first charts my proposed action and the second plan is a review carried out in light of changing circumstances and reflection (Appendix 6b).

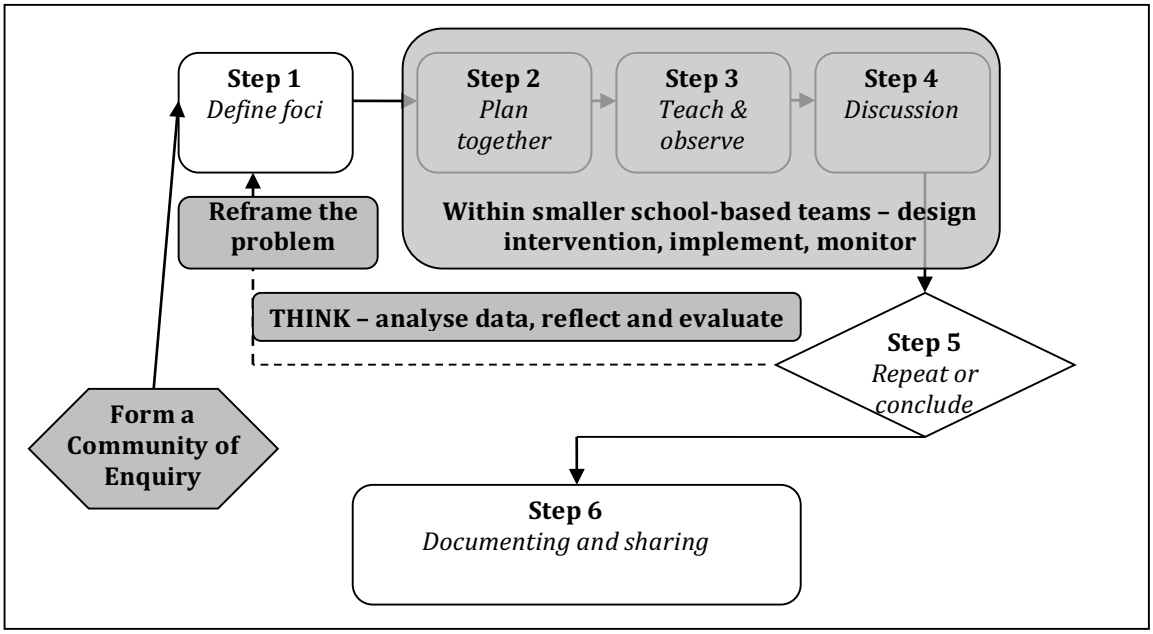
As I detail in Chapter 3, long before the action research cycle in the Western world had been defined, Lesson Study has been practised in South East Asia. An action research process is usually presented as a cyclical one; the researcher identifies a problem and then, after initial investigation, reflects and designs an intervention; they implement and monitor this intervention, then evaluate the process and reframe the problem, before starting the cycle again. This spiral of activity (Kemmis and McTaggart, 1982) or 'research helix' (Stringer and Dwyer, 2005: 5) charts a process of looking, thinking and action (Berg, 2009).

As I discuss above, the act of reflection is embedded within my research. Influenced by Dewey (1933), Schon (1983) later coined the term 'reflective practice', often a feature of action research. This is the cyclical integration of theory and practice through reflection. In this double-loop learning, practitioners rely less on reflection-in-action, the ability to 'think on their feet', and move towards reflection-on-action, the opportunity to reflect upon an experience after the event (Argyris, 1991). Kolb and Fry's (1975) reflective model highlights experimental learning, centring on the transformation of information into knowledge. The practitioner gains an understanding by reflecting on an experience and on the concepts they encounter, and then by then testing this on a new situation. Knowledge is continuously applied and reapplied, building on practitioner's prior experience and knowledge.

My intervention fits within Noffke's (1997) three-pronged description of action research: teachers seek to improve their knowledge and effectiveness (the personal component), engage in collaborative knowledge accumulation and theory-building (the professional component), and support changes in goals and culture (the political component).

Through praxis, the process by which a theory or skill is enacted, practiced, embodied and realised, teachers engage, apply, exercise, realise or practise ideas. In the section on ethics, I explain how I envisaged mirroring this in my own approach to project design. In the diagram below, I place the Lesson Study cycle within a wider framework of my action-based research.

Fig 6.3: Project design with the Lesson Study cycle sitting within it



I split the design of my project into stages, which are distinct from the six steps of the Lesson Study cycle. Despite careful planning, I did not follow this process as closely as I had intended at its conception. The reasons for this are discussed in Chapters 7 and 8, and the changes are shown in my revised project plan (Appendix 6b).

Reconnaissance stage

As my first stage I ran a pilot study within my own school. This spanned an academic year, providing me with an opportunity to learn how to lead Lesson Study. This served many purposes, including exploring the effectiveness of the cycle, learning from leadership challenges, tweaking tools and data collection methods and reflecting upon the process before launching to a wider audience. I discuss in Chapter 7 (Episode 1) this

reconnaissance stage (Kemmis and McTaggart, 1982), along with the tools I developed, where I seek to answer my first research sub-question, 'How can the Lesson Study cycle most effectively be deployed and adapted?'. Throughout my subsequent project design the centrality of intra- and inter-school collaboration remained important. I explore a rationale for this in Chapter 4.

Stage 1 – establishing commitment from headteachers

My first challenge was to convince key protagonists of six local primary schools of the value of my research. I planned to do this through a series of informal conversations alongside an information session, convincing headteachers of the benefits to their school. Stevenage is an area of deprivation and the schools with which I intended to work were under the direction of the Local Authority; therefore, there were a number of other interested parties whom I knew from the onset I would have to cajole. I describe this process in Chapter 7 (Episode 3).

Stage 2 – forming a group, determining the foci and setting the parameters

Once headteachers were committed, I planned to form a group made up of teachers from each school. It would be left to each school's headteacher to decide how many teacher teams would take part in the cycle, although for whole school impact and change, I would urge each school to establish more than one group. I would use the example of the pilot study in my own school to extol the merits of whole school participation.

Drawing upon the recommendations of practitioners at Edge Hill University (Hatchett, Jordan, Matthews and Possible, 2013), I planned to bring this inter-school community together. I would explain the processes and protocols, as well as establishing ground rules and ethos. Initially, I intended this community to attempt to determine common foci. Timperley (2004) argues that a group must have a challenging focus, one that requires teachers to reconceptualise, unlearn, or make changes to existing practice and structures. This aligns with Step 1 of the Lesson Study cycle. However, I was concerned that due to conflicting school improvement agendas, these common foci may be rendered impossible. I was hopeful of some overlap, so subsequent discussions could build upon

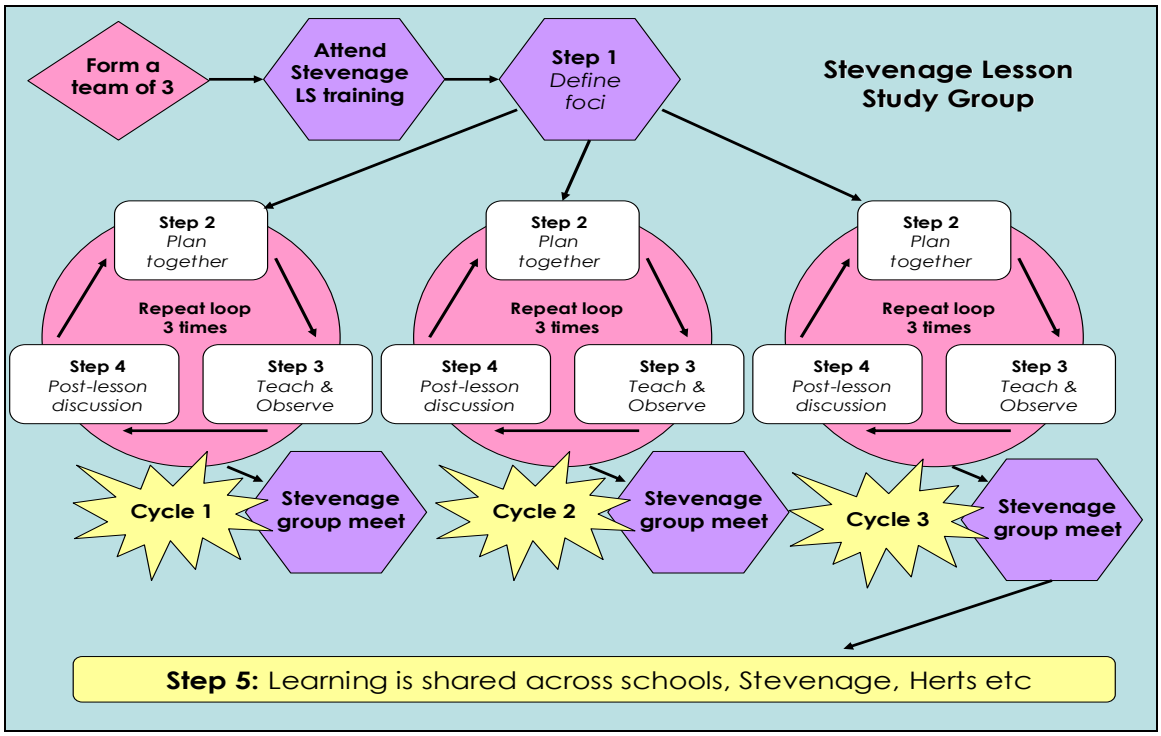
similar themes and concerns. Also, while a community of enquiry may be technically simple to construct, Hargreaves (2003b) argues that its makeup is socially complex. I was aware that this may be compounded by my desire to work with a number of different schools.

I was determined to move beyond a disconnected gathering of selected teachers. I wanted to lead a community of practice, supporting each other, and reflecting and building upon each other's experience to generate new knowledge. Success would depend upon the 'connective tissue' of the group (Allen and Cherrey, 2000), as West-Burnham and Otero (2004) claim that these relationships enable teachers to achieve more than they would accomplish alone, by developing a readiness to trust one another. Bryk and Schneider's (2002) study found that social trust was the strongest facilitator in a professional community. Bringing together participants from different schools, with competing agendas and their own institutional 'baggage', would present a particular challenge. I would need to devote time to building strong relationships, as 'the single factor common to successful change is that relationships improve. If relationships improve, schools get better' (Fullan, 2002: 18).

Stage 3 – conducting the first Lesson Study cycle

Lesson study would commence in each school. At this point, I would retreat and allow the cycles to run unimpeded by interference. Of course, as I explain in Stage 2, each school's interpretation of the process would be slightly different. This first cycle would consist of three loops, all focusing on the same class and retaining the same foci, repeating Step 2, 3 and 4 of the Lesson Study cycle three times. I created a diagram to illustrate this process to the participating schools (Fig 6.4); the pink denotes actions in individual schools and the purple the Stevenage community of enquiry.

Fig 6.4: Stevenage Lesson Study group



Stage 4 – feedback, reflection and evaluation

At the end of the cycle, which was intended to span an academic term, the Stevenage group would then meet together to share feedback, reflection and evaluation. I planned to lead this session and ask participants to focus upon impact and areas for improvement. This impact could include pupils (attainment, disposition, metacognition), teachers (classroom practice, personal capacity, interpersonal capacity), the school as an organisation (structures and processes, culture and capacity), and factors beyond the school (critique and debate, creation and transfer of professional knowledge, improvements in social capital in the community). The tools developed in Stage 1 would support this reflection, and the data collected promised to be rich and informative. In its analysis, I would apply the lens of my conceptual framework (Fig 5.2), in particular the extent to which the process enabled the growth of professional capital.

At the planning phase, I gave consideration to how I would capture any inter-school collaboration, and how to chart dynamics of the group, as they moved from a meeting of

teachers to a community of enquiry. Primarily through observation and my own reflective notes, I intended to capture examples of collaboration being cultivated. I explore my choice of tools in greater detail in the next section of this chapter.

The above explanations for Stages 3 and 4 are best understood as Stages 3a and 4a. Both these stages would then be repeated twice in sequence, constituting Stages 3b and 4b, and Stages 3c and 4c. Throughout this process, I planned to gather and analyse data, relating back to my conceptual framework and research questions. This would enable me to sustain reflexivity throughout the process, and to explore the emerging themes in relation to the concepts I synthesise in Chapter 5.

Stage 5 – information sharing and impact

I envisaged this process spanning an academic year, although I was aware from the onset that events may affect this projection. If I followed my project plan, I hoped to repeat and improve upon the process the following year, possibly introducing new schools. At the planning phase, I decided it was too presumptuous to be more specific, retaining a flexible, situationally responsive methodology (Cohen, Manion and Morrison, 2011). However, at the end of the process I intended to share our insights beyond the community of enquiry itself, as in the Japanese model of Lesson Study. This could take a variety of forms, such as a public display, dissemination of a leaflet, a presentation to a wider audience, writing a paper for a conference, publishing on the UK lesson study website or inviting other schools to see Lesson Study in action. The group would make these decisions at the appropriate time.

Designing tools to collect and analyse data

Here I present a justification for the methods and tools I selected, chosen with consideration to my conceptual framework (Fig 5.2), which I unpick in Chapter 5. Here I chart the time horizon of my data collection, reiterating my commitment to my ethical

stance. I then outline each tool with a brief justification for its selection. I exemplify some of these tools in the appendix.

Choices and time horizon: data collection 'windows'

Before I reach the inner core (Fig 6.1), the next layer is headed 'choices and time horizons' (Saunders, Lewis and Thornhill, 2007). The purpose of my data collection was to explore the research and sub-research questions I outline in Chapter 5 (Fig 5.3). As I depict in the representation of my conceptual framework (Fig 5.2), I envisaged human, social and decisional capital interacting within the *funnel* of my intervention, the Lesson Study cycle.

Just as I am uncomfortable with the term research. I have the same objection to the notion of 'datasets', and consider the term unhelpful in shaping my project design. I observed, when I visited World Association of Lesson Studies in 2013 and 2016, that this trap commonly snared researchers. In these presentations, participants felt compelled to impose the conventions of 'good research' on the Lesson Study process, with the inclusion of control groups, researchers intervening to ensure objectivity and the presentation of quantitative statistics and graphs. Reference to more holistic measures was cursory, and there was very little talk about impact, changes in culture or the embedding of change. It is for these reasons that I deal with these research-influenced definitions briefly below.

My project design and data collection fits best with a multi-method approach. The research is divided into separate segments, each producing a specific dataset (Feilzer, 2010). As with much action-based research, I planned to obtain data by asking questions, observing behaviours and using existing data gathered by others (Schmuck, 2006). I ensured the trustworthiness of my data collection (Wilson and Fox, 2009), by triangulating data generated by teachers, school leaders and myself. This aligned with the ethical principles of my research design (Fig 6.2). Buchbinder, Longhofer, Barrett, Lawson and Floersch argue that this multiple data-collection method becomes a major strength in qualitative research, as it helps to 'broaden the analytic lens' (2006: 49). The time horizon of my project was longitudinal; I would repeatedly collect data over a long

period in order to examine change in perceptions over time (Goddard and Melville, 2004). However, in line with my reflexive approach, this data collection would remain under constant review, being adapted and revised.

Ethical data collection

Earlier in this chapter I state my ethical stance (Fig 6.2) determined that my project design would not impose extra work upon participants. I intended to improve not prove (Cory, 1953; Fullan, 1993; Zeni, 2000), and it was with this at the forefront of my mind that I carefully selected the tools I employed. I settled upon tools which would be least intrusive; these were qualitative, easily accessible and adaptable for the schools involved, requiring limited time to administer. I explain my choice of tools in the next section of this chapter. Whilst these tools provided a structure to data gathering, as I explain in Chapter 7, once I commenced my project I retained flexibility.

Critical conversations

Throughout my research, critical conversations shaped my thinking. These included conversations with fellow researchers, academics, key national and international protagonists in developing Lesson Study, leaders experienced in school improvement and teachers participating in the project. McNiff, Lomax and Whitehead (2003) describe this process of critique as including problematising issues and unpacking hidden assumptions. In order to capture these conversations, and the reflection and action they stimulated, I created a simple proforma (Appendix 6c). The participants in these conversations provided critical perspectives; their role was more active and influential than simple providers of data. This chimes with one of Lomax's (1994) six principles of action research, that by sharing ideas, interpretations and conclusions with an educated audience, participants are able to judge authenticity and relevance within a particular professional context. This approach also resonated with the principles of reflexivity and humility, strands of my ethical stance (Fig 6.2).

Guided conversations

My project plan (Appendix 6b) includes conducting guided conversations (Stinger, 2008). Much research methodology literature terms these semi-structured interviews. However, I prefer to describe these as guided conversations because I understand these interviews as special kinds of conversations (Powney and Watts, 1987), their structure being dependent upon the participants and the purpose. This characterisation resonated far more closely with my day-to-day experience in schools. One of the strengths of guided conversations is their flexibility, enabling the interviewer to rephrase questions, clarify answers and seek elaboration. As Bruner (1987) describes, conversation allows for constant transactional calibration, enabling both the interviewer and the interviewees to check that they are understood.

Nevertheless, I gave careful consideration to these interactions, ensuring they were more than just casual chats (Denscombe, 2010), and crafted open questions in advance of the meetings. These questions provided an overall structure and the possibility to retain control should the conversation begin to deviate off topic, whilst allowing for a degree of necessary flexibility (Drever, 2003). Questions were planned to act as a guide, whilst allowing me to follow-up on the responses given (Hitchcock and Hughes, 2003). I was drawn to Stringer's (2008) classification of grand tour, mini-tour, guided tour and task-related questions, and used this as a starting point to draft questions to prompt discussion (Appendix 6d).

Some of these guided conversations, particularly with teams of teachers, were group conversations, bridging the gap between semi-structured interviews and focus groups, which are usually more like observed discussions (Taber, 2007). There are obvious disadvantages to group conversations and some reliability may be sacrificed. However, I considered the gains, including the comfort level of teachers, the opportunity to reveal and build upon multiple views and the chance to observe the dynamics of the groups' interaction, invaluable. Also, this 'all in it together' approach mirrors the ethos of Lesson Study. I drew upon practical guidance on preparing and leading these conversations (Schmuck, 2006; Wilson and Fox, 2009). Walker and Adelman's (1990) rules for

effective interviewing also offered some helpful parameters, which included being sympathetic to participants and listening attentively.

This guided conversation approach aligned with my ethical stance (Fig 6.2), which valued sincerity, respectfulness and reflexivity. I also chose this conversational approach because it mirrored the way in which professional discussions are often conducted in schools and therefore fit well with how the participants' schools already operate. For Bell (2010) such conversations can prove to be a rich source of information if handled carefully and conducted ethically. However, I was aware that this less systematic approach would make data analysis more difficult (Patton, 1990). Due to time constraints, I did not speak to every participant. I intended for my sample to be representative of the group, and to repeat conversations with these participants at various phases in the project, in order to capture any shifts in thinking.

Proformas, plans and annotations

Teachers already deal with a plethora of paperwork in their day-to-day working lives. Advice from those experienced in facilitation of Lesson Study suggests using proformas with which teachers are already familiar. I learnt that a considerable amount of data can be collected from the cycle itself, as I explain in Chapter 7 (Episode 1). These 'field notes' incorporate a range of data-rich artefacts: the completed Lesson Study proforma with documentation of action and reflection; annotated lesson plans; qualitative notes from participant observers; responses from pupil voice interviews and documentation capturing post-lesson discussion. However, I reject the term 'field', as they were collected from the classrooms and workrooms in which I spend my daily working life. Since I had decided not to play an interventionist role, I was not present when most artefacts were completed, so I took them at face value.

As a result of my pilot study and critical conversations, I adapted the Lesson Study proforma to incorporate several loops within one cycle and clearer prompts for reflection; this built upon Dudley's (2011) guidance (www.lessonstudy.co.uk). I made some further additions of my own (Appendix 6e). My plan was that each team would complete this

proforma alongside a portfolio of evidence, encapsulating their action and reflection throughout the cycle. I would collate and analyse this data, exploring the way in which it captured my key themes. These periodic analyses would feed back into the research cycle, influencing future decisions and emphasis. I explore this approach in Chapter 7.

In keeping with Lesson Study tradition in England, teams would write brief summaries of their cycle, which The UK Lesson Study website calls 'case studies' or 'reports'. These snapshots of practice, or vignettes of study lessons (NCLS, 2005) would provide an invaluable source of data as they would offer the participating teams' distillation of their learning, track the changes in their classroom practice and highlight the benefits of collaboration. My intention was that these summaries would be published on the website, accessible to other Stevenage schools, to add to a growing body of knowledge.

Participant observations and reflections: workshop activities and tools

Through workshop activities I would be afforded the opportunity to move beyond standard questions and traditional methods of data collection. I designed these workshop activities to facilitate collaboration and to capture teachers' thoughts and reflections. They were held at the beginning and end of each cycle, making use of a range of tools, many of which I designed myself.

Unfortunately, much of the sparse literature on the design of creative data collection tools assumes they will be used with children rather than adults. Artistic representations (e.g. pictures or photographs), projection techniques (e.g. role-play or speech bubbles) and visual mapping (e.g. mind-maps or spider diagrams useful for capturing the flow of knowledge) have been utilised by researchers to elicit responses from pupils. Nevertheless, when asking teachers how they learn best, they have stressed the importance of certain structural features such as activities supporting collective participation (Garet, Porter, Desimone, Birman and Yoon, 2001). This certainly resonates with my experience of sitting through lengthy continuous professional development (CPD) sessions, which were overly didactic and formal, with perhaps a cursory evaluation questionnaire tagged onto the end of the day.

Such tools can be found in arts-based research, which seeks to offer participants alternative ways of representing feelings, responses and understandings (Leitch, 2006; Black, 2002). Many of these more creative, child-friendly workshop tools feel less artificial to teachers than traditional approaches to collecting research data. They are versatile, stimulate active respondent involvement and offer insight. However, interpretation is less stable and there are few common templates of such materials (Newby, 2010). I was familiar with tools to prompt discussion and reflection as this is a well-rehearsed approach in TLDW workshops (Frost and Durrant, 2002). Over time these tools have been adjusted and reinvented by the tutor team, employed by the International Teacher Leadership project (ITL) explicitly for the purpose of collecting research data (Frost, 2011). In my project design (Appendix 6b), I retained flexibility so that tools could emerge as the project evolved.

Observations in my reflective journal

Throughout my research, I drew on my reflective journal notes. In a qualitative journal, researchers often write about themselves, their presuppositions, choices, experiences and actions during the research process (Ortlipp, 2008). In part, my journal's purpose was to consciously acknowledge my research stance (Fig 5.1) and how this impacted upon my research, facilitating my own reflexivity (Etherington, 2004). Through a self-conscious awareness of my effect on the research process, I remained aware that my values, attitudes, perceptions, opinions, actions and feelings fed into the situation I studied. These observational notes included experiences logged, anecdotal evidence and personal reflection. I was mindful of the 'muddle, confusion, mistakes, obstacles and errors' that make up the research process, which are exacerbated when the results of the research are presented as 'a seamless, neat and linear process' (Boden, Kenway and Epstein, 2005: 70). This journal was designed to create transparency in my research process; to make tangible the act of critical self-reflection and its impact. I intended to make the process of data analysis as visible and transparent as possible (MacNaughton, 2001).

Documentary analysis

I envisaged analysing formal, published documents such as Ofsted reports, minutes of meetings, newspaper clippings and school websites. Content analysis enables a more objective and systematic summary of written products (Schmuck, 2006), drawing from data less affected by my presence. However, Stringer (2008) warns against assuming that such documents present 'the facts' or 'the truth'. Both at an individual and organisational level, people and groups in positions of power are able to inscribe their perspective, values and biases into official documents and records. I proposed that this method of data collection would only form a small part of the data I amassed throughout my project.

Through this triangulation of data collection methods, I planned to accurately document the process and critically reflect upon it. As I explain above, I intended my research to be flexible and responsive (Rickinson, 2008) for as McNiff maintains, leaders must, 'let go of the need for certainty, as there is no such thing' (2013: 7). Similarly, I maintained flexibility in my analysis of this data, which I explore in the following section.

Analysing and interpreting my data

The research was carried out within my own and others' schools. My determination to improve practice rendered it impractical to separate my experiences, observations, conversations and reflections from an objective analysis of data. Winter (1996) argues that while action research has a methodology for the creation of data, there is little common understanding of how to handle data and carry out an interpretative analysis once it has been collected. This resonated with my thinking.

In analysing the data, it was neither possible nor desirable to apply clinical objectivity. Throughout its collection, I grew to know my data by reading, listening and thinking about it. This process was sporadic, as my daily professional life often became my first priority and my analysis stagnated for a few weeks, by which time my analytic lens had slightly changed. These periods of reflection enriched the process.

> Data analysis is the process of bringing order, structure and meaning to the mass of collected data. It is a messy, ambiguous, time-consuming, creative, and fascinating process. It does not proceed in a linear fashion; it is not neat.
>
> (Marshall and Rossman, 1995: 111)

Throughout, my conceptual framework (Fig 5.2) and the tree diagram with the branches of professional capital (Fig 5.3a) acted as filters, helping me to make informed decisions about what data to collect, how to make sense of it and how to approach my subsequent analysis. My reflexive approach brought both of these figures into question, and throughout my data analysis, I continued to grapple with some of my categorisations and assumptions. There was much data during my research that I neither captured nor gave adequate consideration. Perhaps subsequent iterations of the Lesson Study cycle, outside of this research, will allow me to explore other sets of data with a different conceptual lens.

As part of reflective, action-based research, I built in periodic monitoring. This enabled me to refocus my attention on what was important, reviewing the impact, I was able to reorganise and refine my data collection, threaded throughout the research rather than a post-hoc analysis. As I explain above, my patterns of analysis were partly dictated by the academic year, and my most detailed analysis took place during the long summer holidays. This approach adopts a model of reflection-in-action and reflection-on-action (Schon, 1983).

I developed a framework analysis (Ritchie and Spencer, 1994) with a matrix display, which acted as a practical tool. This enabled the reduction of data through summarisation and synthesis, categorising an otherwise rather fractured discourse, whilst still retaining links to my original source (Appendix 6f). This facilitated the ordering of data into descriptive chunks in a systematic, comprehensive and transparent way. I also wrote summaries and self-memos to capture key points and to help me to keep a coherent record of ideas. The episodes in Chapter 7 do not necessarily chart, 'the ways in which the researcher moves from a description of what is the case to an explanation of why

what is the case is the case' (Hitchcock and Hughes, 2003: 295), since my data management and interpretation became rather more intermingled.

I sorted my data by both theme and by case to search for commonalities, contrasts and comparisons, a process leading to an inevitable and necessary conceptual reduction of data. I resolved to keep an open mind but not an empty head (Dey, 1999), I compared against emerging categories (Glaser, 1992), with the overarching concept of professional capital was my core category (Glaser, 1978). Throughout, I tried to remain cognisant of my biases and standpoints. I found myself, at key marker points, returning to my research questions and conceptual framework, and re-determining my analytical rationale. During this process, I retained a constructivist viewpoint, as social phenomenon has many meanings and is context-bound. My analysis was non-linear, interactive, progressive and 'messy, ambiguous, time-consuming, creative, and fascinating' (Marshall and Rossman, 1995: 111).

Illuminative evaluation

At the end of each cycle, I planned to produce a newsletter, which would summarise our progress, discuss emerging issues, hypothesise about problems and suggest action points. Supported by vignettes and portraitures of individual schools' journeys, this approach would build upon the idea of illuminative evaluation (Parlett and Hamilton, 1972) and portraiture (Lawrence-Lightfoot, 1983; Lawrence-Lightfoot and Hoffman-Davis, 1997), enabling me to 'paint a picture'. Learning from the approach of the ITL project (Frost, 2011), I would use a number of tools to collect data on a range of views; I would then make use of the analysis of this data to sketch an initial portrayal including images and words, which I would feed back to participants and adjusted to take account of their reactions. These portraits would not be a reliable interpretation of hard data since their validity was dependent upon my ability to listen, interpret and depict my understandings. I also hoped that by seeking feedback on the initial sketches, I would be able to produce a more reliable portrait of the process as it evolved. I explore this in Chapter 7 through a dialectic critical narrative.

Conclusion

In Chapters 1, 2, 3 and 4, I construct a rationale for my conceptual framework, which I outline in Chapter 5. In this chapter I detail the methodology, drawing upon the graphic of a research onion to illustrate my thinking (Fig 6.1). In the outer layers of this onion, I summarise my philosophy, approach and strategies. The inner layers depict the data collection methods and my approach to interpreting and analysing this data. Throughout my research design there was a strong ethical thread and a set of ethical principles (Fig 6.2), which influenced the decisions I made. This approach was also heavily influenced by my aims, research stance and desired outcomes (Fig 5.1).

Next, in Chapter 7, I tell the story of my research, in the form of a critical narrative. This recount is episodic. My experience and reflection at each phase of my research affected the next phase. By carrying out my research and retelling the story of this process, I was able to reflect upon its success and also my own learning.

Chapter 7
A critical narrative told in four episodes

In Chapters 1, 2, 3 and 4, I detail the rationale for my research, exploring my conviction that joint professional development (JPD), specifically Lesson Study, has the potential to improve the quality of teaching for disadvantaged pupils. In Chapter 4, I argue that intra- and inter-school collaboration could facilitate the growth of professional capital and help realise the aims of 'teacher-as-researcher' (Stenhouse, 1975). In Chapter 5, I outline my aims, research stance and desired outcomes (Fig 5.1), an approach heavily influenced by my own values and moral purpose. I also present a graphic to represent my conceptual framework (Fig 5.3), followed by my research question and sub-questions. In Chapter 6, I discuss my methodology and, with the aid of my research onion (Fig 6.1), unpack the project design, including the tools used, and clarify my approach to data interpretation and analysis.

In this chapter, I chart my research journey, written as a critical narrative, an approach that I explain below. I tell my story in four episodes, a literary device to make sense of my action and reflection. The title of the first episode is, *'Exploring the Lesson Study cycle'*. In this account, I detail my first exploration of Lesson Study and my learning through the process. My narrative in Episode 1 largely focuses upon answering my sub-research question, 'How can the Lesson Study cycle be most effectively deployed and adapted?'.

In Episode 2, entitled *'Exploring intra-school collaboration'*, I describe the action-based research carried out within my own school; here I present an in-depth exploration of the successes and challenges of leading Lesson Study over the course of an academic year. I explore how my project developed professional capital, and reflect upon the impact on individual teachers and my school as a whole. Episodes 2 and 3 map Lesson Study cycles that ran concurrently, both in my own and other Stevenage primary schools. In Episode 3, I explore my leadership of a project involving a number of local Stevenage

schools, with authentic critique of its successes and failings; it is entitled, *'Exploring inter-school collaboration'*. In Episode 4, reflecting upon and learning from some of the seemly insurmountable challenges, I recount a more fruitful attempt at leading inter-school collaboration. Episode 4 is entitled, *'Developing effective inter-school collaboration'*.

Critical narrative

As with many action research reports, my account is in the form of a narrative. In this section, I explain my approach to critical narrative and how this has shaped the story I tell. Critical narrative mirrors what Butler-Kisber (2010) characterises as the 'narrative turn' in research, outlining an increasing dissatisfaction with reality being seen as purely dominated by scientific law and facts. My narrative tells the story of a collaborative project. The participants include myself, as the researcher. The narrative is located within the context of the evolving experience of all those involved. Heikkinen, Huttunen and Syrjåiå (2007) describe a narrow potential gap between the narratives told by the researcher and the narrative reported by the participants. Through this narrative, the relationships between participants and myself are carefully negotiated.

My critical narrative is a personal story, specific to my research and experiences. It maps a logical sequence of events, reported chronologically. My account is selective, as I make decisions about what to include and its significance. This approach presents the detail of complex human situations and of the fine distinctions that can be made between situational factors (Hooley, 2010). I take a pragmatic approach and my narrative is grounded in real-life knowledge. This account is reflexive and offers unique insight. My narrative tackles the challenges of leadership.

Critical narrative as a sense-making story

Narrative episodes are a way for me to make sense of the research journey. De Fina, Schiffrin and Bamberg (2006) describe the function of this sense making in relation to

external issues and events. Through the narrative, the teller positions both themselves and the stories' protagonists. I am drawn to the use of thick descriptions, which can be more trustworthy and credible than statistics and scales (Geertz, 1973). Common within an anthropological tradition, they are rich and extensive, asserting 'the significance of an experience, or the sequence of events, for the person or persons in question. In thick description (s), the voices, feelings, actions, and meanings of interacting individuals are heard' (Denzin, 1989: 83). I agree with Zeller's assertion that, 'the research narrative is not a record but a product' (1995: 75). It is unashamedly subjective.

My narrative tells the story of the research. According to Aristotle, the most important characteristic of a narrative is its structure: a story has a beginning, a middle and an end. Often researchers are drawn in to telling a *victory narrative* (Stronach and McLure, 1997), which I try to avoid. As I explain in Chapter 6, action research can be messy (Marshall and Rossman, 1995). Whilst writing my critical narrative, I decided when and how to end my story or whether to conclude without any distinct end point. Heikkinen, Huttunen and Syrjåiå (2007) commend such authentic accounts, which embody the aesthetics of incompleteness and the ragged beauty of life. This is particularly the case in Episode 3, which does not follow a fairy-tale narrative where my key protagonists 'live happily ever after'.

Like all good stories, my narrative aims to be evocative, which means that it awakens and provokes thought about things in new and different ways (Heikkinen, 2014). I hope that my narrative touches the reader on an emotional level and that its success is partially evaluated upon aesthetic experiences, such as the feelings or emotions it evokes. I narrate my story in such a way that the research 'rings true', possibly reminding the reader about something he/she has experienced in real life. This approach aligns with my principles of research design (Fig 6.2), valuing respectfulness and sincerity.

Critical narrative as dialogic

My narrative is not a monologue, as it combines different voices and interpretations of the same events. I try to reproduce the voices of different teachers as authentically as

possible, reflecting a multiplicity of perspectives. Hatch and Wisniewski (1995) assert that the credibility of narrative research is based on how well the participants' voices are heard. Many voices can be heard in my narrative, which aligns with my stance to 'awaken' the voice of the sleeping giants (Katzenmeyer and Moller, 2001).

Furthermore, as part of my research, participant teachers were encouraged to discuss my interpretations and assumptions. This polyphony of voices enables social reality to be constructed as a dialogical process (Heikkinen et al., 2007), hearing different voices and interpretations of the same events. The concept of voice is closely related to authenticity of thought, so I reproduced the voices of different teachers as authentically as possible. This approach reflects the ethical principle of sincerity (Fig. 6.2).

Critical narrative as enabling reflexivity

My critical narrative is a reflexive account. The principle of reflexivity is based on the idea of action research as philosophy (Elliott, 2003). This includes ontological presumptions (concerning reality), the process of epistemological analysis (presumptions concerning knowledge) and the principle that research should be transparent. Pivotal to action-based research, reflexivity is based on reflection on previous actions, serving as the momentum that triggers the next cycle of reflection. Throughout my research I planned 'windows' for reflection, forming part of my narrative account.

I was aware of the impact of my personal experiences when interacting with participants and also when telling my story. I understand that 'the self can be seen as a 'research instrument', and action researchers need to be able to take into account their own subjectivity as an important component of meaning making' (Somekh, 2006: 14). Hence reflexivity involves awareness that my subjective experience may be capacitating and enabling, as well as confining and constraining interpretation. My narrative contains the truth of my perspective; I have applied the discipline of research to my story, and therefore I can legitimately claim a weight to my truth. Nevertheless, I am making a suggestive contribution, which provides material for discussion rather than proclaims an ultimate truth. Winter (2002) states that the researcher should actively remind the readers

that she creates the narrative. I do this by writing in the first person and including reflections from my own log as a valid source of data.

Critical narrative as facilitating argument and analysis

I was keen that my *story* was more than a personal narrative, recounting an enquiry into an area of educational practice (Kennedy, 1990). Somekh (2006) claims one should, 'seek a balance between personal narrative and the 'red thread' of an intellectually engaging line of argument' (2006; 196). Throughout my critical narrative, I build my position and develop my argument. Hatton and Smith (1995) suggest that there are four levels of reflective activity: descriptive writing of an event or activity with no attempt at explanation; descriptive reflection on an activity with an attempt to provide possible explanation; dialogic reflection on the issues over time, inner dialogues and investigating various solutions and assumptions; and critical reflection considering the wider aspects including historical and cultural. My narrative documents dialogic and critical reflection. It is therefore an intentionally biased account, persuading the reader to be swept along with my thinking.

Similarly, my approach to data interpretation and analysis is slanted in a particular direction. My conceptual framework (Fig 5.2), the lens through which I observe phenomena, heavily influenced both my project design and monitoring, as I explore in Chapters 5 and 6. My narrative is a way for me to make sense of data, to piece it together as if a patchwork. My experience and reflection heavily influenced the data analysis, contextual and interpretation. Winter observed that, 'we do not 'store' experience as data, like a computer: we 'story' it' (1988: 235). My analysis shapes the telling of my story, often qualitative and descriptive.

Critical narrative strengthening generalisability, transferability and relatability

My research is concerned with immediate improvement rather than generalisability, which refers to whether research conclusions are applicable to the larger population or other similar situations. Thorne argues that, 'the moral mandate of a practice discipline requires usable general knowledge… [Qualitative] researchers in this field are obliged to

consider their findings 'as if' they might indeed be applied in practice' (2008: 227). Ayres, Kavanagh and Knafl argue that generalisability can be strengthened through intensive within-case and across-case analysis. They note that some researchers, 'fail to go beyond the production of a list of themes or key categories' (2003: 881), and do not immerse themselves in their data. My narrative offers a rich, contextualised understanding of human experience through the intensive study of particular cases. The process of 'making meaning' and developing analytic generalisations, relies on my understanding of and engagement with the data.

As I discuss above, my critical narrative includes thick descriptions (Geertz, 1973), upon which transferability depends. Transferability is most often discussed as a collaborative enterprise (Lincoln and Guba, 1985); the researcher presents detailed descriptions that enable readers to make inferences and develop understanding. This relationship is complex, since factors that I consider unimportant, and consequently may omit, may be critical in the eyes of a reader (Firestone, 1993). Lesson Study often involves case studies that are not trying to generalise, however, teachers find themselves agreeing and providing universal insights, which groups of teachers have distilled. Greenwood and Levin (2005) suggest reframing generalisation as a process involving reflective action. Reader generalisability (Misco, 2007) is an active process of reflection, as readers decide for themselves whether or not previous conclusions make sense in a new context.

In Chapter 6, I substitute validity for verification (Creswell, 2013). Through my critical narrative I convey trustworthiness, credibility, authenticity (Lincoln and Guba, 1985), dependability and confirmability (Shenton, 2004). This resonates with Bassey's (1981) criteria of relatability as an alternative goal to generalisability. Bassey suggests that if practitioners believe their situations to be similar to those described in the study, they are more likely to relate insights to their own positions.

Critical narrative supporting claims to knowledge

Action-based research focuses on knowledge in action. By recounting and reflecting upon the action, told through both my own and my participants' voices, I build

knowledge. Researchers from interpretivist or constructivist traditions argue that there is no objective or single knowable external reality. The knowledge created through action research is particular, situational and borne out of praxis. My second research aim is, to create new knowledge about how the Lesson Study cycle can build professional capital, which assumes that knowledge is an object of speculative understanding (Fig 5.1).

My claims to knowledge apply the concept of cognitive modesty (Winter, 2002) according to which no knowledge can ever be final or conclusively competent, but is tentative and propositional. This resonates with Bruner's (1987) description of different ways of knowing, who characterises knowing as 'a process not a product' (1966: 72). Paradigmatic thought draws upon reasoned analysis, logical proof and empirical observation. Knowing explains cause and effect, predicts and controls reality and creates unambiguous objective truth that can be proven or disproved. In contrast, in my narrative meanings are created, as knowledge is constructed through stories of lived experiences. Narrative knowing helps to make sense of the ambiguity and complexity of human lives.

My approach embraces building participants' knowledge. Heikkinen (2014) argues that this knowledge is typically narrative in nature, as a continually changing narrative is the fundamental means through which people experience their lives. Valuing participants' knowledge acknowledges the fact that knowledge about social activities, actions and practices has to be subjective in nature (Heikkinen, 2002). My narrative is a way of telling and connecting with participants' knowledge, and enables their voices to be heard. This is knowledge that grows throughout the course of my research.

In the subsequent sections of this chapter, I tell the story of my research, through my episodic critical narrative. As I explain in this chapter's introduction, this is told in four episodes, with the action I recount in Episode 2 and 3 running concurrently. My reflection and analysis are interwoven into my account. Through this narrative, I ensure that the multiple voices of my participants are heard. My claims to knowledge are tentative, open to critique and specific to my context. The truths I claim are my truths and influenced both by my approach to my research and my participation within it.

Chapter 7

Episode 1: Exploring the Lesson Study cycle

I began my first action before I attended the World Association of Lesson Studies conference, and whilst I was still immersed in the literature and formulating my conceptual framework. I had an emerging understanding of Lesson Study, but much of my thinking and conceptualisation was still in its infancy. I needed to explore my ideas, to reflect-in-action and reflect-on-action (Schon, 1983; Argyris, 1991). Episode 1 charts this exploration. I explain my design of Loop 1 (see Chapter 3 and 6 for an explanation of loops), and then, after reflection, I describe Loop 2 and 3. Drawing on a range of data, I detail what I learnt about how Lesson Study is best deployed. I acted upon this reflection in my research design and action, which I detail in Episodes 2 and 3.

This stage of the research could be termed my pilot study, in that it was a small-scale, preliminary study designed to evaluate feasibly, time and impact (Bryman, 2006). As I explore in Chapter 6, I consider it an ethical imperative to impact on school improvement throughout my research, rather than setting to fulfil a quasi-scientific purpose of 'experimentation'. Also, as a full-time teacher, neither I nor the other teachers in my school had the time to conduct activities that do not complement our day-to-day roles or impact upon our own school's sustained improvement.

Throughout this action, I applied the ethical principles I outline in Chapter 6. However, the chronology of formulating my conceptual framework, designing my methodology and leading this first intervention were interwoven. In reality, one informed and influenced the other. The reflection in this episode mainly serves to answer the question (Fig 5.3b), 'How can Lesson Study be most effectively deployed and adapted?'.

Design and evaluation of Loop 1 of the Lesson Study cycle

I designed the first loop (Fig 6.3) to span the course of the Autumn term 2012, ensuring that teachers were able to dedicate enough time to each step, as detailed in the school improvement plan (Appendix 7.1a). I began with a staff training session in order to explain the process and my place within it. Citing ethical considerations, I made clear that while teachers could not opt out of the process, they could at any point choose not to have their views included in my writings. Throughout, my research was built upon transparency and respectfulness (Fig 6.2).

Leading staff training sessions

First, I presented my rationale for choosing Lesson Study, as I was keen that teachers understood why they were participating. I also wanted to appear well-informed and self-assured, as I reasoned that this would give participants more confidence in my leadership. Next, I identified the four foci, drawing upon the looking glass visual provided by the National Primary Strategy documentation (NPS, 2008). These foci were determined by key actions identified in a previous school inspection report (Woolenwick Junior School Ofsted Inspection Report 2012), whole school improvement priorities and from analysis of historical achievement data. The subject knowledge focus was English, specifically grammar and punctuation, the pedagogical focus was questioning, and the case pupils were boys, who were not making expected progress in writing.

Next, using the model of the three fields of knowledge (Fig 2.3), the teachers engaged in an adaptive learning process (Carter, Cotton and Hill, 2006), summarising what they already knew about questioning. I emphasised the value of 'what is known?' (Appendix 7.1b). As I explain above, I had previously determined that questioning was to be our pedagogical focus. We compared and contrasted questions in real-life with questions in the classroom, discussing the types of answers we hoped to elicit. During this discussion, I documented key points onto a flipchart, which I later typed up (Appendix 7.1c). For this activity, I provided some prompts but encouraged an open discussion, resisting the temptation to interrupt too readily.

Pose, pause, pounce, bounce

Drawing on this discussion, at the next meeting I introduced a pedagogical technique, which I had read about online but never used. Again, we explored 'what is known?', this time by interrogating a questioning sequence entitled, 'Pose, Pause, Pounce, Bounce' (Wiliam, 2009). We spent time looking at each stage, ensuring we had a clear and collective understanding. The 'Pose' stage prompts teachers to think about the type of questions they ask. Brown and Wragg's (1993) research found that the vast majority of questions teachers ask are to check knowledge and understanding or to prompt the recall of facts. Whilst some questions diagnose pupil difficulties, only around ten-per-cent encourage pupils to think.

We explored how to prompt higher-order thinking skills, those near the top of Bloom's taxonomy (1956), a categorisation of abstraction of questions that commonly occur in educational settings (knowledge, understanding, application, analysis, synthesis and evaluation). Morgan and Saxton (1991) demonstrate, with examples, that well-chosen higher-order questions, can also adequately assess, cover and extend pupils' knowledge, comprehension and application of facts and skills, and well as extending their thinking skills. The teacher should ask pertinent questions to probe pupils' understanding, causing them to reflect on and refine their work, expand their ideas and check and test their understanding (Williams, 2008). We also compared open and closed questioning.

Next, we explored the importance of 'Pause' when eliciting pupil responses. Rowe (1972) introduced the concept of 'wait time', a period of silence after a teacher has asked a question, which she found prompted more positive outcomes from pupils, an idea later refined to 'think-time' (Stahl, 1990). As a group, we discussed the importance of 'pausing' and the use of techniques such as talk partners, in order to enable pupils to rehearse their answers before sharing them with the class (Clarke, 2008). The third stage, 'Pounce', refers to how pupils are chosen to answer questions, and we again explored techniques to facilitate this, such as talk sticks, a tool to randomly select a respondent (Clarke, 2014).

Finally, we explored the 'Bounce' stage. Dillon (1988, 1994) urges teachers to shift their practice towards this discussion format, resisting the temptation to affirm or reject a pupil's response, but rather inviting other pupils to listen and build upon their ideas. We also examined question prompts and sentence stems, which could facilitate this process (Appendix 7.1d). In the main, this was a traditional professional development session, and I adopted the role of *Koshi* (knowledgeable other), although I hoped not to replicate the 'sit and get' model of which Joyce and Showers (1995) are so critical. Upon reflection, I am pleased that we dedicated this time to our professional development. This was a new pedagogical technique, so it gave teachers something to discuss and explore together; no one teacher was in a position of expert, reinforcing the message that all Lesson Study participants are equal.

Trying out Loop 1

During the next session, after a quick recap of the concepts discussed previously, teacher teams planned their lessons. I deliberately withdrew from the process so that it could run its course without my interference. I provided a proforma to guide participants (Appendix 6e), but teachers then led themselves through Step 2 (lesson plan together), Step 3 (teach and observe, followed by pupil voice interviews) and Step 4 (post-lesson discussion), making choices about how they would collect data and record their thoughts.

In the final session of the loop, each team distilled what they had learnt and determined their next steps. Again, I guided this discussion, asking probing questions and writing responses on a flipchart (Appendix 7.1e). This discussion was fruitful and teachers talked openly, building upon each other's comments and observations. The common foci enabled different teams to share knowledge, drawing upon their own first-hand experience in their study lesson and post-lesson discussion. For example, teachers agreed that planning questions prior to the lesson enhanced their questioning, however they reflected that their confidence with 'Pose, Pause, Pounce, Bounce' was still developing, as was the pupils'. The teachers also made observations about challenge, pupils' ability to apply knowledge and the importance of talk. Whilst the experience of the Lesson Study cycle gave teachers something tangible about which to refer and meant that each

team had shared experiences to draw upon, the discussion was wide-ranging and covered a number of topics.

Capturing reflections from Loop 1

The group returned to these observations and reflections at the beginning of Loop 2 and Loop 3, building upon them when planning the next study lesson. We also revisited our pedagogical focus and collective knowledge. In order to document the success of the first cycle, I began to create a Lesson Study wall in the staffroom, highlighting key learning (Appendix 7.1f). This included reference to our pedagogical technique, photographs of pupils within the study lessons and examples of annotated plans, including observers' notes.

I designed my involvement to be unobtrusive, so the teachers could immerse themselves in the process without feeling the need to behave a certain way because they were being 'watched' and 'measured'. At the end of Loop 1, I asked participants to complete a brief questionnaire to evaluate their experience (Appendix 7.1g). In its design, I drew upon a tool produced by Stepanek et al. (2007), adapting it to my context. This questionnaire was a series of statements, which teachers agreed or disagreed with, using a five-point Likert scale, with the opportunity to comment if they wished. As I explained to participants, due to the small sample size anonymity was unrealistic. On analysis, the feedback teachers provided was overwhelmingly positive, with most average scores falling between 1 and 1.6. While it was heartening that participants perceived the process as a success, I recognised that it was important to reflect upon this before embarking on the next series of loops. In Fig 7.1a, below, I note my reflections and the questions that arose, which informed my approach in subsequent loops, building reflexivity into my research.

In summary, the first loop was a success for several reasons: as my initial foray into Lesson Study, it had confirmed the process was a worthwhile one; as a leader of school improvement, it had proved an effective strategy to promote teacher learning and reflection; teachers felt a sense of success and recognised the value of collaboration; and

the pupils had been taught well-planned lessons, targeting an area of the curriculum in which they needed additional support. I return to these reflections, later in this section, when I explore the barriers, challenges and pitfalls of ensuring the success of my research.

Fig 7.1a: Reflective log of Loop 1

	Observation	My reflection
During Loop 1	During group discussions, less experienced teachers were more reluctant to contribute.	Will this improve as the process evolves? I need to continue to provide opportunities for partner talk, reading from notes etc. I need to continue to stress/model that we are equal in the process - that we all have something to share.
	At each step, different participants were absent, arrived late or left early.	The reality of a busy primary school although it meant messages may have become a little distilled. Try to find ways to 'catch up' with participants – perhaps email pertinent points.
	Difficult to capture all responses, discussions when planning, pupil voice interviews etc.	This is an inevitable consequence of not wanting to overly intrude in the process. Not necessary to capture everything. Will develop tools in second cycle– interviews, video, observations?
	Process would have benefitted from even more time – recognised by all participants.	The tyranny of time ☹. Second cycle should be a little speedier as less need for explanation. Try and build in more time for planning and discussion.
Reflections on the evaluation	Responses from questionnaire were overwhelmingly positive.	Are staff 'teacher pleasers'? Does my position as deputy headteacher affect answers? Questionnaire was not anonymised.
	Questionnaires were more positive if all members were there for the whole process.	Is there a way of catching up for teachers who miss parts of lesson study?
	Lowest score was for use of other resources.	Did teachers understand they could? Is this actually a positive as they relied on what they knew
	Second lowest score was for protocol and template.	Was enough time given to post-lesson discussion? No! How could I improve this? Will ask teachers about this part of process.

Design and evaluation of Loop 2 and 3

Over the next academic term, teams continued to participate in Loop 2 and Loop 3 of the Lesson Study cycle (Fig 3.2). At the start of Loop 2, I revisited the foci and recap 'what is known?', and now, of course, the teachers knew more. We also reviewed our understanding of 'Pose, Pause, Pounce, Bounce' and questioning (Appendix 7.1h), alongside a summary of dialogic teaching (Alexander, 2005) and a discussion of the

transcripts shared in one of my doctoral workshops (Mercer, 2013). Both the teams and foci remained the same, and once again, I resolved to remain a bystander and was pleased to see how well the process ran with very little need for my intervention. During Loops 2 and 3, I asked myself two questions: 'How could I develop tools to aid and capture the process?' and, 'How could the process be further improved?'.

Rather than imposing tools upon teachers, it seemed sensible to make use of those already available, so I paid greater attention to the proformas I had already introduced. Simply affording these a higher status meant they became of more use in documenting the process. I also collected annotated lesson plans and notes made by teacher observers, sometimes proformas devised by the teachers themselves, which were usually detailed, and learning focused. My role was to capture positive impacts upon pupils and colleagues, as well as shifts in thinking, including teachers' developing and transferring their own knowledge.

At the end of Loop 2, I asked each teacher to complete the rather presumptuous sentence stem, 'Lesson study is improving my teaching because…'. The responses were again gratifying and ranged from, '*joint planning helps me talk through my thinking and clarify my ideas*' to, '*having time to talk to the children about their learning has helped me with next steps*'. The opportunity to talk was clearly important. I reflected that perhaps journals could have been put to better use, to track teachers' thinking as they moved through the process. Together, we also created a summary called, 'Top Tips for Pose, Pause, Pounce, Bounce' (Appendix 7.1i), again rehearsing what is now known (Carter et al., 2006) and refocusing teachers.

During this action, I resisted the temptation to conduct before and after interviews or administer questionnaires. I decided it was unethical and unnecessary to impose further time-consuming data collection upon already work-laden colleagues. I did not want the process to appear false to participating teachers, shaped 'for the purpose of research' rather than school improvement. However, I continued to have informal conversations with my colleagues.

What did I learn?

At the conclusion of this phase of my research, I took time to review and reflect upon what I had learnt and what could be further improved. This was after all the teams had participated in three loops, each including planning (Step 2), teaching and observing a study lesson (Step 3) and holding a post-lesson discussion (Step 4). I gathered together the range of data I had collected and analysed. My focus was to begin to answer my sub-research question, 'How can Lesson Study be most effectively deployed and adapted?'. I had already begun to think about the sub-categories within this question (Fig 5.3b). The initial thoughts I capture in Fig 7.1a and my further observations, I detail below.

Practical considerations – what did I learn?

I knew from the outset that practical considerations were paramount, and would be at the forefront of leaders' minds. I first considered the use of teachers to cover lessons, which has significant cost implications, pertinent in a climate of decreasing school budgets. My school already had flexible systems to cover classes, enabling professional development during the school day. However, without such structures, cover incurs a financial cost, and is therefore a significant barrier. Nevertheless, I reasoned that this cost is less than sending teachers on external courses or employing perceived experts who visit schools to train staff.

Another practical consideration was the wider effect on the whole school timetable, since each teacher needs time out of their classroom with their team. As the leader of teaching and learning in my school, this was a challenge I was easily able to overcome. Whilst organisation of timetables can be difficult with many knock-on effects, it is something that schools are used to and will accommodate if necessary.

A third practical consideration was ensuring all participants were able to hear the same messages at the same time. Certainly, I found it virtually impossible to ensure all teachers were present for every step. Childcare commitments, part-time working, conflicting priorities, pre-booked meetings and illnesses meant time was precious. This

is the reality of a busy primary school. Part of my role was to ensure that I found ways to 'catch up' with participants, preferably face-to-face, although where necessary I used email. I also made every effort to stress the importance of Lesson Study and that other conflicting priorities should be sacrificed where possible.

None of these barriers are insurmountable. Overcoming them largely depends upon the importance placed on the process within the school development plan (SDP) and continued professional development (CDP) timetable. If the leadership of the school is not committed to the process, with a well-developed understanding of how and why it is structured the way it is, and its intended outcomes, then these barriers are bound to become reasons for the failure of the intervention. I return to this discussion in Episode 3, as it is particularly pertinent when thinking about the challenges and limitations of inter-school collaboration.

Determining the foci – what did I learn?

Before embarking on action, I considered how I intended to lead and structure Lesson Study. I read extensively on the subject and had engaged in many conversations with those more experienced than myself. I was very keen that my interpretation would not simply replicate the deficit model of an expert imparting their advice and expertise upon less experienced colleagues. I therefore endeavoured to embrace not only the practical implications of the South Asian model but also the spirit.

I made the decision to predetermine the group's foci before embarking upon the cycle. When sharing my research with a wider audience, this decision was questioned by members of HertsCam: these colleagues are steeped in the teacher-led development work (TLDW) tradition and are more familiar with participants deciding their own focus, after consulting with colleagues and taking into account school improvement priorities. TLDW tutors argue that this stage affords participants ownership, autonomy, self-efficacy, motivation and an opportunity to clarify their professional values (Hill, 2014). They were wary of a model that eroded these qualities and imposed decisions upon

participants. Nevertheless, I was confident in my decision to determine the foci, and replicated this in subsequent cycles. This was for several reasons, which I discuss below.

One reason I was drawn to the Lesson Study cycle was that loops are built around multiple foci. Time in primary schools is precious; the lack of opportunity to engage in extended dialogue and reflection is a constant complaint. There is compelling evidence that less time is afforded to CPD in England than in other education systems (OECD, 2016). As I was devoting a significant amount of time to professional development, I aimed to address several school improvement goals. If I was to convince leaders of other schools to take part in this process, I knew that these foci would need to link with the schools' overall direction of travel. Many of these schools were awaiting an Ofsted visit, and in this high-stakes, high accountability climate, leaders were anxious to show that teachers were working on the right things.

I also found the distinction between subject knowledge, pedagogical tools, case pupils and school vision helpful, as it assisted in distilling the multiple purposes of the cycle. Outside of Lesson Study, I observed that too often teachers persisted with a planning, teaching and assessment cycle, without ensuring that they took enough time to reflect upon their intended impact. Such multiple foci acknowledge that teaching is a complex task. By pre-determining the pedagogical foci, I was able to address them with a formal training session. Whilst this replicated a more traditional model of knowledge dissemination, I knew that this meant it had more chance of being adopted (Sachs, 2011).

The emphasis upon case pupils was particularly important (Dudley, 2012). The English education system is heavily influenced by quantifiable achievement data, often obtained through tests, which are externally devised. Such assessments begin as young as baseline assessments for four-year-olds and phonics screening for six-year-olds. Focus upon case pupils encouraged teachers to collaboratively engage with in-school data, which they enriched by collecting their own qualitative information through observations and pupil voice interviews. By pre-determining the cycle's foci, I ensured that teachers paid

attention to pupils who were deemed to be falling behind or, in my case, those who were disadvantaged and in receipt of pupil premium (see Chapter 1).

Finally, predetermining the foci ensured a common point of conversation between the various teams, so group discussions were far richer than they would have been if everyone had different foci. For example, as all the teams had focused on boys falling behind in writing, teachers were able to draw similarities and differences between the learning they observed, sharing and building on each other's contributions. Although the shared foci gave the discussion direction and meaning, many of the comments, such as the importance of talk in enabling pupils to rehearse their ideas, were transferable to other contexts. In my recount in Episode 2, teachers' comments show that they recognised these connections, applying new learning to teaching contexts outside of the Lesson Study cycle.

There are some important considerations when deciding the common foci. It is essential that there is a clear rationale informing the choices made and that this is shared with participants, in order to give a sense of purpose and collective direction. It is also important to allow flexibility for teams to adapt the foci, so they should not be too prescriptive. For example, the subject knowledge focus in my first intervention was grammar; this was specific enough to ensure that teachers focused on an area of the English curriculum which had received heightened attention due to the introduction of a new high-stakes assessment, but was broad enough for teams to decide which aspect they wanted to highlight. Whilst this ensured a collective focus, it enabled teachers to remain within their zone of proximal development (Vygotsky, 1978), given that understanding of grammatical terms and their usage varied widely.

Scheduling the cycle – what did I learn?

In the early phases, I dedicated a considerable amount of time to exploring the Lesson Study cycle with teachers, including providing a detailed rationale and explaining each step. It was here that I retained most control, as I wanted to ensure my message was clear and there was a collective understanding of the project's purpose. On reflection, I think

that this ensured the cycle's success. During the lesson planning (Step 2) and study lesson (Step 3), I retained far less control. Teams made their own interpretation of the foci and choose their own case pupils, within the parameters I had set.

Unlike examples from other countries (Wake, 2014), I did not require detailed lesson plans, seating plans for pupils or in-depth analysis of interactions. I had several reasons for this. I wanted these steps to replicate a usual planning and teaching pattern as closely as possible. Firstly, I aspired to participants feeling comfortable, as I reasoned that they would be more likely to share ideas and support one another if they were within their comfort zone. Secondly, if the lesson planning was overly onerous and time consuming, it would be rejected by teachers as unrealistic and detached from the business of day-to-day teaching. Aligned with my ethical research design (Chapter 6), I was determined not to add to teachers' workload, a decision also determined by my conceptual framework (Fig 5.2) and the focus of my study: I was interested in the growth of professional capital, which needed space and time to flourish. Perhaps if my area of interest had been teachers' iterations or developing teachers' subject knowledge and understanding of key concepts with the curriculum, I would have planned for more intrusive data collection and analysis.

Whilst I was not present for post-lesson discussions (Step 4), I provided a set of guidelines for teachers to follow (Fig 3.5), adapted from those outlined by Lewis (2002b). This protocol was deliberately detailed and specific, drawing on my previous experience of facilitating reflection and evaluation. For many English teachers, this is the least well-practised step of the cycle, and whilst most teachers would acknowledge reflection is important, time constraints mean this is often relegated or neglected. When reflection does take place, it usually takes the form of an individual teacher annotating planning in a rather ad hoc way, as opposed to a collaborative process as prioritised by Lesson Study. The cycle offers the opportunity for reflection-in-action and reflection-on-action (Schon, 1983; Argyris, 1991), reflection that is both collective and judgement-free. Occasionally this discussion was interrupted or a member of the team was not present, which I think was because participants did not attach enough importance to this step.

On reflection, participants expressed concern that the cycle was too elongated, complaining they lost momentum between loops and the process became disconnected. The cycle was spread over two academic terms, which I agree was too long, so I compressed the process for subsequent interventions, ensuring that each team's cycle spanned no more than a week. This enabled teams to have concentrated discussions, which immediately impacted on the planning and teaching of the next lesson. Teachers were already developing approaches to enable them to interpret the principles of Assessment for Learning, building upon the outcomes reported in *'Working Inside the Black Box'* (Black, Harrison, Lee, Marshall and William, 2002) and Black and William's (1998) six principles of AfL. Most importantly, by compressing the loops, teachers reacted more quickly and authentically to case pupils' needs and misconceptions. Over the course of the week, participants became immersed in the cycle, which created a *buzz*, a term which was referred to repeatedly.

Finally, the proforma I created to guide teams was not well used, in part because my expectations were not clear. In subsequent cycles, I asked teams to produce a portfolio to document their cycle, which included lesson plans, resources, annotations, photographs and pupil voice interview notes. Teams completed the proforma to form part of this portfolio, presented in matching plastic wallets (to give importance). Each team also prepared a ten-minute presentation, which gave them an opportunity to share their observations and new learning. This was extremely insightful; I explore this in more detail in subsequent episodes.

Formation of and roles within teams – what did I learn?

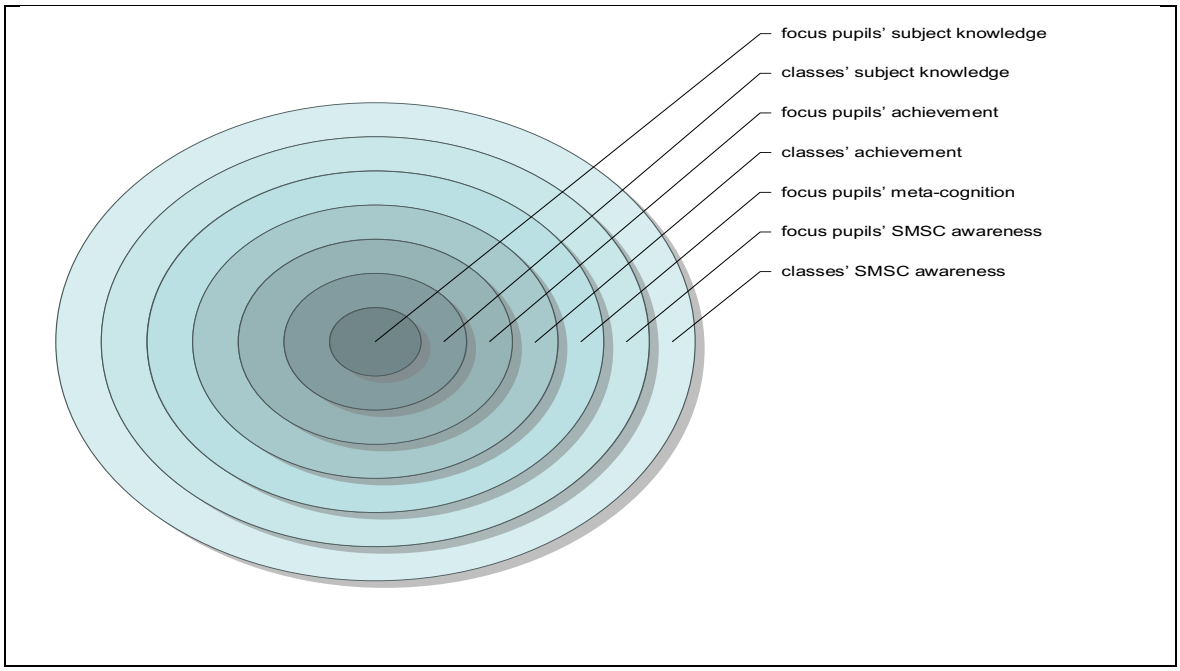
When forming teams, I was keen to balance expertise, careful not to place all the novice teachers in one team, but was still mindful that experience does not necessarily equate to expertise (Hattie, 2003). I assigned three teachers to each team, as is often the case in Lesson Study cycles in England (Dudley, 2011). One teacher taught, whilst the other two observed case pupils, fitting well into English academic terms, allowing roles to be rotated. In my school, teachers were already familiar with collaborating in year group teams and these bridges (Putman, 2000) were well established. I consciously constructed

teams with teachers from different year groups, in order to grow social capital vertically as well as horizontally.

As I concluded this action, I was concerned that the post-lesson discussion (Step 4) was less successful than I had hoped. On reflection, teachers may have found it difficult to unpick and articulate their impact. To this end, building upon Frost and Durrant's (2002; 2008) categories defined for assessing *ripples of impact*, I attempted to distil the types of impact which I thought were possible when engaging in Lesson Study (Appendix 7.1j). At this point in my research, I did not draw upon my understanding and conceptualisation of professional capital when creating this tool, as it was not fully formed. I defined and categorised the concentric *ripples* based upon my readings, observations and reflections, depicting three *pools of impact*; impact upon pupils, impact upon teachers and impact beyond the Lesson Study cycle.

This template was not as user-friendly as I had hoped, as it was overly complex and teachers themselves had not generated the categorisations. However, it did prompt discussion and useful insight, enabling teachers to articulate their observations and reflect upon subtle shifts in learning. Predictably, teachers found it much easier to comment on the impact on pupils and specific lessons, than upon wider impacts, nevertheless this discussion was a pleasing starting point. In the figure below, I outline the impact upon pupils. Some of the comments from teachers surprised me and articulated benefits of Lesson Study which I had not previously considered. These included, *'pupils have been given the opportunity to see how adults collaborate'* and *'they (pupils) are more aware and thinking about learning, as they expect to be asked about it'* (annotations on 'Pool of impact – pupils' tool).

Fig 7.1b: Pool of impact - pupils



Finally, assuming the role of *Koshi* (knowledgeable other), I encouraged connections between individual Lesson Study teams (Watanabe and Wang-Iverson, 2005). I did this in a rather ad hoc way; during the group discussions (Step 6), I prompted teachers to build upon each other's contributions and reflections. As I explore in subsequent episodes, I realised that this was successful because social capital bridges were already well established within my school's culture. In subsequent cycles, this role of encouraging connections proved more challenging.

Concluding Episode 1

As the academic year drew to a close, I reflected on my first attempt at leading Lesson Study. I had experienced success and I felt buoyed up by its positive impact. Returning to my conceptual framework (Fig 5.2), I was confident that Lesson Study had improved the quality of teaching, positively impacting upon the educational achievement of disadvantaged pupils. I was yet to unpick the interplay of professional capital, but was already catching glimpses of how this was being developed.

The teachers' enthusiasm for the process was also a motivating factor. My stated purpose of this action was to learn from the process, critiquing what went well and what could be improved. As I reflected on the cycle, I felt that I was in a stronger position to lead in the future. I further build upon these reflections in Chapter 8. It was important that I had a considered understanding of the cycle, in order to develop both intra- and inter-school collaboration the following academic year. As the academic year concluded, I was aware that the challenge I faced in developing inter-school collaboration was considerable, but I felt confident I had chosen the right intervention. I was excited to see how this would develop.

Chapter 7

Episode 2: Exploring intra-school collaboration

As I explain in Chapter 5, my aims and values are informed by the research stance upon which my action-based research was designed. My stance incorporates a commitment to collaboration and a determination to facilitate intra- and inter-school collaboration and teachers' professional development. This is in order to improve classroom practice and the outcomes for disadvantaged pupils. In Chapter 6, I justify my chosen methodology and in Chapter 3 my intervention, which is the Lesson Study cycle.

In this episode, I recount the success of intra-school collaboration in one junior school (children aged from 7 to 11-years-old). As agreed with the headteacher, I name this school in this episode as a way of celebrating the progress made. During this phase of my research, I was the deputy headteacher, and I had been in post for four years, with a responsibility for improving teaching and learning. I present a detailed explanation of each step of the Lesson Study cycle, which spanned an academic year, and I explore the building of professional capital. In reality, the action I describe in Episode 2 and 3 ran concurrently. In Episode 3, the next episode in this chapter, I detail the inter-school component of my collaborative project.

Here I begin by outlining the context of my school and my preparation for leading this phase of my research. Next, I explain our foci and chart how the three iterations of the Lesson Study cycle unfolded. I present a reflective analysis, drawing upon my conceptual framework (Fig 5.2) and tree diagram (Fig 5.3a), which picks the components of professional capital, both of which are heavily influenced by work of Fullan and Hargreaves (2012). I reflect upon the various impacts of this yearlong action, exploring the extent to which professional capital has flourished in my school.

Woolenwick Junior School: context and preparation

The cycle I describe took place in Woolenwick Junior School (WWJS), a junior school situated in Stevenage, Hertfordshire. In September 2013, 39% of pupils were in receipt of pupil premium funding, an indicator of deprivation (higher than the national average). The school was judged by Ofsted to be 'satisfactory'. Nevertheless, since my appointment, I had played a part in the school moving forward. This was achieved through the development of a collaborative culture (Hargreaves, 2001) and a relentless focus upon teaching and learning. This was recognised by Ofsted who wrote, 'Professional development has been successful in improving teachers' skills…There is a culture of continuing improvement and teachers are conscientiously engaged in their own professional development' (Woolenwick Junior School Ofsted Inspection Report 2012, May 2-3: 7).

With an established culture and drive for improvement, we were well placed to embrace a new approach to JPD. I underestimated how important this was, probably because I had become subsumed in my school's culture for some time. I attribute much of the success of the Lesson Study cycle to the prevalence of social capital already established at WWJS. The predominant culture was one of collaboration (Fullan and Hargreaves, 1992), with indicators including ongoing professional learning, joint planning in year group partnerships, colleagues who were recognised as people and continual self-renewal as taken for granted. In Episode 3, I explain my discovery that this is certainly not the case in all schools. Later, in Episode 3 and Chapter 8, I give greater consideration to school culture, and its influence on the impact and legacy of my research.

Forming teams

When considering the formation of teams, I built upon the advice of senior leaders at Caddington Primary School, a school already practised in Lesson Study. For example, I called our groups 'teams', engendering a sense of camaraderie and a determination to succeed. I chose to share these considerations with another leader, as she was responsible for mathematics teaching in the school, the focus of our Lesson Study cycle. Her

involvement gave her shared ownership, enabling her to become a comrade as an agent of change (Fullan, 1993) and encouraged distributed leadership (Hargreaves, 2003b). It also ensured that there was another senior leader responsible for the project's success in my absence.

We formed three teams, each with a mixture of novice, experienced and expert teachers (Hattie, 2003), giving consideration to the age of the children each teacher taught and the teachers' relationships (Schooner, 2010), making teams as balanced as possible. It was my intention to build social capital, in particular developing bonds between participants (Putman, 2000), so it was essential to get this right. Each team was to work together across the academic year, completing three Lesson Study cycles, one in each academic term. Each cycle consisted of three loops.

Overcoming barriers to success

From my readings, reflections and several critical conversations, the greatest barrier to the Lesson Study cycle's success is the tyranny of time. Whilst in other countries, teachers are afforded much more non-contact time and a greater emphasis is placed upon JPD (Hargreaves, 2012a), in England teachers' working lives are already stretched, so much so that this often overspills into the evenings and weekends. This has been recognised by the current government, who commissioned a study into teacher workloads and suggested ways of relieving this burden (DfE, 2016b). English teachers are given ten per cent non-contact time, which is ring-fenced for planning, preparation and assessment tasks; many teachers fiercely guard this time as non-directed and see this as clearly distinct from CPD.

Another challenge, as I identify in Episode 1, was the need for additional teachers to cover team members' classes. Again, other countries had found solutions, which were not easily transferable, such as assigning a pupil teacher to oversee the lessons without a teacher (Stigler and Hiebert, 1999). Such a solution is met with hilarity when suggested to English teachers. For my school, rather than significant additional cost, the barrier was more the logistics of timetabling slots when all team members were available, whilst

minimising any adverse effects on other lessons. Competing timetabling pressures such as preparation for external examinations, other external CPD, part-time working, ring-fenced time, staff illness and enrichment activities, all had to be factored in at the planning phase.

A third consideration was the prevalence of formative assessment and assessment for learning (Clarke, 2014) in the English education system. In other countries, the same lesson is rehearsed for as long as five years (Yoshida, 2013), and learning is more easily transferable across different classes. In contrast, English teachers are expected to adjust lessons on a daily basis, as a result of in-lesson assessment and the marking of children's classwork. Therefore, one lesson looks very different from another. Without textbooks or pre-planned schemes in my school, planning and resource preparation prior to a lesson could be time-consuming.

Another lesson I learnt was the need for flexibility. Inevitably in a busy school a number of factors impacted upon the smooth running of the cycle. Therefore, the process needed to have enough flexibility to be able to *bend* and *pause* in light of these unforeseen events. By placing each cycle early in the academic term, it left time for temporary postponements and adjustments to timetables.

Foci of the cycle

At my school, senior leaders predetermined the cycle's foci, as we planned to dedicate a considerable amount time to Lesson Study it was essential that it met a number of school improvement priorities. Judged to be satisfactory (Woolenwick Junior School Ofsted Inspection Report 2012) in a high-stakes, performativity culture (Ball, 2003), this grade influenced many of the senior leaders' decisions, especially as we were due another inspection within the academic year. We needed to maintain a relentless focus on quality teaching and learning, ensuring that we could evidence progress against key priorities

(Fig 7.2a). These actions align closely with Hattie's (2003) characteristics of an expert teacher (Fig 2.1).

Fig 7.2a: Key actions from Ofsted

Develop the quality of teaching so it leads to pupils making consistently good or better progress by:

- ensuring marking and verbal feedback consistently inform pupils about how they can improve their work;
- developing the use of questioning by teachers so they deepen pupils' understanding consistently by challenging them to think deeply;
- making sure that all work is matched well to the different needs of individuals in every class;
- developing systems for teachers and teaching assistants to share information about the progress pupils make and the content of small group sessions, so that links are made between these sessions and whole class sessions, enabling pupils to practice and develop their emerging knowledge and skills further.

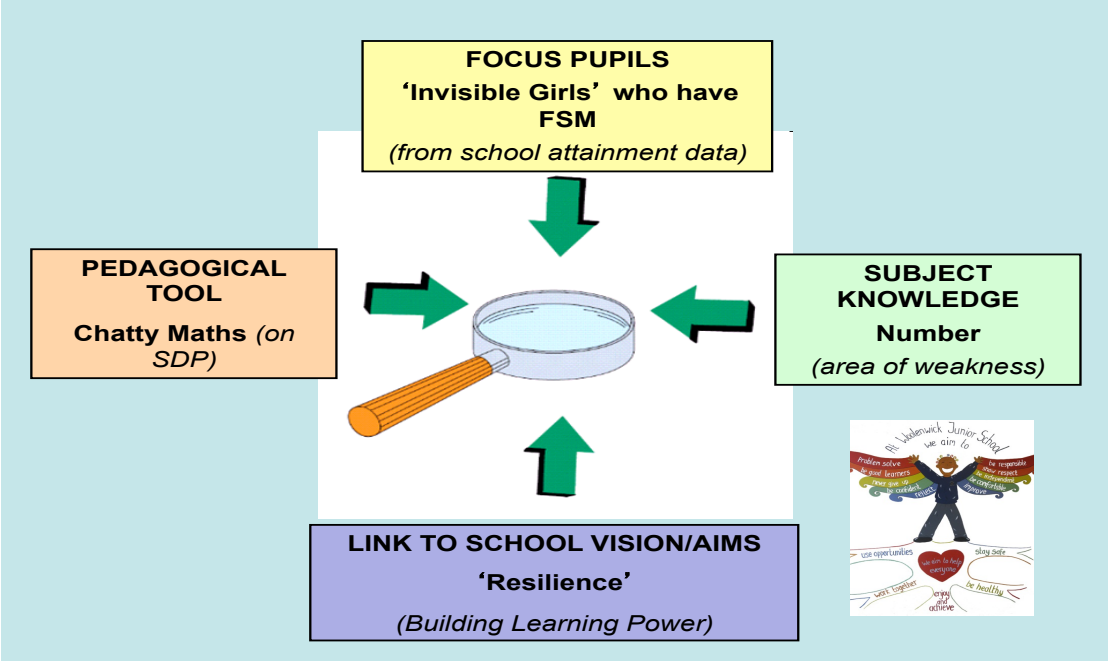
Drawing upon these priorities, we established common foci, learning from each other's observations and working towards a shared goal (Brown and Lauder, 2000). In Fig 7.2b, taken from a PowerPoint slide I shared with teachers, the central looking-glass image represents the forensic approach of Lesson Study, which is depicted in the National Primary Strategy documentation (2008).

We selected each focus for a specific reason and ensured that the foci clearly built into our priorities of our SDP. Once these multiple foci were decided and shared, they remained consistent throughout the academic year.

Case pupils

These were *invisible* girls, who were in receipt of free school meals (FSM). The analysis of in-school data identified this as an underperforming group. These girls, who we termed invisible, were typically well-behaved, conformed to the social norms of the classroom and were often quiet. In addition, the school received pupil premium funding to support their academic achievement.

Fig 7.2b: Multiple foci



Subject knowledge

Our focus was the *number* strand of the mathematics national curriculum (DfE, 2013). Achievement in mathematics at our school was lower than English and therefore an area of continued concentration. Within the mathematics curriculum, *number* carries a greater weighting than any other strand. Prior question-level analysis of test papers, alongside ongoing formative assessment of pupils' progress, showed that number was an area of weakness across the school.

Pedagogical tool

We termed this *chatty maths*. For some time speaking and listening held a high profile in our SDP. The importance of talk (Mercer, Littleton, Rowe, Dawes and Wegerif, 2004) was well established within our curriculum and our pupils were encouraged to explain their reasoning in order to develop their mathematical understanding. *Chatty maths* mimicked Alan Carr's popular 'Chatty Man' TV show (Channel 4, 2014), providing a fun way to refocus the school community on the importance of talk.

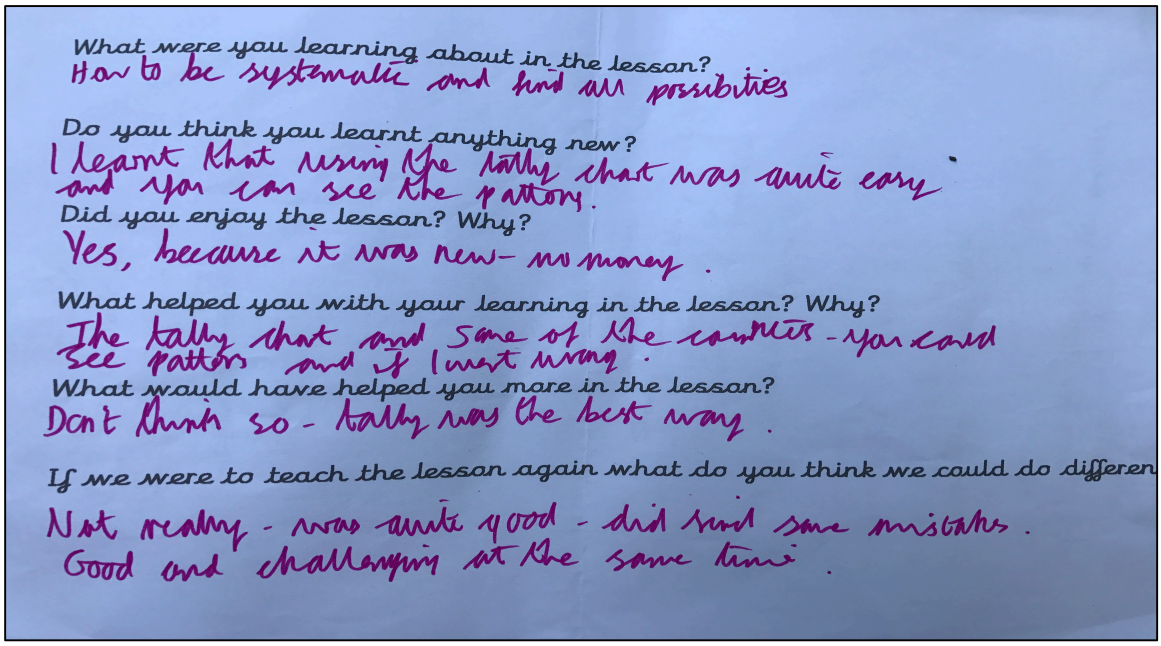
Link to school vision/aims

We chose to focus on *resilience*. This school vision focus is often lost in Western interpretations of Lesson Study (Lewis, Perry and Hurd, 2004). However, as I explain in Chapter 3, I retained it in my model. For our school, this focus linked to Claxton's 'Building Learning Powers', and was known as one of the four Rs (Claxton, 2002).

Detailing the three cycles

Teachers, who had previously participated in the cycle, were familiar with the process and the protocols. This time it was more intense, with each team completing three cycles, each consisting of three loops (Fig 6.4) and members remaining the same. As I justify in Episode 1, I deliberately maintained a distance. During each cycle, teams collated a booklet of evidence including lesson plans, observation notes, teaching resources, pupil voice interviews and photographs. They also included the Lesson Study proforma, which aided clear documentation and guided thinking. Most of the evidence collected was in the form of handwritten notes on pre-prepared proformas, as I exemplify below.

Fig 7.2c: Example of notes made in a post-lesson pupil voice interview


What were you learning about in the lesson?
How to be systematic and find all possibilities

Do you think you learnt anything new?
I learnt that using the tally chart was quite easy and you can see the pattern.

Did you enjoy the lesson? Why?
Yes, because it was new - no money.

What helped you with your learning in the lesson? Why?
The tally chart and some of the counters - you could see pattern and if I went wrong.

What would have helped you more in the lesson?
Don't think so - tally was the best way.

If we were to teach the lesson again what do you think we could do differen
Not really - was quite good - did find some mistakes.
Good and challenging at the same time.

I chose new, glossy presentation booklets in order to give the process high status, but also so that this evidence could be showcased at future events and act as a promotion for my schools' innovative practice. At the culmination of each cycle, teams took it in turns to deliver a short presentation to the rest of the staff team, which I discuss in more detail below.

Gathering and analysing data

Collating notes from my journal, analysing the booklets, observing each team's presentations and conducting guided conversations, I was afforded a rich selection of qualitative data. Through transcription and coding, I began to analyse my data through the lens of my conceptual framework. It was these oral presentations, which were most insightful in capturing shifts in teachers' thinking. The guided conversations were also illuminating, helping to document reflection-in-action and reflection-on-action (Schon, 1983; Argyris, 1991), encouraging participants to articulate succinctly this reflection. I reasoned that this data collection would be less intrusive than observing planning, discussions or study lessons.

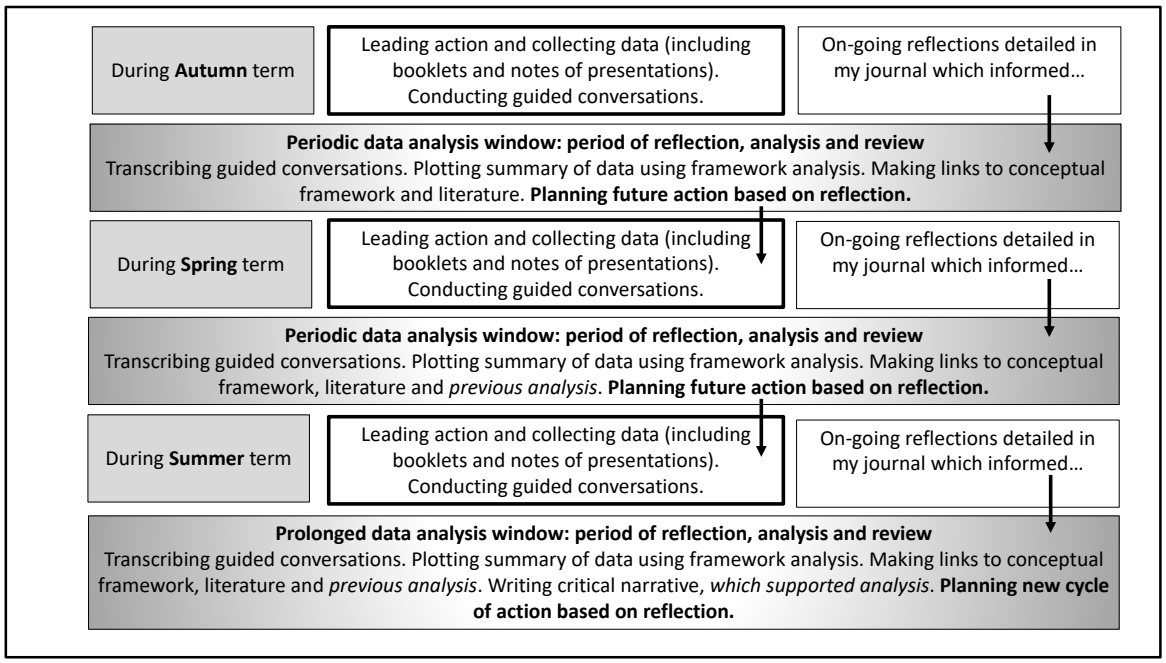
I considered the use of video, as I was interested in how this could capture planning and post-lesson discussions, as well as teacher and pupil voice. Using an iPad, with the teachers' permission, I recorded snippets of sessions and planned to transcribe these conversations. I could then share transcripts or watch clips back with the participants, so we could reflect upon the process. Unfortunately, the sound quality was poor and when I explored the option of purchasing a microphone, the cost was prohibitive. However, there are many other facilities to make video recordings, which are now readily available in most primary schools. This is certainly an area I plan to revisit subsequent to the completion of my research.

As I explain in Chapter 6, there was no separation between the tools I used in my research and the tools the teachers used to support data collection. This was a deliberate decision, as the tools I chose were simple and accessible enough that schools may make use of them themselves, outside of my research. My chosen tools were also in

negotiation with the teachers themselves. Therefore, I regard some indecision and flexibility as positive. In the sections below, I explore my data, which is supported by my reflections. My analysis focused upon intra-school collaboration, with attention to my research question (Fig 5.3), in particular the accrual of professional capital, which includes three aspects, human capital, social capital and decisional capital (Fullan and Hargreaves, 2012).

In the figure below, I depict the interplay between action, data collection, data analysis and reflection. This reflection then informed future action. Whilst I kept a journal to capture reflection-in-action, typically most of my analysis and reflection took place in the school holidays (depicted by the longest boxes in Fig 7.2d). During this time, I organised my data analysis and reflection into a framework in order to focus my thinking (see Appendix 6f).

Fig 7.2d: Analysing qualitative data



Can intra-school collaboration build human capital?

There was plentiful evidence to support the view that Lesson Study can support professional development. As I explain in Chapter 4, human capital refers to the quality of the individual teachers, drawing upon individual talent, qualifications, knowledge, preparation, skills and emotional intelligence. In the following paragraphs, I reflect upon what I learnt from the data gathered and analysed. My reflection was informed by the components I draw out in Fig 5.3a, which are subject and pedagogical knowledge (SPK), observation and reflection (OR) and passion/moral commitment (MC).

Subject and pedagogical knowledge

As I explain in Chapter 2, Hattie (2003) identifies five key dimensions of expert teachers (Fig 2.1). This is underpinned by strong subject knowledge, including teachers providing essential representations of their subject, such as deeper representations, and improved pitch and differentiation. Hattie also highlights the need to monitor learning and provide accurate feedback. My analysis shows that Lesson Study was successful in developing these skills. For example, one teacher felt the process had '*strengthened my own understanding of place value with decimals because I wouldn't necessarily have taught that to my year group*' (LM, Conversation C). This teacher articulates her development of subject knowledge.

Another novice teacher commented that, *'it was useful seeing other years because you need to know where they (pupils) are coming from and where they are going'* (NC, Conversation D). The process enabled him to deepen his subject knowledge by observing in practice progression in learning. This was an unexpected benefit of teachers from different year groups collaborating, and was not something I had considered in my project design. As a senior leader, it was commonplace for me to observe teachers from different year groups, so I had become somewhat removed from the class teachers' sense of being restricted to their classroom, without the opportunity to learn from others.

I was also interested in the development of pedagogical knowledge. This took a variety of forms, including improvements in lesson planning, development of skills such as assessment for learning and having a broader impact upon teaching. There were also links with other strands, for example observation skills are part of pedagogical knowledge and skills. In applying my conceptual framework (Fig 5.2), I found that my categories were not easily defined and there was much overlap between various strands.

The main gain from the planning process, which was repeatedly articulated by teachers, was the gleaning of new ideas. One described, '*pooling ideas and resources*' (UC, Conversation E), whilst another gained from, '*picking up different tips and techniques for things that people use in their classrooms and ideas they have*' (NC, Conversation D). Teachers readily made links between what they were seeing, doing and thinking within Lesson Study and their own classroom practice. Teachers recognised that many of the ideas and activities they learnt about were transferable across classes of different ages.

As I explain above, teachers often planned with their year group partner, holding a brief discussion, before allocating the subsequent week's teaching objectives and planning separately, possibly with some cursory conversation when needed. They generally saw this as effective time management. However, the planning step of Lesson Study facilitates a much more in-depth, collaborative approach. A novice teacher noted, '*the best thing I learnt was working with other teachers and seeing how they did things. It was useful seeing their thought processes when they plan and talking about it was helpful*' (TD, Conversation B). This teacher is vocalising the transfer of tacit knowledge as he describes, '*seeing their thought processes*'. Sticky knowledge has leaked (Hadfield, 2014) through the socialisation of knowledge (Nonaka and Takeuchi, 1995).

Teachers readily recognised that their developing knowledge and professional development could not be compartmentalised and was not restricted to the Lesson Study cycle. This is another example of the transfer of tacit knowledge.

> *Teachers would have brought in the things they had learnt beyond the Lesson Study cycle. I now know what is going on with my case pupils and why they are*

not making as much progress; one of my pupils is not as efficient as she could be, so I know if I'm working with her I need to focus on efficient methods.

(TD, Conversation B)

This teacher's learning impacted his teaching practice beyond Lesson Study. Knowledge was co-created through collaborative work; the teacher discovered new meaning and ways of understanding, and subsequently engaged in new action (Carter et al., 2006).

Almost without exception, the notes on post-lesson discussions demonstrated development of pedagogical knowledge. For example, one team recognised the benefit of systematic teacher modelling, in this case, how to populate a table to record results, in order to enable pupils to succeed in mathematical problem solving. Similarly, they spent time developing the modelling of talk, including partner responses. These adaptions reaped very positive results. Through high quality, explicit modelling and ensuring that pupils had time to *ponder*, teachers elicited far richer responses.

Observation and reflection

The second component of human capital (Fig 5.3a) is the development of teachers' observation and reflection skills (OR), which are central to Lesson Study. Interestingly, when I conducted guided conversations with teachers, they talked more openly and enthusiastically about observing pupils than they did about any other step. The forensic observation techniques that are required were newly acquired skills for many of these teachers.

Teachers found information gleaned from forensic observation useful when adapting future teaching. One novice teacher enthused, '*it was really useful to get extra information on the children. We picked them because they aren't making progress and I got more information in more detail*' (TD, Conversation B). This comment incorporates many of the assessment principles identified by the Assessment Reform Group (2002): assessment for learning should be an effective part of planning of teaching and learning, should focus on how pupils learn, should be recognised as central to classroom practice

and should be regarded as a key professional skill for teachers. Furthermore, teachers readily linked observations back to their own practice and professional learning.

> *The main thing I learnt was as an observer I was able to see how children responded. When you've got 28 children, that's really difficult. I've learnt it's ok to focus on a couple of children for a period of time. Focusing on specific pupils, I could see how they responded and see the split second they 'get it'. I could see more clearly how much they have understood instead of how much their talk partner has understood.*
>
> (GR, Conversation A)

Marking a leap in her pedagogical understanding, she recognised the value of focussed observation. She learnt to move away from content-driven lessons with a *broad-brush* approach to more targeted, pupil-focused teaching. Another novice teacher noted, '*instead of trying to observe everything in someone's classroom, it gives me a specific focus – so it's helped – giving me an idea of what I'm looking for rather than looking at everything and seeing nothing'* (NC, Conversation D). This resonates with the Japanese saying, 'a lesson is like a swiftly flowing river' (Lewis and Tsuchida, 1998), referring to the rapidity and complexity of interactions that take place in a classroom. This is why Chinese teachers learn to develop a 'lesson eye' (Chen, 2013), which is more readily understood in an English context as an aspect of assessment for learning (Clarke, 2008).

Some teachers found that having additional adults to observe pupils was particularly useful, describing it as, *'having extra teaching assistants'*. This experience was enhanced, as the other members of the team were qualified teachers. These additional observers played an equal and influential role in assessing and reshaping the next lesson. When reflecting upon what she learnt and found most beneficial, one teacher specifically identified the presence of other teachers.

> *The most helpful thing was having the other teachers there to pick up on what they observe. I am too busy or too focused on my own teaching to recognise things in an everyday lesson. We focused on two quiet children. I can't spend every hour sitting with them but the team members focused solely on them, spoke to them and they found out things that I probably wouldn't have otherwise.*
>
> (LM, Conversation C)

This comment reflects the complex and multifaceted challenges of teaching. It also articulates an emerging bond between the teachers. She trusted her colleague's opinions as accurate and valuable, evidence of the growing of both human and social capital. Again, I discovered that my categorisation of my data was not a clear-cut as I had thought, reminding me that the word 'assessment' is derived from the Latin root 'assidere' meaning 'to sit beside'. Another teacher noted, *'when I was doing the teaching it helped getting all the feedback about my class and being able to put things into place'* (UC, Conversation E). Just as feedback has been shown to be helpful for young learners (Clarke, 2014), the same is true of teachers as they grow and improve (Hattie, 2001).

I found it interesting that teachers grappled with their role as observer, as if it was less important than the role of teacher. One teacher rationalised, '*we actually worked with the children - we weren't just observers. We did speak to other children in the class, to kind of gauge where our case pupils were in the class and how we could help them*' (UC, Conversation E). By contrast, another teacher in the same group explained that he thought it was better not to get involved in the lesson itself.

> *It was useful to sit back and watch. In the first cycle, we observed but we were like teaching assistants as well. In the second cycle, we observed more and I think that was more useful. It was good for the teacher because we could feed back without the child really knowing we were observing them. When you get more involved, you are helping out which isn't really like real-life. There wouldn't be two extra teaching assistants in the class.*
>
> (TD, Conversation B)

These opposing perceptions illustrate recurrent concerns voiced by teachers. The first is the perceived inferior status of the role of observer. I surmised that teachers were unfamiliar with this role, and were more used to leading the lesson and being active throughout. I was reminded of the importance placed upon observation in early years education (STA, 2017), surprised this had not filtered through to the later stages of primary school education. I also wondered whether teachers associated observing with judging colleagues; they felt ill equipped to do this, as this was the domain of senior

leaders. Another repeated concern was that the Lesson Study cycle should mirror real-life. Teachers felt that so many adults in a classroom was *'unrealistic'*. It seemed that teachers did not regard the primary purpose of Lesson Study as a JPD opportunity, to enhance their own practice, but rather to accelerate case pupils' learning. This perception in itself was positive but did perhaps narrow the teachers' lens when reflecting upon their own and others' practice.

Teachers described the transfer of knowledge through observation of others. For example, a teacher observed the different ways the planned lesson was delivered, reflecting how this developed her own behaviour management and assessment for learning strategies (Clarke, 2014), particularly highlighting voice control. Another said it was useful to see how other teachers respond to their classes. A novice teacher linked this to the pupils explaining, '*it was useful being able to see why some pupils engage more and some don't in maths, and be able to use that in my own practice*' (NC, Conversation D). The workshop-style, in-the-lesson structure of Lesson Study facilitated knowledge transfer (Chen, 2013), with sticky, tacit knowledge leaking between participants (Von Hippel, 1994; Szulanski, 2003; Hadfield, 2014).

These examples demonstrate teachers' growing ability to reflect upon their teaching and that of their colleagues. Teachers can competently self-identify areas for improvement, as many of the points made above are those that would be made by an experienced observer. This self-reflection was also evident in each team's portfolios and presentations. For example, Fig 7.2d details one team's conclusions and *'top tips'* at the end of their cycle. Some of these pertain to reflection upon Lesson Study as a whole (a, b, c and g) and others provide useful reflection upon effective pedagogical strategies (d, e and f). All demonstrate a process of collective reflection, indicating the growth of both human and social capital.

Fig 7.2e: Conclusions and top tips

a) Being the observer in class is a very valuable experience because you see things you wouldn't normally see.
b) Post-lesson chats with the children and adults were very beneficial and gave great insight as to what had occurred.
c) Being given an hour to plan before the lesson was crucial, as it allowed us to talk in-depth about the children's learning and to discuss what had gone well (or not) and where we needed to go next. This time allowed us to be truly collegiate.
d) Even if the children's books indicate they have understood the task, this does not necessarily truly reflect their ability.
e) Less confident girls perform better in all-girl pairings.
f) Sometimes the children need guidance as to what resources would be most helpful.
g) Three consecutive days for the cycle was very helpful as issues could be followed up immediately.

It reasserts my conviction that teachers are able to reflect-in-action and reflect-on-action (Schon, 1983; Argyris, 1991). Rich reflective practice exemplifies the cyclical integration of theory and practice. For example, in order to arrive at the conclusions detailed in Fig 7.2d, team members observed pupils closely, reflected and adjusted their teaching (see point e); one observer noted, *'Child B was paired with a boy, but despite being more able, she deferred to him allowing him to direct the task. He said the answer first so she didn't even question if it was correct but just wrote it down'* (Team D's notes in booklet). They subsequently decided a successful strategy of pairing case pupils with less able girls. In this double loop learning, teachers relied less on reflection-in-action, the ability to 'think on their feet', and moved towards reflection-on-action, embracing the opportunity to reflect upon their lesson after it had been taught (Argyris, 1991).

This cyclical process of experiential learning (Kolb, 1984) focused on the transformation of information into knowledge (Kolb and Fry, 1975). Teachers gained understanding by reflecting on lessons collaboratively and exploring the success of their pedagogical strategies. They independently tested out these skills and strategies in a new situation, often within their own classrooms. Knowledge was continuously applied and reapplied, building on individual teacher's prior experience, but also the team's collective

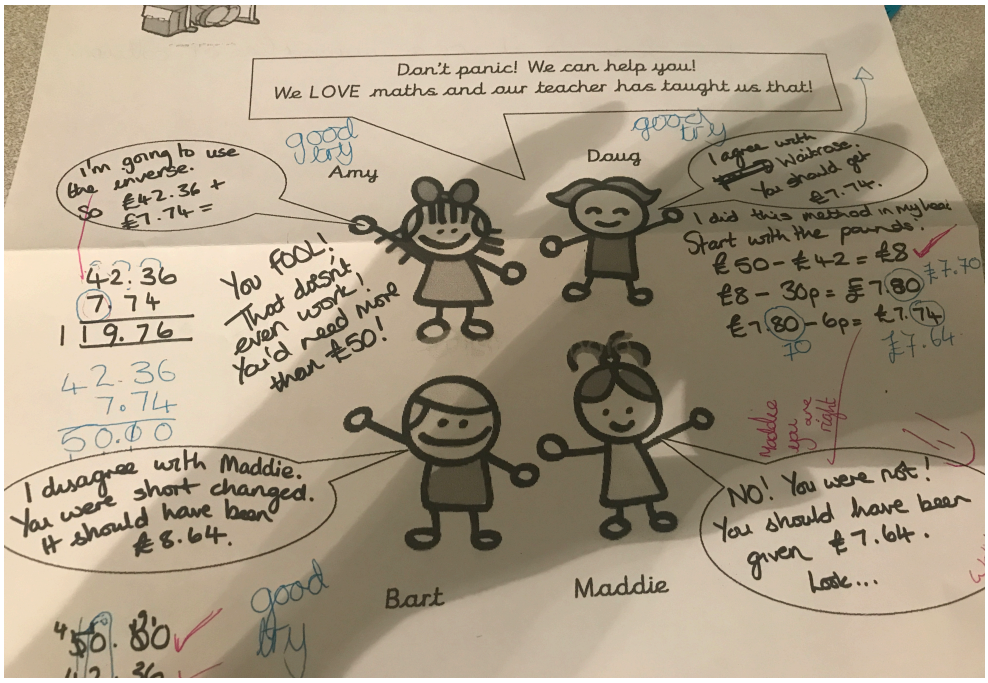
knowledge. This success would suggest the importance of social capital in aiding dialogic and critical reflection (Hatton and Smith, 1995). This knowledge interaction (Fig 2.5) replicates the SECI process, whereby through the socialisation of knowledge, tacit knowledge is externalised, thereby developing new ways of talking and understanding. This then became explicit. In Step 6, teams compiled portfolios, added artefacts to a communal display and presented conclusions to colleagues; teachers enacted the combination of knowledge by creating and sharing a working model of new practice (Nonaka and Takeuchi, 1995).

Passion and moral commitment

The third component of human capital (Fig 5.3a) is the passion and moral commitment (MC) of teachers; this 'awakening [of] the sleeping giant' (Katzenmeyer and Moller, 2001) is perhaps the most difficult to capture in a data analysis. The increased passion and moral commitment of teachers could be reflected in increased emotional intelligence (Goleman, 1995), evidence of teachers 'going the extra mile' and an expression of enjoyment. In Episode 1 and Episode 3, I refer to teachers repeatedly talking about an '*infectious buzz*'. This phrase suggests that passion was ignited and that the giant has been awakened. *'Infectious'* implies this passion spreading beyond the parameters of the Lesson Study cycle.

Teachers' behaviours demonstrated their passion and moral commitment. For example, one team spent a considerable amount of time designing bespoke resources to address case pupils' mathematical misconceptions. They drew concept cartoons (Naylor and Keogh, 2002; Dabell, 2008), encouraging pupils to justify their answers through detailed reasoning. Although it would have been quicker to photocopy a worksheet, the teachers' dedication suggests a moral commitment beyond that normally expected of teachers.

Fig 7.2f: Concept cartoon



Teachers also demonstrated passion and moral commitment in their language. They described Lesson Study as *'useful'*, *'helpful'* and '*working with other teachers is good'*. They articulated their enjoyment of the process: *'I loved planning in a big group, loved the opportunity'* and *'I really enjoyed working with my team'*. In the presentations (Step 6), teachers were animated, used positive language and shared enthusiastically. Teachers' passion was evident and I felt a tinge of pride as I listened to one confident team of teachers after another share their experiences and learning.

I planned Lesson Study with the mathematics leader, who had a different perspective, as she was also a member of a Lesson Study team and a classroom teacher. Her comments show she recognised this growth of teachers' moral commitment.

> *It was great when we had the final feedback to see people's ideas and hear the way they had done things. It was nice to see that the things we have done in staff training, that I have led or other people have led, are actually being put into practice. Scrutinising plans and workbooks doesn't always give that feedback. Seeing people motivated and passionate – knowing that people were on board with our ideas and what we were trying to achieve*
>
> (NL, Conversation F)

In this relfection, she recognises the commitment as tangible, and also she links practice within the Lesson Study cycle to previous, more traditional modes of professional development. This suggests that teachers drew upon established subject and pedagogical knowledge within Lesson Study and applied this to their teaching, independent of a process of monitoring and accountability.

Can intra-school collaboration build social capital?

My research shows that the Lesson Study cycle was effective in building human capital. However, as I argue in Chapters 2, 3 and 4, teaching is about more than a set of competences that can be honed to perfection in the isolation of an individual classroom. Indeed, as I allude to in the previous section, my data analysis illuminated that there was considerable overlap between the growth of human and social capital. In this section, I explore how Lesson Study can facilitate the growth of social capital. As I explain in Chapter 4, social capital refers to the quality of the group, encompassing trust, reciprocity, collaboration, collective responsibility, mutual assistance, professional networks and 'push, pull and nudge' (Hargreaves, 2011). In the following paragraphs, I reflect upon what I learnt from the data analysis, informed by the components I draw out in Fig 5.3a, which are collegial networks (CN), reciprocity and trust (RT) and building bridges and bonds (BB).

Collegial networks

This strand focuses on the development of social relationships, forming greater collegial networks built through collaboration with colleagues (Lewis, Perry and Hurd, 2004). Lieberman and Miller (2004) identify that one of the benefits of networks is the opportunity for teachers to both consume and generate knowledge. As I explore above, teachers articulated the growth of *'new knowledge'* with, in many cases, the tacit becoming explicit, and knowledge being transferred between participants. This socialisation of knowledge (Nonaka and Takeuchi, 1995) enabled tacit knowledge to be externalised, developing new ways of talking and understanding. The collaborative

structure of Lesson Study necessitates this talk, and through pre- and post-lesson discussions teachers articulate and transfer their knowledge.

Another indicator that social relations were being formed was the presence of ideas that challenge teachers rather than them merely prescribe generic solutions. Throughout all the cycles, each teams' ideas and solutions were innovative and learning focused. Driven by the case pupils' needs, teachers challenged themselves to explore new pedagogical techniques. In order to counteract the pitfalls of superficiality, groupthink and lack of challenge, Surowiecki (2004) suggests that a collaborative group should allow for diversity of opinion, valuing independence, ensuring decentralisation with localised, needs-based groups and planning for aggregation, as way of bringing contributions together. One participant explained, '*we all put forward our ideas together as a team, and agreed or disagreed'* (LM, Conversation C). However, it was typically difficult to capture diversity of opinion, as I did not want to intrude on the planning, observing and post-lesson steps. I sensed that the Lesson Study cycle provided a safe space to disagree with colleagues and to challenge one another. Certainly, the innovative solutions reached by many teams, overcoming observed barriers to pupils' learning, suggested that participants collectively challenged themselves to 'think outside of the box'.

My analysis also presented evidence of risk-taking in a supportive environment. This is the third indicator, identified by Lieberman and Miller (2004). Teams tried out new ideas, collectively overcame hurdles and took risks. For example, teachers chose to team-teach or step in for other teachers as required. One team explained that planning and resourcing the lesson together ensured that the whole team all knew exactly *'where they wanted the learning to go'*; this meant that they were happy to intervene during a lesson when they thought it was appropriate. Other risk-taking decisions included restructuring lessons, using new resources, trying out new strategies and planning less content-driven lessons. All these risks positively impacted on pupils. Teachers were also exercising decisional capital.

A final indicator that social relations were formed is that the community respects teachers' knowledge, as well as knowledge from research and reform. This was the premise upon which I introduced Lesson Study to my school. The maths leader, one of the most experienced and well-read team members, articulated this well: *'new teachers have fresh ideas. You get quite set in your ways. One of the people in my team was lively and so it was good having that element of excitement in the team. It made me think about making maths more interesting'* (NL, Conversation F). She explained that as a specialist teacher of mathematics, her team members drew upon her specialist knowledge and expertise. Her knowledge was research-informed, but also developed through practical exploration in her classroom. Lesson Study values academic research alongside skills honed in the classroom, since one complements the other, and knowledge and skills are understood as interlinked.

Throughout Lesson Study, teachers generally recognised collaboration as beneficial. People are social beings, so it seemed logical that they would value this interaction. One teacher noted, '*I liked spending time with staff that you wouldn't get to do that with – you get to know people better*' (LM, Conversation C). Teachers valued the relational connections they made, which they attributed specifically to Lesson Study. One teacher welcomed, '*working with different teams, you got to work with lots of different people. We planned whole lessons together – our lesson*' (UC, Conversation E), and another added, '*we all put forward our ideas together as a team, and agreed or disagreed. Then we came up with a joint lesson plan and created a lesson together*' (LM, Conversation C). I noted that the collective language of Lesson Study ('*our*', '*joint*', '*together*') had become embedded. One teacher summarised, *'we decide, we plan, we adapt and modify the lesson. Then after each lesson, we review it and we present the whole cycle'* (UC, Conversation E).

The richness and improved quality of teaching and learning discussions presented further evidence in favour of developing collegial networks. One teacher welcomed the opportunity for the teacher to speak first during the post-lesson discussions, and thought that the detailed collective evaluation of the lesson was useful in informing future

planning. She gave an example that one lesson was too easy, so through discussion, her team re-planned, adjusting the pitch. She felt it was useful to have someone to '*back-up*' her observations and conclusions. It was clear that the time set aside for these post-lesson discussions had been very valuable in helping to improve practice. She attributed this to the wisdom of the group and I doubt she would have achieved the same shift in thinking if she had engaged in solitary reflection.

One teacher reflected repeatedly on how collaboration with colleagues had transformed her practice. She enthusiastically summarised her experience, making reference to many of the components of human and social capital.

> *It was really useful to see other teachers teaching, to sit and bounce ideas off each other. I loved planning in a big group, loved the opportunity to sit back and observe more and get the feedback from others.*
>
> (LM, Conversation C)

She describes a creative, collaborative process grounded in real-life, workshop-style experience, which had a desirably positive impact on this teacher's practice.

Reciprocity and trust

The second component of social capital was reciprocity and trust. Reciprocity is behaviour in which two or more people give each other help and advantages. In my research, there were many examples of teachers developing reciprocity. When reflecting, teachers articulated the importance of these relationships, which they understood as impacting upon their professional development: '*I really enjoyed my team. Next year I think it would be best to mix up the teams so people can work with different people and learn from them. There is so much sharing of ideas'* (NC, Conversation D). Another experienced teacher added, '*I enjoyed learning new strategies from colleagues, both more and less experienced colleagues. This enriched the process. I learnt different teaching strategies and more open-ended tasks. I got a simple but effective idea from an NQT'* (UC, Conversation E).

Lesson Study is underpinned by the principle of equality, which encourages reciprocity. The mathematics leader's reflections typified those of all team members: *'I didn't see myself as any better than them. I thought we all had very valid points to make…and with the senior teaching assistant it was nice to hear things she has done one-on-one with kids or things she has seen from other members of staff*' (NL, Conversation F). Such comments question the value of traditionally rigid hierarchical structures. This suggests developing a 'collective intelligence' (Lacey, 1988) or 'pooling of intelligence' (Brown and Lauder, 2000), is more beneficial, contributing in time to the growth of 'leadership density' (Sergiovanni, 2001).

Mutual and cooperative exchange was most evident during end of cycle presentations, as teachers supported each other, as demonstrated both in their oral contributions and body language. They frequently credited other team members with '*good ideas'*, evidently regarding the relationship as supportive and valuing their contributions. This reciprocity extended beyond each team, as during presentations the wider group reflected, asked questions and further transferred knowledge.

Teachers valued Lesson Study because it built trust between teachers, and between teachers and senior leaders. Teachers felt trusted to take risks, and to make mistakes and decisions. They learnt to trust other teachers' professional expertise and critical feedback. They also learnt to trust their own judgements, observations and self-efficacy. Bryk and Schneider maintain that 'trust is the connective tissue that holds improving schools together' (2002: 144). In Chapter 8, I further explore the importance of trust in building professional capital, and how I applied this new knowledge to my own leadership, in a new and challenging context.

Lesson Study was successful in breaking down the hierarchical structures that exist in school, forming bonds of trust based on equality. One experienced teacher remarked, '*we were not there to judge each other – we were there to learn from each other*' (UC, Conversation E). This is significant, as my research suggests that teachers viewed trust and judgement as incompatible, and valued Lesson Study because its purpose is learning,

collaboration and equality. Another teacher remarked, *'I don't think having a senior leader would have changed the dynamics of the group. NQTs are no less valued. I wouldn't have felt judged if the headteacher was in my team because of how we were as a team'* (GR, Conversation A).

Building bonds and bridges

I realised that the building of bridges and bonds was essential in the growth of reciprocity and trust. Therefore, this categorisation overlapped with the ideas I explore above. Putman (2000) explains that bonding social capital connects people based on a sense of common identity, offering teachers security and support. One teacher explained, *'when we were together it was like we were all equal. I don't think I would have learnt more or less from working with another team'* (LM, Conversation C). This suggests a culture that valued everyone's contributions and reflected the understanding that everyone was on a learning journey. By the third cycle, teams became increasingly creative when presenting their conclusions, freed from the need to conform to ridged proformas, often imposed upon evaluation processes. The growth of bonding social capital was depicted in the photographs they took of each other during planning and post-lesson discussions. These were comrades in arms.

Bridging social capital stretches beyond a sense of shared identity and helps people build relationships with a wider, more varied set of people than those in the immediate school environment. It helps people to 'get on' not just 'get by' (Putman, 2000). My research found examples of teachers developing a shared team identity. As I outline above, teams comprised of teachers with different levels of responsibility and differing amounts of teaching experience. These bridges extended to linking senior leaders to those teachers without a designated leadership responsibility, qualified teachers with teaching assistants and teachers who had recently joined the school with those who were already well-established.

I was convinced that these connections reached beyond the parameters of the Lesson Study cycle, and teachers confirmed my own observations. One long-standing teacher

remarked, '*the school has become more collegiate anyway and Lesson Study has help to really cement that'* (UC, Conversation E). I was drawn to the permanency of this statement and wondered whether these connections would weaken over time. Lesson Study enabled genuine collaboration, recognised by teachers, which Fullan and Hargreaves (2012) argue is essential in order to accrue social capital. Also, experienced teachers learning with those less experienced represents a departure from a traditional model of knowledge transfer. This marks a shift towards a knowledge creating school (Hargreaves, 1999).

Social capital grew between teachers, and also between teachers and pupils. In one presentation booklet the team chose to include examples of pupils' work. One pupil journaled, '*I am most proud of today's work because I was struggling but I got it'*; the teacher has responded, *'☺ I can see that'* (Team A, notes from presentation booklet). This interaction suggests a growing trust between adults and children: pupils are safe to share their feelings, which is then acknowledged by the adults with whom they work. Another unexpected opportunity to build social capital arose due to a staff absence. I took the place of a teacher and acted as an observer for a study lesson. When interviewing the case pupil, an *invisible* girl, I asked her why she thought I was observing her. She assumed it was because her brother was *'naughty'*. This then opened up a frank and insightful discussion about the impact the girl's sibling had on her view of herself as a learner. It also gave me an opportunity to explain my role and the true purpose of the observation.

Can intra-school collaboration build decisional capital?

My research confirmed that the Lesson Study cycle is effective in building both human and social capital, which often overlap. The essence of professionalism is the ability to make discretionary judgments (Fullan and Hargreaves, 2012). In this section, I explore how Lesson Study can facilitate the growth of decisional capital. As I explain in Chapter 4, this encapsulates the capacity to judge and to judge well, and depends on the ability to make decisions in complex situations of unavoidable uncertainty. Decisional capital is

acquired and accumulated through structured and unstructured experience, practice and reflection. In the following paragraphs, I reflect on the components I draw out in Fig 5.3a, which are discretionary judgement (DJ), collective and self-efficacy (CSE) and change agentry (CA).

Discretionary judgement

This strand focuses upon teachers' professionalism, and particularly the development of wisdom, the articulation of professionalism and the shift to relish responsibility and autonomy. The Lesson Study cycle provides teachers with opportunities to practice discretionary judgement (Webb, 2002), acting on their learning from pupil voice, both within and between lessons, to make their own decisions. One teacher enthusiastically explained, '*as a staff we decided our focus and the strategies we were going to use'* (LM, Conversation C). There was copious evidence in the presentation booklets of teachers making collective decisions based on what they had learnt.

For example, one team decided to leave the learning in their first lesson as open as possible, so pupils could engage independently in mathematical problem-solving. This linked to the broader skill of interdependence, letting pupils decide whether to work on their own, in a pair or in a group. Despite careful planning, the lesson was not as successful as the team had hoped: *'they (pupils) found the starting point difficult to establish and were reluctant to move away from simply highlighting the key words in the question'* (Team B, notes in booklet). Unperturbed, the team used their discretionary judgement, drawing upon prior knowledge, to explore solutions. In the second lesson, they assigned pupils specific roles such as '*team leader'*, '*scribe'* or '*reporter'*. They also placed a greater emphasis on pupils explaining their thinking. After this lesson they noted that, *'jigsawing took longer than we anticipated due to the feeding back to their groups so they didn't get a chance to feedback to the whole class. Still found identifying the starting point tricky'* (Team B, notes in booklet). Therefore, in the third lesson they planned a similar mathematical investigation with the same pupil roles, but with a greater focus on finding the starting point. The result was that pupils grasped the problem much more quickly and used the resources provided far more readily. Through both reflection-

in-action and reflection-on-action (Schon, 1983; Argyris, 1991) these teachers collaborated to exercise their discretionary judgement, ultimately experiencing success.

Furthermore, exercising discretionary judgement signals a move from 'rapid thought', the unconscious level of working which is most common in the classroom, to 'deliberate thought' and 'contemplative thought'. Claxon describes 'deliberate thought' as 'figuring out what matters, weighing up the pros and cons, constructing arguments and solving problems', whilst 'contemplative thought' is 'often less purposeful and clear-cut, more playful…in this mode we are ruminating or mulling over things' (1997: 2). Participants reflected-on-action and exerted reflexivity, reflecting on previous actions, which then served as the momentum for the next cycle of reflection. As I discuss above, teachers preferred the Lesson Study cycle to span a short, concentrated period of time. Their reasoning was that it aided reflexivity and the principles of strong formative assessment (Black et al., 2002). One teacher explained, *'I liked teaching three consecutive lessons. You get more idea of what will work and what will not, you can use AfL more to move learning on and the impact is immediate'* (UC, Conversation E). Due to the structure of Lesson Study, including the post-lesson discussion (Step 4), reflexivity becomes almost inevitable. The simultaneous growth of both human and social capital also gave teachers more confidence to practise discretionary judgement and therefore, as I explore in the previous section, take more risks.

In the guided conversations teachers rarely commented on the impact of pupil voice. This was disappointing, however I reflected that in the first cycle (Episode 1) teachers were more enthusiastic about the impact of this step. The use of pupil voice had perhaps become embedded within our school culture and therefore it now seemed less remarkable. One teacher did describe the post-lesson discussions with pupils as *'brilliant'*, and recognised that this helped her understand their learning gains. She explained pupils *'knew what they needed next'*, playing an influential role in driving the learning forward.

Collective and self-efficacy

I asked teachers to comment upon their overall experience of Lesson Study. Their responses were overwhelmingly positive, perhaps influenced by my role as researcher and a senior leader. There was also undoubtedly a sense of comradeship. They knew I had invested time and energy into this process and as I wanted it to be a success, so did they. Through Lesson Study teachers experienced a sense of self-efficacy. Bandura (1997) explains that people with strong self-efficacy view challenging problems as tasks to be mastered, develop deeper interests in the activities in which they participate, form a stronger sense of commitment to their interests and activities, and recover quickly from setbacks and disappointments. In each team, there were examples of teachers overcoming problems, committing extra time and demonstrating the resilience and determination in the face of setbacks.

Teachers experienced that their actions affected pupil outcomes. Self-efficacy distinguishes between *outcome expectancy*, a person's estimate that a given behavior will lead to certain outcomes, and *efficacy expectation*, the conviction that one can successfully execute the behaviour required to produce the outcomes. I argue the four sources of self-efficacy (Bandura, 1994) are evident in Lesson Study. Bandura states that a person's self-efficacy is most effectively strengthened through mastery experiences. Teachers collaboratively planning and resourcing lessons enabled them to experience this task-orientated success; where pupil learning posed challenges, teachers worked together, without the stigma of failure, to improve lessons, thus experiencing mastery. Furthermore, such success is an example of collective efficacy (Fullan, 2014); 'the judgments of teachers in a school that the faculty as a whole can organise and execute the courses of action required to have a positive effect on students' (Goddard, Hoy and Woolfolk Hoy, 2004: 4). Collective efficacy is greater when teachers are afforded decision-making influence, as experienced by teachers engaged in Lesson Study.

The second source of self-efficacy is social modelling: 'seeing people similar to oneself succeed by sustained effort, raises observers' beliefs that they too possess the capabilities needed to master comparable activities to succeed' (Bandura, 1994: 3). Lesson Study

grows social capital and decisional capital concurrently, so social modelling is embedded within its structure. In my research, teachers related to colleagues on an equal footing, and felt able to apply the same sustained efforts to experience success. The third source of self-efficacy is that through social persuasion people can be convinced they have the skills and capabilities to succeed (Bandura, 1994). My research showed that verbal encouragement helped teachers overcome self-doubt and focus on their collective best efforts. This social persuasion was engendered with the team spirit of Lesson Study, as it is in all members' interest to succeed.

Finally, Bandura described how psychological responses such as mood, emotional states, physical reactions and stress levels can also impact on how a person feels about their abilities; 'it is not the sheer intensity of emotional and physical reactions that is important but rather how they are perceived and interpreted' (1994: 3). In my research, Lesson Study was well received and generally appeared to reduce stress in teachers. All indicators would suggest that the process enhanced mood and that teachers describe their feelings in positive terms, such as *'happy'*, *'excited'* and *'loved'*.

Unfortunately, not all the teachers' language was emancipatory. I wondered if their choice of vocabulary betrayed their true perceptions of Lesson Study. They described being *'put into teams'*, being *'given one child'* and *'told a whole school focus'*. I justified the rationale behind these decisions in the design of my project; however, perhaps I did not achieve emancipation (Dewey, 1933) after all. Nevertheless, I was convinced that teachers experienced self-efficacy even though they found it difficult to recognise and articulate this themselves. I noted this as an area for further development, both within my research and beyond.

Change agentry

This strand focuses upon teachers' roles as agents of change (Fullan, 1993). I filtered my data to explore how teachers recognised their contribution to whole school improvement and their impact on pupil outcomes. Teachers rarely talked about their contribution to whole school improvement although, as I detail above, they saw their behaviours as

contributing to a collective process. They were aware of the rationale behind the chosen foci and understood this was dovetailed to the school improvement plan. Unfortunately, although only conjecture, I think that they still regarded school improvement as the domain of the senior leadership team (SLT), unlinked to their own practice. Indeed, the only teacher that mentioned the SDP was a member of the SLT and her tone placed less emphasis on school improvement being 'done to her'.

My research gave some glimpses that teachers recognised their actions were positively impacting pupil outcomes. One teacher remarked, *'there was a big effect on the whole class because three teachers were doing one lesson – three teachers impact rather than one'* (TD, Conversation B). He felt his team affected change, linking this to the impact on pupils. I was delighted that this teacher, in the first year of his teaching career, was already experiencing the reward of change agentry.

The data I collected throughout the cycles showed the positive impact on pupil outcomes, in terms of quantifiable progress (Fig 7.2g). Teachers enhanced this raw data with more qualitative descriptions. For example, one team digitally recorded the girls' mathematical explanations at the beginning and end of the cycle. The contrast was impressive; these girls were now able to select a wider range of vocabulary and offered more sophisticated reasoning, when talking through their calculations. The team played the videos back to the pupils, as well as using them in their end of cycle presentations.

Fig 7.2g: Summary of pupil profiles and progress

Child	Profile	Progress
Y5 – ST	She is well behaved and good at mental maths. However, she is inefficient with written methods. Often rubs her work out rather than it looking messy.	She made 2 sub-levels in maths (3a – 4b) in the term of lesson study.
Y4 – LR	She is well behaved and works hard. However, she lacks confidence and rarely asks for help. Her attendance is low.	She made 2 sub-levels in maths (2a – 3b) over the year and is now more confident.
Y4 – CR	She is well behaved and always tries her best. However, she gives in easily and avoids a challenge. She is used to being treated like a 'little girl'.	She made 1 sub-level in maths (3a – 4c) in the term of lesson study. Able to access SATs.

Furthermore, teachers talked about the wider impact upon their pupils, often less focused upon academic outcomes and more upon behavioural shifts. One teacher stated, *'they became more confident – putting their hand up and taking the lead in talk partners'* (GR, Conversation A). The increase in the girls' confidence and more positive learning behaviours were recurrent themes, observed across different teams and classes. One participant noted the benefit of the pupils rehearsing their ideas.

> *They (the pupils) really came out of themselves and started to enjoy maths more. Their lack of confidence meant they don't believe they are any good at maths. The fact they were able to talk their ideas through with a teacher, a so-called expert, really helped. They probably would have thought to do that anyway, but having someone near them, who they could bounce ideas off, helped their confidence.*
>
> (NC, Conversation D)

A teacher from the same team recognised, *'the girls came out of their shell very, very quickly. They liked the attention and the focus on them. They started to trust us more and enjoyed the encouragement'* (LM, Conversation C). This teacher talked of fostering a risk-taking culture in pupils and observed a shift towards a growth mindset (Dweck, 2006). Furthermore, her comments echoed those made by other participants about the importance of trust in developing social relationships and social capital between teachers. It seems the same is true of the teacher-pupil relationship. I reflected that my initial aim, to positively impact upon the education achievement of disadvantaged pupils, should perhaps have given more credence to changes in pupil behaviour as well as pupil outcomes, as an indicator of success.

Another unexpected pupil outcome was that being observed in itself seemed to have an impact. One teacher commented, *'the case pupils definitely benefited because they knew they were being watched – they upped their game. It would be good if we could do that every lesson, as it was good for them to get noticed'* (TD, Conversation B). Previously, I had not considered the impact of the Hawthorne effect (Landsberger, 1958), or observer bias, on case pupils. I wondered whether the increased confidence, growth mindset and

participation were magnified because the case pupils were *invisible* girls; perhaps in a busy classroom the learning behaviours of these compliant pupils were simply missed.

The development of pedagogical teaching skills through collaboration and reflexivity enabled teachers to act as agents of change. For example, in their second cycle, a team decided to explore ways to develop dialogic teaching (Mercer, Littleton, Rowe, Dawes and Wegerif, 2004). Collectively they chose to video record the pupils' explanations of their mathematical reasoning strategies. They then played these back to the children during a plenary session and asked the pupils to peer and self-evaluate their talk, another effective assessment for learning strategy (Clarke, 2014). The team found that the results were impressive: through this process pupils learnt to explain their thinking with much greater clarity, supporting their reasoning and thinking skills. When this team presented their learning from the third Lesson Study cycle, it was clear that they were drawing upon their learning from previous cycles, as well as learning shared from other teams. This was a striking example of the growth of human, social and decisional capital within and beyond this team.

Concluding Episode 2

On reflection, I concluded that Lesson Study successfully built all three components of professional capital. Throughout my research, teachers enthusiastically articulated the positive impact upon their own professional development and on pupil outcomes. This aligns with my conceptual framework (Fig 5.2), as I reasoned when constructing my research rationale that Lesson Study would facilitate the growth of professional capital. This growth was achieved through carefully planned intra-school collaboration, with a supportive whole school culture.

In March 2014, Ofsted re-inspected WWJS. We presented Lesson Study as a key strategy in securing whole school improvement. The inspectors recognised a positive impact upon teaching, and that the development of professional capital had impacted on

the whole school culture. Unfortunately, due to report writing constraints, the inspectors could not specifically refer to Lesson Study, however there was an oblique reference to the importance of collaboration.

> As a result of the strong commitment of all to teachers to become more skilled at what they do, teaching is now good and is sometimes outstanding. This is leading to raising pupil achievement… teachers work closely with each other and learn by sharing their expertise and ideas.
>
> (Woolenwick Junior School Ofsted Inspection Report 2014)

As teachers engaged in Lesson Study, they began to 'see things differently'; it helped them to view their own practices critically, without being blinkered by assumptions about their immediate setting (Desforges, 2004). Small changes in classroom practice reaped very large benefits for both teachers and pupils. Teachers found Lesson Study a way to share expertise and focus on learning without external pressures. As one teacher noted, it is '*better than having someone tell you how to teach'*. She recognised Lesson Study as a more authentic, beneficial form of professional development; *'when you just watch someone teach they could put on a full show, which isn't useful to anyone'* (GR, Conversation A).

My reflection in this episode presents a strong case in favour of employing Lesson Study to facilitate intra-school collaboration. The action I describe in this episode ran concurrently to that which I recount in the next episode. The leadership challenge I faced was to replicate the success experienced in my school to positively impact upon a wider group of Stevenage primary schools. This presented considerable challenges, as I detail in Episode 3.

Chapter 7

Episode 3: Exploring inter-school collaboration

This action and the action I recount in Episode 2 ran concurrently. In Episode 3, I describe a project designed to facilitate inter-school collaboration, exploring the barriers and leadership challenges I faced. At the same time as I was leading my research, the Raising Achievement and Narrowing the Gap (RANGe) project was launched, a local authority initiative funded by the National College of School Leadership (NCSL). The premise of the RANGe Project was to raise achievement through collaboration at a local level, by adopting an action research model. On the surface, this seemed to align well with the aims of my research: I was optimistic about the promise of funding and support of the local authority. Below, I outline the objectives and success criteria of the RANGe Project.

Fig 7.3a: RANGe objectives and success criteria

The objectives of the project are:

- To raise levels of achievement in all schools so that they are all securely above Floor Standards in 2014 and this level of achievement can be consolidated over time so that no school falls below Floor Standards in future years.

- For all schools in the project to narrow the free school meals/non-free school meals achievement gap.

Success criteria:

- All schools in the project improve their KS2 SATs results in 2014 compared with the results obtained in 2013 and are above Floor Standards.

- The proportion of children making in-year progress, against the foci of the project, in all year groups is judged good or better.

- The overall average of free school meals/non-free school meals gap is 20% or less, in all project schools at the end of the 2013-14 academic year.

- At least 80% of teaching is consistently good in each of the project schools.

- Senior and middle leaders are effective in driving improvement and are judged at least good through the project's own monitoring process.

Despite honourable intentions, from the outset the RANGe project had considerable flaws. Firstly, the criteria for selection of schools was not transparent and consequently some senior leaders held suspicions as to why their school was chosen. Hangovers from an overly dictatorial, judgemental local authority model remained, and headteachers assumed, as had often historically been the case, that a deficit criterion for selection had been applied. Secondly, the success criteria (Fig 7.3a) was compiled without consultation with participating schools. In my opinion, it was too wide-reaching, again assuming a deficit approach, focusing solely upon quantitative performance measures. The notion of professional capital did not feature.

Thirdly, each of the participating schools had their own agendas and SDPs. Three were junior and three primary schools, two of which had interim headteachers and were undergoing a period of considerable turbulence. One was judged to be 'good' by Ofsted, four 'satisfactory' and one 'inadequate'. Some schools had far more pressing priorities than the success of the RANGe project. Senior leaders considered their schools had little in common other than the proximity of being in the same town. Fourthly, the leadership provided by the local authority was inconsistent and disjointed; the overall leader changed, as did the attached teaching and learning advisors (TLA). Similarly, schools' commitment to the project varied and waned. Fifthly, many of the key protagonists' understanding of action research and its contribution to school improvement was superficial. No consideration was given to varying school structures, cultures or the extent to which the notion of 'teachers-as-researchers' (Stenhouse, 1975) had already been developed.

Unsurprisingly, the RANGe project came across several problems and ultimately seemed to stall and dissipate. Nevertheless, I was optimistic and saw an opportunity to engender interest in Lesson Study, determined inter-school collaboration could be of benefit to disadvantaged pupils in Stevenage. To this end, I began to liaise with a TLA to plan how the project might evolve, although it was always clear that her agenda was very different to mine.

Leading the project

As I explain in Chapter 6 (Stage 1), I established commitment from headteachers and senior leaders by delivering an initial presentation (Appendix 7.3a). This included an explanation of my professional concern, incorporating my research rationale, grounded within the context of Stevenage schools. My intention was to convince these leaders, alongside representatives from the local authority, that I was well-informed, genuine and that my intentions were honourable. I drew upon my ethical principles (Fig 6.2) in the presentation's design, devoting considerable time and energy to its preparation, and invited key protagonists. Unfortunately, this meeting was poorly attended, crammed into a headteacher's office, with a small computer monitor in the corner, which was difficult for everyone to see.

Although my presentation was well received, my message was already diluted. Occasionally the TLA interjected, and the message she conveyed was certainly more about the importance of quantitative measures in order to determine impact. She also adopted a deficit model towards improving the quality of teaching. She knew more about the circumstances of individual schools than me, so she was in an advantageous position to already make assumptions about 'what would work'.

Despite poor attendance and disappointing accommodation, the meeting did secure initial support. Each school tentatively agreed to commit a team of three teachers to complete the first Lesson Study cycle, with those schools not represented at the meeting contacted by email. Although this situation was far from ideal, I was pleased that the project was underway and naively optimistic that it would gather its own momentum. I regarded it as less important that senior leaders were committed, reasoning that it was the teachers I needed to convince. On reflection, as I discuss later in this episode, I think this premise was flawed.

Subsequently the TLA and I planned our first workshop, an afternoon session for all 18 participating teachers. During this planning session, it was once again clear that the TLA had an entrenched mindset, one from which I intended my research to break free. Her

understanding of Lesson Study was very much shaped by her experience of the National Strategy. Nevertheless, we respected each other's input, collaboratively planned the session and designed some tools to facilitate discussion. She suggested drawing speech bubbles to prompt discussion, which are exemplified in the document, *'Pockets of Poverty: The challenge for schools with small proportions of FSM pupils'* (DCSF, 2012: 8). Statements included, 'singling out free school meals (FSM) pupils for special support is contrary to a policy for equal opportunity' and 'it is better to do nothing. Left alone a minority of FSM pupils will be assimilated into the culture of the school in time' (Appendix 7.3b). As the timescale was tight, we agreed dates for teams to meet together to feedback their learning.

Later that month, I led the workshop to teacher teams. All five schools were represented, with a range of novice and expert teachers, including a team from my school. I was pleased that the workshop was well attended and positively received. In hindsight, it would have been fruitful to unpick which teachers had been chosen, as I sensed that many had been 'sent'. In most teams, there was a more senior member of staff, and I suspect that many senior leaders saw Lesson Study as an opportunity to replicate a mentor model, *up-skilling* less experienced or less proficient teachers. Predictably, the project was greeted with nervousness and apprehension, as despite my assurances to the contrary, some teachers regarded it as another mechanism to monitor and judge their practice. I discuss this later in this episode.

Teams' feedback session

At the end of the first cycle the participants from each school gathered together to share their learning. My school was well represented as all the team attended, as did a team from another Stevenage school. A third school was represented by a senior leader, who had been tasked with reporting on the success of the cycle. The participation from the other three schools was less impressive and there was little evidence that they had embraced the process.

First, my school began with their presentation, reasoning this would instill confidence in the other participants. This presentation had already been shared with colleagues at our school so the teachers were able to present with some self-assurance. I felt a sense of pride as they built upon each other's contributions with ease, articulating the impact both upon themselves as practitioners and the pupils. They explained ways they had adapted the cycle, such as ensuring they planned and taught consecutive lessons. They highlighted ways in which they had 'magpied' ideas from other local project schools, such as developing ways for pupils to practice self-selection of tasks. They talked in detail about each pupils' learning, and the resources they developed and employed, including the pedagogical reasoning behind these choices. They shared the ways in which they built upon pupils' feedback, charting the impact on the pupils' learning, such as an increased depth of discussion and greater pupil resilience.

The second school to present was the other local school where all three members of the team were present. It was clear that they had given prior consideration to their oral presentation, and they ensured their artifacts were gathered together in a well-presented portfolio. Their case pupils were more able and disadvantaged, who appeared unmotivated. Through Lesson Study, the team developed the use of a *'check it station'*, promoting the slogan *'brain, book, buddy, check it'*. Throughout the presentation, the teachers built upon each other's observations and they demonstrated considerable insight into the pupils' actions, reflecting upon why they might be making each choice. These teachers seemed relaxed and came across as experts. It was clear that a TLA had guided the direction of their cycle. It was interesting that throughout their presentation, they looked towards the TLAs that were present, as if they were the sole audience and their affirmation would confirm the cycle's success. I wondered how effective Lesson Study had really been in building professional capital, and I suspected that it had simply replicated the traditional model of a perceived expert leading the process and ensuring that the appropriate gains were made.

When it was the third school's turn, the presentation was delivered by the deputy headteacher who spoke on behalf of the other teachers. This was disappointing as we did

not hear from the whole team and therefore the articulation of the impact was somewhat diluted. It replicated a traditional model of teachers deferring to a team member who held a designated position of leadership within the school. Nevertheless, some key learning was drawn out and reflected upon. The deputy headteacher explained that they had also focused upon challenging the more able and developing higher order thinking (Bloom, 1956). The team had planned challenge within their lessons, however they quickly realised through their observations that this was not the case. They learnt the importance of a strong, whole-class model and deploying support staff strategically in a *'more fluid way'*. In conclusion, the deputy headteacher reported that the pupils experienced *'real success'*, and the class teacher *'felt more confident'*. Overall, this analysis seemed somewhat artificial and certainly second hand. Again, I doubted the growth of professional capital.

Two of the other schools provided a write-up of their cycles, however they did not present to the wider group. This suggested a lack of confidence and willingness to expose perceived weaknesses. Their hopes for how case pupils would respond were not specific, including comments such as *'engaged'* and *'use problem solving'*. Consequently, the observations of pupils' responses were not as insightful as I had hoped. Teachers had spent some time observing the pupils and notes included, *'lost focus on the carpet, started doodling'*. However, the annotations during the third lesson suggested the teachers had no clearer notion of what motivated the case pupils to learn than at the beginning of the cycle. Similarly, the notes taken as result of the post-lesson discussions lacked detail and were peppered with generalities such as *'group discussion'*, *'use of vocabulary went well'* and *'children used vocabulary'*. The main reflection they drew from the process was not to plan all three lessons from the outset, but to plan and then adapt, drawing upon what had been gleaned from observations. This suggested that the purpose of the process had never been fully understood. Their final point was, *'we enjoyed it!'*. I had a clear sense that these teachers regarded Lesson Study as imposed upon them and just another thing to do. My project had replicated the exact model of CPD that I was trying to avoid.

The final team's write up was extremely brief, was not accompanied by an oral presentation nor were all the participants present at the meeting. The summary attempted to answer the question, '*What made the biggest difference and why?*'. They found the focus upon case pupils useful and the '*tweaking'* of subsequent of lessons. They also recognised the benefit of building a relationship with individual pupils, which they suggested improved pupils' self-esteem. This enabled teachers to quickly identify '*barriers to learning*' and next steps. However, this paperwork showed absolutely no acknowledgement of the building of professional capital. I felt somewhat despondent as these teachers' experience seemed so far removed from the emancipation experienced by the teachers at my school.

Capturing wider impact

As a plenary session, I asked teachers to split into small groups made up of teachers from different schools. I asked teachers to annotate sheets, prepopulated with a number of think bubbles to stimulate discussion. Teachers began by discussing the impact on pupils before moving onto the impact upon teachers and then the wider impact of collaboration. I began with pupils, since in my experience, when teachers discuss impact they are usually referring to pupils, however this is often in terms of quantitative measures. As I predicted, this discussion was the most animated and productive. Teachers built on one another's answers, suggesting further points for discussion. As I explain in Chapter 6, I did not want my role to be overly intrusive. Therefore, I neither digitally recorded conversations nor elected someone to keep copious notes. The figure below details the teachers' annotations, identifying the impact upon pupils at each step in the cycle.

Fig 7.3b: Possible impact upon pupils

Case pupils' learning and progress:

- Better use of prior learning, leading to rapid progress (especially the less able);
- Teachers better able to spot gaps in pupils' understanding and determine next steps;
- Clear progress, particularly on the strand of learning focused upon;
- Pupils stayed on task longer and were more able to take risks.

Case pupils' confidence:

- More confident to share so teachers were better able get uncover pupils' weaknesses;
- More able to take responsibility for targets, working towards greater challenge;
- More physically engaged and developed more self-help strategies.

Case pupils' ability to talk about their learning:

- Improved self-esteem, with greater confidence in their own learning;
- Developed better understand of the learning structure and their next steps;
- Talked more openly, both in class and during feedback sessions.

Teachers supporting other pupils' learning:

- Lessons were adapted to meet the needs of all pupils;
- Developed greater challenge - more accurate differentiation in future lessons;
- A buzz in the classroom.

Next, the groups discussed the impact on teachers, which I analysed for examples of the components of professional capital, although I did not use these terms with the participants. I was pleased that most teachers contributed to their group's discussion, again annotating the thought bubbles provided. Perhaps the Lesson Study cycle had been more successful in growing professional capital than their presentations to the wider group had suggested.

Fig 7.3c: Possible impact upon teachers

Collaborative planning:
- Bounce ideas off each other;
- Ensuring accurate pitch, particularly with younger or older children;
- Breaking down learning into sequences – a greater understanding of progression;
- A range of points of view and methods used;
- Spreading the workload - enjoyable;
- Infectious buzz from other teachers – a curiosity for teaching and learning.

Observing:
- Opportunity to spot different things;
- Joint ownership of learning;
- Focusing on the pupils not the teachers – felt relaxed;
- Time consuming – but time well spent.

(Teachers would like the opportunity to observe their own class)

Wider teaching:
- Encouraged child-initiated learning;
- Shared knowledge and ideas;
- Development of teacher strategies e.g. linking learning, talk partners.

(Time out of class impacted negatively upon other classes)

Post-lesson reflection:
- More comfortable to criticise practice, as you were focusing on the children not teachers;
- Easier to take constructive criticism from colleagues instead of leaders;
- Lessons were adapted to meet the needs of all pupils;
- Giving you the confidence to adapt the next lesson.

Within these comments, there were clear examples of building professional knowledge, addressing my second research sub-question, 'How can the Lesson Study cycle build professional knowledge?'. Teachers described ways in which tacit knowledge was made explicit (Hargreaves, 1999), although this was not expressed in these terms. For example, through the collaborative planning process, some teachers learnt how to break learning into sequences and to develop a greater understanding of the progression of learning. This suggests that sticky pedagogical knowledge (Von Hippel, 1994; Hadfield, 2014) was transferred from one teacher to another, through an activity that had tangible

meaning. Teachers simultaneously developed human capital, in particular pedagogical knowledge, and social capital, whilst impacting directly upon their pupils.

One group described the '*joint ownership of learning'*. This would suggest that Lesson Study is a successful example of JDP (Hargreaves, 2012a; Gregson, Nixon, Spedding and Kearney, 2013). This signals the growth of social capital and the early shoots of decisional capital, with teachers learning that collectively they could become agents of change (Fullan, 1993). This joint ownership, I argue in Chapter 4, is essential for long-term school improvement.

The comment that it was '*easier to take constructive criticism from colleagues instead of leaders*' was a sentiment shared by many teachers. On the one hand, it suggested that teachers were experiencing a sense of empowerment and autonomy. Their collaboration went beyond simple niceties and challenged each other's practice (Fullan, 1991), growing professional capital, and specifically social capital. On the other hand, I was dismayed by the distinction between colleagues and leaders. Such a division suggested that the hierarchy of positional leadership was entrenched in many schools. Therefore, I questioned whether Lesson Study was truly successful in realising the notion of 'teacher-as-researcher' (Stenhouse, 1975). This was in contrast to the views expressed by teachers in my school.

I was drawn to the annotation that read, '*infectious buzz from other teachers – a curiosity for teaching and learning*'. This suggested that teams of teachers were developing social capital, and also experiencing self and collective efficacy (Fullan, 2014), elements of decisional capital. This '*curiosity*' signalled that a community of learners had been 'awakened', answering my third research sub-question (Fig 5.3c). This was the most exciting part of my research.

The final discussion, which was the least productive, centered on the wider impact of the inter-school Lesson Study group. The prompts I provided included, 'other teachers in your school', 'teacher confidence', 'the value of cross-school collaboration' and 'wider

dissemination'. Many think bubbles were left blank and many comments seemed superficial, such as '*good to talk*'. It was apparent that teachers could not discern or articulate a benefit of inter-school collaboration, nor did they see their role as disseminating their learning beyond their own classroom or school. Some did see merit in sharing planning, resources and ideas across schools, which could be understood as 'cognitive artifacts' (Fig 5.3c). There was also no acknowledgement that teams could learn from one another to better implement the Lesson Study cycle in their own schools. Any wider consideration of how bridges (Putman, 2000) could be built across schools in order to grow professional capital was noticeably absent from this brief discussion.

My attempt at developing inter-school collaboration was not a disaster, but it was not as successful as I had hoped. In the analysis above, I explore a number of examples of clear gains in individual schools, most notably the positive impact upon pupils and individual teachers. Therefore, the intervention was a success, and both of my stated aims had been achieved (Fig 5.1). However, this success had been in unconnected pockets in individual schools. In the section below, I explore the barriers to building the bridges of inter-school collaboration and how this limited the impact and longevity of this project.

Barriers to inter-school collaboration

Throughout this project, much to my frustration, I discovered that there are many challenges which hinder the facilitation of inter-school collaboration. In Episode 4, I describe my attempt to overcome many of these barriers, however I first needed to understand what they were. In Chapter 8, I return to many of the obstacles I identify below. Throughout this following section I draw upon the work of Yuefeng Zhang, Lewis, Bergqvist and Hansson (2013), who explored the question, 'How can Lesson Study be sustained?' (Fig 3.6).

The influence of culture

Undoubtedly, I underestimated the influence of school culture. Whilst I remained convinced by the potential positive impact of Lesson Study, I could not deny the cultural influences within which the teachers operated: 'A school's culture is a complex pattern of norms, attitudes, beliefs, behaviours, values, ceremonies, traditions, and myths that are deeply ingrained in the very core of the organisation' (Barth, 2002: 7). Culture is the normative glue which holds a school together (Sergiovanni, 1992). My research questioned some of these norms, values and beliefs, yet I was not in a position to profoundly influence these patterns of behaviour. Furthermore, school culture in turn influences classroom culture (Cheong, 2000).

I realised that the sustained success of Lesson Study depends upon strong inter-school relationships and connections (Yuefeng Zhang et al., 2013). To assume that my project could, in isolation, impact on something as multifaceted as professional capital was flawed. For Lesson Study to thrive, there must already be a collaborative, trusting, supportive school culture. Within this culture, teachers must be encouraged to be curious, creative and self-motivated. Such an environment would typify what Rosenholz (1989) called a 'learning enriched school'; I think that this lies at the heart of the success I recount in Episodes 2 and 4, which I explore in Chapter 8.

The influence of the headteacher and senior leaders

I underestimated the influence of school culture. The culture of a school is largely shaped by key leaders, most importantly by the headteacher. On reflection, I underrated the pervasive influence of senior leaders when growing something as significant as professional capital. Leaders set the climate or 'make the weather' for a school. It is the culture of each school that enables JPD to flourish (Hargreaves, 2012a; Gregson, Nixon, Spedding and Kearney, 2013). As I discuss previously, I regarded it as less important to secure the allegiance of senior leaders than that of teachers. My attention was focused on motivating teachers and building their trust, as they were the ones directly influenced by the project. I assumed senior leaders would support the ethos of Lesson Study. On reflection, this was naive.

Therefore, the lack of visible, effusive commitment from the schools' senior leaders undoubtedly limited the impact. For Lesson Study to have sustained success, policy makers must value and support the process (Yuefeng Zhang et al., 2013), with a vision of collaborative, emancipatory teacher development. I assumed wrongly that schools based their decisions about teachers' professional development upon this premise. In most of the participating schools, this simply was not the case.

Individual schools' capacity to embrace change

From experience of my own school, I was well aware the school effectiveness agenda has pervasive influence upon where a school and its leadership team focus their energies. All the schools participating in the project had other priorities, many of which were perceived as far more pressing than a collaborative project imposed by the local authority. A concentration on learning and teaching, in order to grow a learning organisation, is a well-established factor for school improvement (Sammons et al., 1996 cited in MacBeath and Mortimore, 2001), however its importance can easily become sidelined. The pervasive 'productivity view of effectiveness sees output of the organisation's primary process as the criterion to judge goal attainment and emphasises the search for organisational characteristics that maximise output…in the case of schools, the primary outputs are the knowledge and skills pupils acquire' (Schreerens and Creemers, 1989: 696-7). Unfortunately, this often becomes translated into a narrow focus upon end of key stage test results.

For Lesson Study to succeed, it must be adapted and integrated into daily practice. Internal trainers and mentors must be cultivated and teachers themselves must take ownership of the process (Yuefeng Zhang et al., 2013). Given the threat of an imminent inspection by Ofsted, many of these schools were not in a position to cultivate this model of school improvement. Lesson Study takes time to establish, by encouraging teachers to take risks (which may result in failure). It may have an impact that is less tangible than direct improvement upon academic attainment, and it does not necessarily fit well with a monitoring and accountability agenda. Given the high-stakes pressures faced by

participating schools, many simply did not have the capacity to embrace this mode of professional development.

Differing moral purpose

Throughout my research design, I assumed my moral purpose was shared by other teachers and leaders. This moral purpose is the driving influence for change, affecting both emotions and thoughts (Fullan, 2007; Frost, 2013). For me, my moral purpose shaped my research design, as well as informing my daily decisions. I also see this reflected in the motivation of the teachers in my school. However, this may not be the case for all participants.

Furthermore, the RANGe success criteria (Fig 7.3a) does not reflect the importance of moral purpose; conversely, I suggest that the emphasis on these criteria conspire against it. Without a commitment to a shared, explicit, collective moral purpose, the success of my project was always in jeopardy. Certainly, it meant that my aspiration to facilitate genuine, authentic collaboration in order to ''awaken' a community of learners and leaders' (Mitchell and Sackney, 2000; Sergiovanni, 2001; Katzenmeyer and Moller, 2001; Ainscow, Muijis and West, 2006) was unlikely to come to fruition.

Pervasiveness of the deficit CPD model

Unfortunately, the assumption that weak teachers need *fixing* still holds a firm grip upon many schools' approaches to professional development. In my view, this is often reinforced by TLA's from the local authority, as it massages the egos of perceived experts, who are parachuted in by senior leaders to impart their wisdom. The school effectiveness agenda compounds this problem; most schools devise CPD structures to react to external drivers such as dealing with changes in Ofsted frameworks, impending inspections and government policy changes, rather than developing their workforce (Teacher Development Trust, 2012).

In spite of my good intentions, I feared that my project may have simply replicated a traditional model of CPD. Unsurprisingly, despite my assurances to the contrary, it was

greeted with some apprehension, as some teachers regarded it as another mechanism to monitor and judge their practice. This was possibly reinforced by senior leaders who saw it as an opportunity to do just this. Furthermore, as the TLAs and I stood in front of the group of teachers, I felt we were perceived once again as experts disseminating best practice (Fullan, 1993). Yuefeng Zhang et al. (2013) insist that teacher development must be a deliberate act; it must be a 'core kernel' routine. My research did not achieve this, due to many of the factors which I discuss above.

Tensions which hinder collaboration

There were several underlying tensions, which acted as barriers to establishing genuine collaboration. Whilst competition and rivalry between local schools was not explicit, it was an influencing factor. Without the public support of headteachers, participating teachers were reluctant to expose weaknesses, both in their own teaching, and in the wide school culture. Similarly, they may have been reluctant to share their successes for fear that these strategies may be poached by other schools. Naively, I assumed that all schools would be open to sharing challenges and achievements, in order to enhance teaching and learning across Stevenage.

There were also tensions between the participating groups. The RANGe project was initiated by the local authority, who had secured the funding. Therefore, TLAs regard it as *theirs* rather than *mine*. As I explain in Chapter 1, I was working for Stevenage Educational Trust (SET), which was considered a rival to local authority school support. During this time, the political landscape was changing, and local authority powers were significantly diminished. Providers were nervous about the changing backdrop and it felt as if for the first time TLAs needed to *prove their worth*. Another tension was the unclear role of the university who were evaluating the RANGe project (The University of Hertfordshire). Their and my thinking (The University of Cambridge) differed. Our conceptualisation of the research varied and so our approach to evaluation did not marry.

There are many barriers to inter-school collaboration, some of which may be easier to overcome than others. One headteacher explained these barriers as, *'different needs and*

priorities…lack of awareness and understanding…different places schools are in due to pressures such as struggling to get permanent staff'. He went further, adding, *'there is a want by heads to work collaboratively but the system itself makes you be risk averse – for example, if they have been told the planning in their school is not good enough, then that is what they want to get from the Lesson Study cycle'* (Conversation with WWJS Headteacher). He expressed the pressures faced by individual schools and their senior leaders, which trickle down to teachers and their classrooms, reinforcing a culture where teachers and their pupils are afraid to take risks. Ironically, such a climate makes the introduction of an intervention such as Lesson Study all the more essential.

Concluding Episode 3

Although I anticipated that Lesson Study would contribute to inter-school collaboration and networking, as seen in Japan (Fernandez and Chokshi, 2002), this action was not as successful as I had hoped. Subsequently, I did not see the growth of professional capital I had planned for and this action did not provide a strong model of JPD. This was due to a number of challenges and barriers, which I explore in this episode and return to in Chapter 8. Nevertheless, I learnt valuable lessons about collaboration and leadership, which I drew on when leading subsequent action.

While communities of practice did come together to disseminate their learning, there was little evidence of practices transferring across schools and being adopted in new settings. This resonates with Dudley's (2012) research. Whilst he recognises the value of inter-school use of Lesson Study, he suggests that the development of the social capital necessary for genuine collaboration would take time, more time than my research permitted. Consequently, knowledge interaction was limited (Nonaka and Takeuchi, 1995). I further consider these constraints in Chapter 8.

In June 2014, I was invited to present at the RANGe Conference. By now this initiative had metamorphosed into *'Exchanging Excellence – Closing the Gap'* and the conference

was entitled, *'A synthesis of best practice'*. The keynote speaker was Sir John Dunford, National Pupil Premium Champion. During my workshop presentation, I built on two important messages from his speech: 'the pursuit of excellent teaching in itself will close the gap' and 'stop looking up – starting looking out'. This presentation offered an opportunity for me to further reflect on the action I had led, ensuring that I clearly articulated the benefits and limitations. It also provided a forum for me to connect with other senior leaders who were interested in the potential of the Lesson Study cycle.

Chapter 7

Episode 4: Developing effective inter-school collaboration

Although the action I describe in Episode 3 was not as successful in facilitating inter-school collaboration as I had intended, it did culminate in me presenting to a wider group of leaders. At the end of this presentation at the RANGe Conference, I was approached by a headteacher of another Hertfordshire junior school. She briefly explained the context of her school and asked if I would be interested in leading a collaborative project in the coming academic year. Although disheartened by the barriers I faced during the project I recount in Episode 3, I was still determined to facilitate inter-school collaboration.

In this episode, I explore the beginnings of a successful project to develop inter-school collaboration, through Lesson Study. This collaboration was a pairing between two junior schools, who were facing similar challenges. I begin by explaining how my leadership of this action differed from my previous attempt. Next, I describe what I learnt from guided conversations with teachers in the partner school, and the parallels I drew with my own context. I have permission from both headteachers to name their schools in this account. Then, I describe the connections made when teams from both schools joined together to share their learning. I return to a reflection on how professional capital is built, before concluding this episode and chapter.

Leading our project and experience success

This heading mirrors a section in Episode 3, however there are two key distinctions. The first is the use of the pronoun 'our', signalling a truly collaborative project, with ownership of both schools. The second difference is the addition of 'experiencing success'. In Episode 3, I outline some of the barriers to inter-school collaboration. After reflecting on these, I shaped this phase of my research to overcome these challenges. Holtsmere End Junior School (HEJS) was demographically similar to my own, with

roughly the same age range and number of pupils. Staff also experienced similar challenges, particularly in the teaching of mathematics.

I now realise that the most important influencing factor was that the headteacher approached me to initiate the project. This meant that she was completely committed to the process. Having listened to my talk, she understood the principles underpinning the approach and the importance of Lesson Study becoming a 'core kernel' routine (Yuefeng Zhang et al., 2013). She, with senior leadership support, drove the project in her school, and I, with the support of my headteacher, drove it in mine. Every teacher in both schools joined a team, so that the project became a process embedded within the SDP. This was in contrast to the action which I recount in Episode 3, which was a bolt-on, operating independently of wider school improvement initiatives.

This time, I began by visiting the school to meet with the headteacher, answering her questions and offering suggestions to ensure the project's success. I outlined some non-negotiables, such as making sure that the appraisal process was independent from Lesson Study. The headteacher was committed, and therefore, so was her school. Together we organised staff into teams, plotted a timetable and arranged for me to lead a staff training session. From the beginning, the process felt more manageable and I felt more in control.

When I led the staff training, I asked four teachers from my school to accompany me, all of whom had previously experienced the Lesson Study cycle. I chose them carefully because they represented a range of teaching experience and taught different age groups. All were enthusiastic to attend and share their thoughts. As I led the session, drawing upon a PowerPoint presentation which I had now used several times before, teams of teachers clustered around tables. I placed a teacher from my school on each table and provided many opportunities for teachers to discuss and reflect. These discussions ensured that the teams fully understood the process, and I could hear them asking my teachers a number of questions regarding its practical implementation. During these conversations, the teachers from my school shared honest reflections about the cycle, describing their own apprehensions and subsequent learning. They also displayed their

portfolios so that the newly formed teams could see the final outcomes and the documentation of the process as a whole.

The response was extremely positive and certainly pivotal to the project's future success. Bonds of trust and social capital were already built between the teachers in both schools. My teachers could talk confidently about human and decisional capital, although they did not refer to them in those terms. The teachers from HEJS saw the cycle was accessible and supported by their headteacher, who stayed in the room throughout the session. There was a *'infectious buzz'* of excitement, which I had not experienced in my previous attempt at inter-school collaboration. At the conclusion of this session, both schools were ready to commence the cycles in their own schools and agreed to share at the end of the academic term. When describing this session in a later conversation the headteacher explained that she was, *'impressed by the way the staff took on board the purpose behind it and the enthusiasm with which it was entered into – they were inspired to get started'* (Conversation with HEJS Headteacher). Furthermore, upon reflection she observed that the teachers were keen to continue the cycle outside of my research.

Hearing teachers' voices

During the academic term, I revisited HEJS to offer guidance and capture the process. I led a conversation with the headteacher and guided conversations with two groups of team members. As I recount in Episode 2, the feedback was again extremely positive and most teachers confidently articulated gains from participating in Lesson Study. All of the teachers could describe ways in which they had developed human capital, often identifying shifts in pedagogical knowledge, such as questioning, scaffolding pupil talk and grouping. They also exercised decisional capital, confidently linking this to a positive impact on pupils' learning. They were looking forward to their turn to teach, explaining *'we have more to learn'* (HEJS, Conversation A). One teacher enthused, *'it has definitely benefited me professionally – it has made me more aware of what I teach, why I teach, how I teach'* (HEJS, Conversation A). Both the headteacher and teachers

consistently used the pronouns *'we'* and *'our'*, suggesting that there was a well-developed understanding and commitment to Lesson Study, but also that social capital was already well established.

As I detail in Episodes 2 and 3, teachers found it difficult to unpick how Lesson Study impacted their own professional growth. One experienced teacher explained that she, *'really did find it useful seeing somebody else teaching and planning the lesson together'* (HEJS, Conversation B). Despite saying that it was the most helpful form of professional development she had experienced, she could not provide a concrete example. I needed to make this more explicit: I was learning teachers found it easier to describe impact on the pupils than on themselves.

One teacher articulated the impact on her teaching well. She explained that, '*I found it really interesting looking at the way different people plan and the process of planning – when I plan now I do it in a different way'* (HEJS, Conversation A). In formal lesson observations, she had repeatedly been criticised for talking too much, explaining she knew she needed to *'shut up'* but did not know how to structure a lesson without *'doing the activity for them (the pupils)'*. Through collaborative planning (Step 2), she became much more aware of how to structure a lesson, and through observation (Step 3) she witnessed the negative impact which excessive teacher talk had on the pupils; during the study lesson, she was thinking *'you need to stop now, you need to stop now…we know our children but often you don't trust them enough – I've got to trust them that what I've done is good enough that they can start'* (HEJS, Conversation A). This teacher recognised her learning within the Lesson Study cycle had positively impacted upon her teaching outside of the cycle. She summarised, '*I don't know if that makes any sense at all to you, but it does to me'* (HEJS, Conversation A). The Lesson Study cycle appeared to enable this semi-experienced teacher to overcome a *'block'* in her own practice, which had not been achieved via more traditional means such as formal monitoring and feedback. She explained that she was now, *'practising talking less'*, suggesting that she understood that teaching was about reflection-in-action and reflection-on-action (Schon, 1983; Argyris, 1991).

The forensic focus on case pupils enhanced the cycle. The headteacher described the differences she saw: *'I think it gave a great insight into what teachers don't normally see within a classroom – for example one of the Year 6 girls was observed to pick up the challenge her friend had chosen and when her friend put it down, she put it down – something very small but you wouldn't necessarily notice that'* (Conversation with HEJS Headteacher). A teacher described how case pupils' oral feedback enabled them to *'tweak and change'* lessons. This was so successful that after the third lesson, the pupils could not suggest any further improvements, which indicates that the teachers listened attentively to pupil voice and adapted their lessons accordingly. This team explained to the case pupils that the other class in the same year group would be covering the lesson in two weeks' time. This enabled pupils to put themselves *'in someone else's shoes'* and so they felt more comfortable offering suggestions. Teachers reflected that they rarely found time outside of Lesson Study to ask pupils their opinions, other than to ask them to self-assess their learning.

I drew a parallel between teachers' and pupils' learning. Both found it easier to offer suggestions for improvements when thinking beyond their own direct experience. Spending time in another classroom and planning a lesson they were not going to teach enabled teachers to recognise new habits, resulting in a change in their behaviour. Similarly, pupils were more comfortable and reflective when suggesting improvements to a future lesson, which would not impact upon them directly. This resonates with the development of learning styles, based on the work of Kolb (1984), categorised as activist, theorist, pragmatist and reflector (Honey and Mumford, 1982).

Recounting a conversation with a teacher, the headteacher explained how she scaffolded a shift in the teacher's pedagogical understanding. Developing the teacher's human capital by acting as a *Koshi* (knowledgeable other), she guided the conversation so that the teacher reflected and made links between the planning process and future lessons. This is an example of transfer through the socialisation and externalisation of knowledge (Nonaka and Takeuchi, 1995).

One of them said – it was like the penny dropped – she said, almost word for word, "yeah but we might have seen something different had we not planned with those children in mind".
And I said, "what do you mean? You planned with the girls we were talking about in mind?"
"Yeah"
"Ok – was that planning with the girls in mind detrimental to the other children in the group?"
"No"
"Well how about we always plan with those girls in mind?" – it was just like one of those moments – it was quite a surprise that they hadn't thought about that.

(Conversation with HEJS Headteacher)

Role of senior leaders

An important consideration was the formation of each team. The headteacher explained, *'Although I thought carefully about the groups, perhaps with hindsight I made one mistake however I think it was interesting some of the responses we had…some members of staff were surprised how much they got out of it. I think the group that has the deputy head(teacher) in have found it hard even though he is sticking to the rules but they know he is the deputy head – any comments were taken personally'* (Conversation with HEJS Headteacher). When I spoke to a teacher from this team, in whose class the lessons had taken place, she said she felt it, *'was all on my shoulders'* (HEJS, Conversation B). Despite our best intentions, this team did not plan together. This teacher deferred to the senior leader, but she was uncomfortable with his suggestions, and consequently felt that the lesson pitch was too low. Nevertheless, she found the opportunity for reflection *'really worthwhile'*; for example, she tended to defer to the dominant boys in her class, and as a result of Lesson Study, has shifted her questioning, *'targeting the girls'* in order to make her practice more inclusive. She noticed that as a result, the girls were now *'much more confident'* and happier to *'take a risk in their learning'*.

The teacher felt like she was *'being watched'* by the senior leader, a sentiment reiterated by a teacher in another team, who was glad the members of her team were *'friends as well as colleagues'* (HEJS, Conversation A). She explained she would have felt more pressure if their team had included a senior leader as they would have, *'found it difficult*

to differentiate between observing children and observing me – I would find it difficult to not expect that to happen' (HEJS, Conversation A). The teachers were fearful that if a senior leader saw a weakness during Lesson Study, this would trigger a formal, judgmental lesson observation. It struck me that these teachers lacked confidence, and I feared that this reticence was being created and replicated in many schools, given the pervasive accountability agenda.

Sharing learning, building knowledge

Just before Christmas, amidst preparations for the Nativity production, pantomime visits and learning carols, Lesson Study teams from Woolenwick Junior School (WWJS) and Holtsmere End Junior School (HEJS) met to share their learning. The after-school twilight was held in a classroom at my school and teachers were greeted with mince pies and Christmas music. Each team took turns to share learning, whilst I encouraged participants to build upon each other's contributions.

I asked the assistant headteacher and headteacher of my school to make notes, particularly concentrating on the ways in which inter-school collaboration supported the growth of professional capital. This was strategic, as I was leaving the school at the end of the term; I wanted to build capacity within my school's leadership structure, so Lesson Study could maintain its momentum in my absence. Much of the discussion focused upon the similar challenges in both schools. I recognised this as the building of bridges and bonds (Putman, 2000), a sub-strand of social capital (Fig 5.3a).

In analysing their notes, I noticed that the assistant headteacher of my school, who was responsible for teaching and learning, focused on the development of human capital, and particularly on pedagogical knowledge development. Her notes concentrated on practical suggestions, which teachers could draw upon and apply to their own classrooms. In contrast, the headteacher's notes centred on the growth of social capital; his notes were

less specific and captured more overarching observations around wider concepts such as the role of professional dialogue and teacher perceptions.

The teams in both schools focused on *invisible* children. By this they meant pupils, often girls, who demonstrated a good work ethic and were compliant but avoided taking centre stage and often preferred to go unnoticed in lessons. Consequently, the teachers felt they did not know them as well as their more vocal, outgoing pupils. The teachers observed that these children were rarely competitive and were happy for other pupils to lead. Teachers from both schools identified poor pupil attendance as a challenge, since case pupils were often absent from school during the cycle, and this emphasised just how much this was impacting upon learning.

The teachers drew many positives from participating in Lesson Study, finding it '*eye opening*' to focus upon *invisible* girls. Teachers from HEJS explained that previously they would have described these girls as risk-takers, however through focused observations, their opinions had changed. Teachers from WWJS added that in-class observation contrasted with what they learnt from the scrutiny of pupil workbooks. Teachers' prior perceptions often differed from reality, a key learning point for many teams. Consequently, both schools agreed this was an invaluable step.

Teachers also described that they '*loved watching others*', in particular pupils rather than the teacher. They agreed that this was far less pressured than other peer and team-teaching models, and found forensically watching one child incredibly powerful. A one-on-one tutor explained how Lesson Study had enabled her to observe how a case pupil had applied their understanding within a whole class context, helping the tutor to unpick what the pupil needed to learn next. All the teams also commented on the importance of professional dialogues with colleagues. Ideas were developed in the Lesson Study cycle, and then teachers described the ways in which they had adapted and refined this in their own classrooms. They found the collaboration across year groups and the composition of teams supportive. In their presentations, they frequently articulated the ways in which they built upon their joint teaching experience.

One of the foci for the HEJS teams was to develop more *open learning*. By this they meant developing higher order thinking (Bloom, 1956), and creating space within lessons for children to explore concepts in greater depth. These teachers reported a slowing of pace in the lessons, as they spent more time building children's confidence and developing their explanations. This was a recurring theme. Teachers thought that they were revisiting key learning points, and yet they reflected that through the Lesson Study cycle they realised they were not always '*taking children back far enough'*. Again, this resonated with teachers from several teams, across both schools.

Throughout the Lesson Study cycle, teachers noticed that boys were offering more oral explanations than girls. One team developed a strategy to facilitate learning partner discussions; Child A told Child B, resulting in Child B feeding back to the whole class. They also established speaking frames to structure and prompt purposeful talk, and in order to enhance the children's responses to teacher questioning, they introduced a *'no hands up'* rule. Another pedagogical strategy deployed was greater use of mini-whiteboards to scaffold pupils' discussions and reasoning skills. One team initiated a '*no rubbing out'* policy, although they allowed children to use multiple whiteboards to show their calculations. Building on the ideas proffered by teachers from HEJS, one teacher from WWJS suggested encouraging children to pick their own learning partners. She explained how as a result of a previous Lesson Study cycle, she now allowed the children in her class to give her a list of three children with whom they would like to be paired. She changed the pairings every week, as she had learnt through Lesson Study that it had such a significant impact upon pupils' learning.

A teacher from HEJS explained that her team had not planned together, which had affected how she felt about the process, as she mentioned in the guided conversation I recount above. This is significant, since a vital step in the cycle had been skipped. The collaborative planning process enables teachers to build professional capital whilst focusing upon a practical task. My readings reinforced the importance placed upon this step in Japanese and American models. Therefore, I suspected that its absence negatively impacted upon this teacher's perception of the process. In contrast, those teachers who

planned together noted this as a strength, recognising that it enhanced their teaching both within and outside the cycle. A WWJS team also commented upon the enhanced visual and practical resources they created and sourced as a team. They felt that the inclusion of senior teaching assistants within the team brought a depth of expertise, which included helpful knowledge about the use of practical resources.

The figure below summarises some of the learning shared by teams from both schools. This demonstrates that teachers developed their human capital through the Lesson Study cycle. All three strands (subject and pedagogical knowledge, observation and reflection, passion/moral commitment) were evident throughout.

Fig 7.4a: Strategies to engage *invisible* children

- No rubbing out policy – use of multiple mini-whiteboards.
- Providing speaking frames to scaffold talk.
- No hands up policy – targeting teacher questions to key children.
- Structured pair talk and response.
- Pupils self-select their learning partner, regularly change learning partners and pairing 'invisible' children carefully, so they are the stronger of the pairing.
- Time dedicated in lessons to explore 'what is a risk taker?'.
- Developing upon pupil voice so they played a part in shaping their lessons.
- Support learning with visual and practical resources.
- Making explicit links to other learning.
- Developing open-ended activities.
- Creating guided groups.
- Ensure you are taking children's learning back far enough.

Although social capital was already strong in both schools, Lesson Study had further promoted its growth. Pleasingly, this now extended beyond individual schools; collegial networks were beginning to be established, and building upon the initial training session, teachers further developed reciprocity and trust. This was evident in the way they freely chatted, exposing their mistakes and sharing their new learning. Teachers *bonded,* finding a common identity, teachers *bridged* beyond their immediate school environment and they *linked* with those of different status in either school (Putnam, 2000). This

atmosphere was very different to that experienced in the action I recount in Episode 3. Teams were also exercising decisional capital; they gave examples of ways they had applied their discretionary judgement, experienced collective and self-efficacy, and experienced change agentry. This cycle was a success and promised to become a thriving network.

Reflecting upon the growth of professional capital

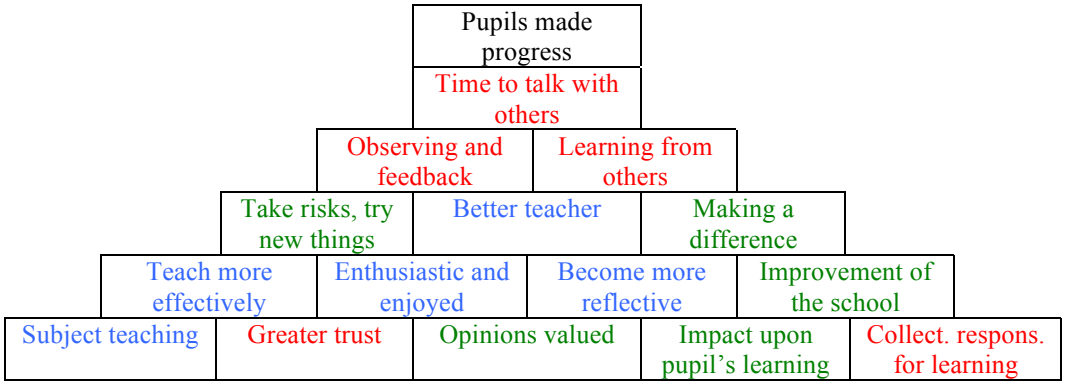
The intra-school collaboration, which I recount in Episode 2 and in this episode, was successful. Therefore, I wanted to find new ways to engage with the teachers, to gather data and further probe teachers' perceptions. From my analysis of guided conversations and my own observations and reflections, I was convinced that Lesson Study was successful in growing professional capital. However, I aspired to teachers themselves being able to recognise and articulate this growth. I was also interested in whether teachers placed the same importance upon the various strands of professional capital. To this end, I designed a pyramid ranking activity, and as with the design of many tools, I drew on my teaching experience. I gave each team a bank of statements to discuss and place on a large piece of sugar paper, forming a pyramid shape. Each group had to negotiate and agree upon the order of importance, placing the most significant statement at the top and the least at the base. Whilst reflecting on their experience of Lesson Study, I asked them to consider which aspect had the greatest impact on their professional development. I also encouraged them to annotate the sheet.

The activity took no more than half an hour to complete. It was at the end of the term, once each team had completed the first cycle. The activity was held in the staffroom, as this was a reasonably neutral environment. Unfortunately, each team had a member absent, due to them working part-time or having afterschool childcare responsibilities. I reasoned that this was the reality of a busy primary school, and that it would be foolish to further delay the activity; as I detail previously, lack of time often presented a barrier. Teachers were enthusiastic to take part in the activity.

I began by providing a brief explanation of professional capital and its three components (Fullan and Hargreaves, 2012). I gave each group a list of 16 colour-coded statements (Appendix 7.4a). The five blue statements referred to human capital including, *'I felt the lesson study process has helped me to become more reflective about my teaching'* and *'I felt I learn ways to teach more effectively (the 'how' of teaching)'*. Five red statements referred to social capital, including statements such as, *'I felt having time to talk about teaching and learning was very valuable'* and *'I felt a collective responsibility for ensuring the pupils learnt during the lesson study process'*. Five green statements referred to decisional capital including, *'I felt able to take risks, try new things and adapt my lessons/teaching'* and *'I felt like I was making a difference to the improvement of the school'*. One statement was in black, referring to pupils' academic progress, the first aim of my research: *'I felt the pupils made progress as a result of the lesson study process'*. I started each statement with *'I felt',* in order to personalise the activity and emphasise there was no correct answer.

Team A chose to rank their statements in a 1, 1, 2, 3, 4, 5 formation. Placing the black statement at the top of their pyramid, the next 3 statements referred to social capital (red).

Fig 7.4b: Team A's professional capital pyramid



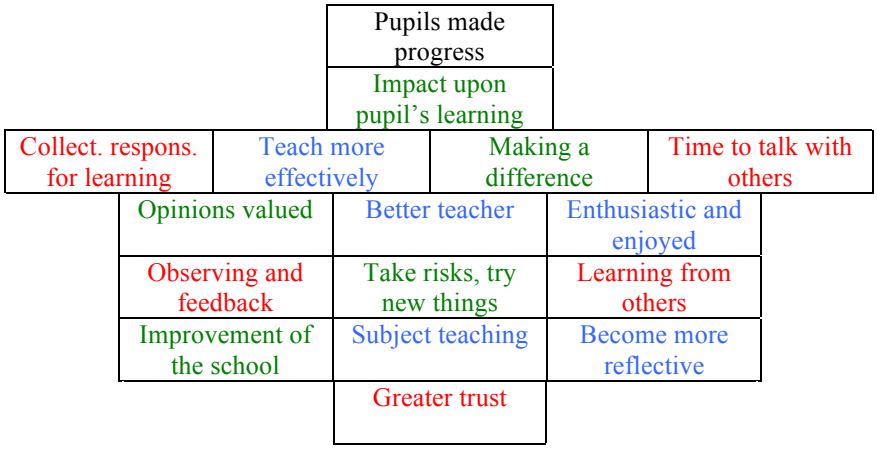
At first glance, it seemed anomalous that the statement about pupil progress was placed at the pyramid's pinnacle, yet *'collective responsibility for ensuring pupils learnt during the process'* and *'impact upon pupils' learning and outcomes'* were placed at the base. They explained that they gave prominence to pupils making progress so decided they need not

repeat themselves by placing the other related statements near the top. This gave them scope to rank other statements highly, which they agreed were important. This pyramid evidences that the teachers perceived that Lesson Study had positively impacted upon pupils' educational achievement; my first aim was realised.

This team felt the process was most beneficial in the building of social capital. All participants were within the early stages of their careers (less than 5 years), which perhaps influenced their enthusiasm for learning from others. They valued dedicated time to talk at length about their lessons, and to observe and give feedback to one another. The team only added one annotation, wanting to make clear that collaboration enabled risk-taking: *'We feel that because of the collaborative responsibility for the lessons it was easier to take a risk. There was support and the chance to reflect on the new process'* (WWJS, Team A pyramid activity annotation). I was pleased that these participants were able to make the link between collaboration (social capital) and risk-taking (decisional capital).

Team B comprised of members who had not previously taken part in Lesson Study. They chose a pyramid format of 1, 1, 4, 3, 3, 3, 1. This team again placed the black statement at the very top, although the other statements were more spread out.

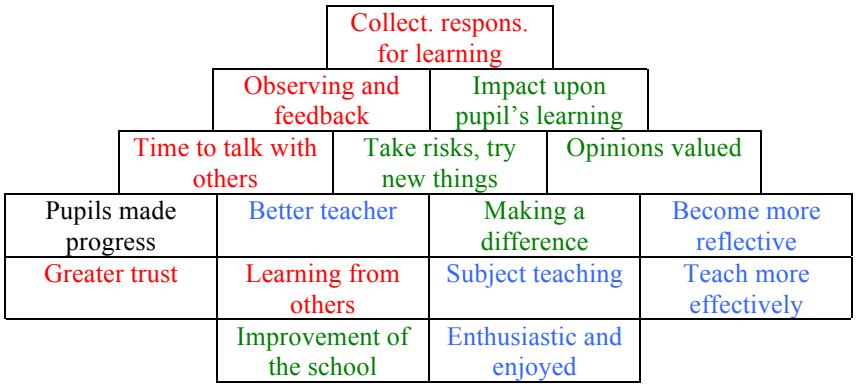
Fig 7.4c: Team B's professional capital pyramid



Interestingly, this team also ranked *'time to talk with others'* highly, near the top of the pyramid. In the life of a busy primary school, it is difficult to ensure that enough time is dedicated to teachers engaging in extended professional dialogue; lunchtimes are often frenetic, and staff development sessions are pre-planned and often used to impart information. Again, the building of social capital through purposeful talk was greatly valued.

Most of the participants in Team C were support staff, with some responsibility for teaching whole classes. Three out of the four members had not taken part in Lesson Study before. This team annotated their pyramid in the greatest detail.

Fig 7.4d: Team C's professional capital pyramid



Unlike the other teams, Team C did not prioritise pupil progress (the black statement). This is perhaps because the majority of the group were not teachers and were not held directly responsible for the progress of their class; this statement did not feature until the fourth strata. As senior support staff, they gave greatest credence to the building of social capital. In the top three layers of their pyramid, they ranked social capital the most highly, followed by statements referring to decisional capital.

Team C also provided the greatest detail in their annotation. I found this extremely useful as it provided a rationale for their thinking. Against their most highly ranked statement they added, *'team work and getting to work with colleagues was most*

important and sharing responsibility' (WWJS, Team C pyramid activity annotation). I reasoned that this reflected the isolation felt by many teachers, which I discuss in Chapter 4. They also added that the opportunity to observe and give feedback was *'enlightening'*. Through Lesson Study, they felt the pupils became more vocal. I again reflected that outside of the Lesson Study cycle, we still did not provide enough opportunities to gather and reflect upon pupil voice.

In their annotation, this team repeatedly emphasised the benefits of collaborative working. Although they placed the statements relating to human capital in relatively low strata, they qualified this with their annotation, stating that, '*reflecting as a team gave a better perspective as to what was going on at a private (individual) level'* (WWJS, Team C pyramid activity annotation). The team identified that building social capital helped them to develop their own human capital, annotating that trust was helped by *'working with colleagues in a different role/light'*. They lamented the lack of opportunity for staff to spend time in each other's classrooms or engage in extended professional discussions. Again, I reflected that I was in the privileged position, having seen all of these participants teach and interact with children; however, this was not the case for the team participants themselves.

This team placed, *'I felt enthusiastic and I enjoyed the Lesson Study proces*s', at the bottom of the pyramid, much lower than the other teams. This may reflect apprehension, as most of them had not participated before. The most vocal member of the team expressed some resistance to the Lesson Study cycle, as she worked part-time and felt there were more pressing demands on her time when she was in school. She also felt the pressure of the performativity culture, and that Lesson Study would take up time she could spend with her class. Against this statement, the team annotated *'the hour planning before each Lesson Study lesson made such a difference!*' (WWJS, Team C pyramid activity annotation). As I mention above, teachers valued the restructuring to ensure a tighter loop, with time immediately before each lesson to plan and prepare.

In summary, this pyramid activity was a very useful tool. It was quick to produce and easy to administer, with all groups taking part at the same time. It facilitated high quality discussion and reflection, and acted as a useful way to summarise learning. Unfortunately, I could only capture snippets of these discussions, so the annotation provided insight. In hindsight, if I repeated the activity, I would encourage participants to provide more detailed annotation.

These pyramids were easy to analyse, as I could take them away and peruse them in my own time. However, this involved me making some assumptions, which may not accurately reflect the participants' intentions. Given more time, I would like to repeat this activity later in the academic year. I suspect that this would give an illuminating comparison and show how participants' thinking shifted as they moved through the process.

Concluding Episode 4

I was pleased that my second attempt to forge inter-school collaboration was far more successful than my first. This was because I reflected on the action which I recount in Episode 3; in designing the action that I detail in this episode, I overcame many barriers. Most importantly, in both schools the headteachers were committed to collaborative professional development and trusted their teachers to take risks and find their own solutions. Also, social capital was already well developed within the cultures of both schools. I draw upon these factors in Chapter 8.

My account of this action demonstrates the success of Lesson Study in building the components of professional capital. These two schools formed a community of practice (Wenger, 2008) and were able to transfer knowledge both from classroom-to-classroom within their own schools and to *bridge* across schools (Putnam, 2000). Furthermore, this collaboration had a demonstrable positive impact both upon teachers' professional development and academic outcomes for disadvantaged pupils.

Chapter 7
Conclusion

This critical narrative details a cyclical process of action and reflection. Throughout my action, I gave consideration to the ethical principles underpinning my research design (Fig 6.2). In each episode, I discuss the success of Lesson Study in building professional capital. Furthermore, I explore the leadership challenges I faced and the barriers I strived to overcome. As I discuss at the beginning of this chapter, my critical narrative was a way of making meaning of my research (Somekh, 2006). Through recounting my reflective action, I aimed to achieve relatability (Bassey, 1981).

When reflecting on the action I recount in each episode, I was reminded of the importance of mess in action research, as characterised in Cook's summary of a group discussion.

> It is important this talking – because it's the thinking, isn't it? It's this vague bumbling along process that nevertheless is a process that allows our unconscious thoughts to materialise. It's about how do you hold yourself as a researcher, as a practitioner, in the state where outcomes haven't crystallised yet. Mess is skilled – very highly skilled process – experience, expertise and know how, sensitivity to pick up things is a very highly skilled process. Flickering all the time between theory and practice, theory and practice...the idea resolves, crystallises, dissolves, crystallises, dissolves.
>
> (Cook, 1998: 103)

Both the teachers as participants and myself as a researcher had 'flickered' between theory and practice. It took time for ideas to crystalise and my research required me to retain a degree of flexibility. A strength of this research was that I responded to the situations I found myself in; rather than thinking that the challenge of inter-school collaboration was too great, I found a way to overcome the barriers as they presented themselves, to reflect on them and to improve my next attempt at collaboration.

Chapter 8

Observations, outcomes, impact and recommendations

In this final chapter, I review the outcomes and impact of my research. I also make recommendations for practice and policy, drawing upon the evidence I present in the preceding chapter. Throughout the conception and implementation of the project, I have been guided by my determination to positively impact on the outcomes for disadvantaged pupils. The focus of my research was to grow professional capital through the Lesson Study cycle. Driven by my moral purpose, I arrived at this after a detailed analysis of a range of literature, reflecting on what I read and then applying those theories to my own experience. Similarly, my emerging hypothesis supposed that by improving the quality of teaching (OECD, 2011), and by providing teachers with opportunities to *tinker* with their practice (Hargreaves, 1999), this would positively impact upon disadvantaged pupils. In the early chapters, I present a detailed rationale for this project, exploring my assertion that joint professional development (JPD), and specifically the Lesson Study cycle, can improve the quality of teaching. I argue in Chapter 4 for intra- and inter-school collaboration that facilitates the growth of professional capital (Fullan and Hargreaves, 2012). Chapter 5 includes the conceptual framework (Fig 5.3) and research question.

In Chapter 6, I outline my methodology and define the project design, detailing tools and an approach to data interpretation. In Chapter 7, I present my critical narrative in four episodes, exploring the impact of intra- and inter-school collaboration, and the successes and challenges of leading Lesson Study. This narrative includes reflection on the impact on teachers, participating schools and myself, paying particular attention to the growth of professional capital. It confirms my view that I made the right decision in choosing Lesson Study, as a means to facilitate professional learning and knowledge creation and transfer (Hargreaves, 1999).

In this chapter, I reflect on the wider impact of my research, transitioning from the account in Chapter 7, to outcomes and recommendations. Here, I take a more retrospective stance and critique my research as a whole. This reflection prompted further reading and professional discussions, some of which I refer to in this chapter. I begin by considering the importance of school culture in my attempt to grow professional capital, focusing on fostering professional trust, overcoming the persistence of presentism and bridging an educational apartheid. Next, I explore the contribution of my research to building JPD (Hargreaves, 2012a; Gregson, Nixon, Spedding and Kearney, 2013), and consider reflection-in-action and reflection-on-action, professional dialogue and dialogic teaching, metacognition and feedback, extended professionality and teacher self-efficacy, voice and distributed leadership. I then summarise some recommendations for practice, including leading Lesson Study, listening to pupil voice and implications for improving teaching. I close this chapter by considering the impact and legacy of my research, drawing on the metaphor of dropping a pebble into a pool of water; the ripple effect of my research created concentric circles of impact.

In this chapter, I make new claims to knowledge, supported by my reflections and data analysis. I refer back to evidence in the narrative in order to support my claims. The recommendations I make were shared with other school leaders and, in the appendices I include tools I developed to disseminate this information. This chapter is peppered with new data, drawing upon comments made by senior leaders from the two schools where successful collaborative action took place (Chapter 7, Episode 4). In this chapter, I draw out the most significant outcomes of my research and the implications for future school improvement initiatives.

The importance of school culture when growing professional capital

Early in my research, I did not fully appreciate the potential of Lesson Study to grow professional capital (Fullan and Hargreaves, 2012), and to advance schools' collective capacity (Harris, 2001). On reflection, as I discuss in Chapter 7, I underestimated the

importance of school culture and the pervasive influence of senior leaders when growing something as all-encompassing as professional capital. I now realise that to assume that my intervention could in isolation impact on something so multifaceted was flawed. Inter-school collaboration is also difficult because each school holds its own collective tacit knowledge (Polanyi, 1967), which is not easily transferred.

As I explain in Chapter 4, engineering a collaborative, research-rich culture, enables leaders to break free of the shackles of the traditional approach to continued professional development (CPD) that I outline in Chapter 2. Such a culture of continuous improvement of practice (Wiliam, 2010) leads to a 'learning enriched school' (Rosenholz, 1989). For the Lesson Study cycle to be most effective, there must be a collaborative, trusting, supportive culture (Yuefeng Zhang, Lewis, Bergqvist and Hansson, 2013). I now realise, that whilst Lesson Study can contribute to enhancing this culture, it cannot create it. In Chapter 7, this is why the intervention I describe in Episode 2 was so positive, and why the cycles I describe in Episode 3 experienced far less success.

My research demonstrates that there are clear characteristics of schools that enable Lesson Study to grow professional capital. I highlight many of these features when recounting my research in Chapter 7 (Episodes 2 and 4). In the figure below, I distil these observations into seven characteristics. As I ordered this list, I also drew upon much of the reading that I explore in previous chapters. This figure would be useful for leaders planning to introduce the Lesson Study cycle to their school or cluster of schools. By reviewing these seven characteristics, leaders will be better able to predict the likelihood of success when embedding Lesson Study.

Fig 8.1: Characteristics needed in order to grow professional capital

1. A shared sense of moral purpose and sense of collective efficacy.
2. A school and classroom culture that supports collaboration.
3. A senior leadership team who value a CPD model which empowers teachers and encourages them to take risks.
4. A commitment to becoming a 'learning enriched school' and the development of structures that support this.
5. A school with the current capacity to embrace change and take risks.
6. An understanding that teachers have a joint responsibility for whole school improvement.
7. Systems separate from Lesson Study to mentor and hold to account underperforming teachers.

Through my research, which I make visible in my narrative in Chapter 7, I identified some specific facets of school culture, which are important in understanding the growth of professional capital. These are the need to foster professional trust, to overcome the persistence of presentism and to bridge an educational apartheid. I explore each of these in turn, with reference to my research.

Fostering professional trust

My research identifies the recurring theme of trust as an essential component of social capital. Teachers repeatedly valued the Lesson Study cycle because it built trust between colleagues, and between teachers and senior leaders. They felt trusted to take risks, to make mistakes and to make decisions. They learnt to trust other teachers' professional expertise and critical feedback (see discussion on social capital in Chapter 7, Episode 2). Teachers also learnt to trust their own judgements, observations and self-efficacy (see discussion on decisional capital in Chapter 7, Episode 2). Bryk and Schneider value trust as, 'the connective tissue that holds improving schools together' (2002: 144). This resonates with my conclusions. Drawing on Tschannen-Moran and Hoy's (2000) study, Robinson (2007) explores the leadership qualities that build relational trust. More recently The Sutton Trust highlighted the importance of professional trust in the English education system (Coe, Aloisi, Higgins and Elliot Major, 2014), which extends beyond

individual teachers and advocates for a system predicated on trust and a risk-taking culture.

> When we show trust, the vast majority of our children and adults learn, develop and grow. Of course, we need systems to identify and support those who do not, but we need to build a model that is based on a positive view of the potential of our children and adults, that trusts them, not on a model whose default is negative and whose main objective is to identify failure.
>
> (Coe, Aloisi, Higgins and Elliot Major, 2014: 9)

My narrative suggests that the Lesson Study cycle can effectively build this trust, if embedded within a supportive whole school culture (Fig 8.1). As I recount in Chapter 7 (Episode 2), one teacher explained *'we were not there to judge each other – we were there to learn from each other'* (UC, Conversation E).

My research found this relationship of trust also extends to pupils. Teachers repeatedly described building trust with pupils. Through ongoing dialogue, teachers learnt to trust pupils' abilities and reflections. Pupils were perceptive and aware of their own strengths and weaknesses (see 'Hearing teacher's voices' section in Chapter 7, Episode 4). Pupils were also willing to take risks and make mistakes, within an environment of trust. Through Lesson Study, teachers felt empowered to build these bonds of trust.

Overcoming the persistence of presentism

Upon reflection, in carrying out my research I found that presentism was a considerable barrier to successful inter-school collaboration. This was particularly evident when I attempted to lead collaboration across Stevenage primary schools, as I recount in Chapter 7 (Episode 3). Presentism had a pervasive influence on the capacity of these schools, hindering teachers from working towards long-term goals and taking risks. In this section, I explore the persistence of presentism, a phrase I derive from a lecture title (Hargreaves, 2008). This built on seminal study by Lortie (1975), who first highlighted presentism, arguing that teaching is characterised by three orientations that impede educational improvement: these are *conservatism*, *individualism* and *presentism*.

The first obstacle to collaboration, *conservatism*, reflects teachers' 'preference for doing things as they have been done in the past' (1975: 209). *Individualism* describes a profession with uncertain criteria for successful performance, resulting in teachers operating autonomously, isolated in their own classrooms, insulated from collegial feedback and unlikely to engage in substantial, collective change. *Presentism* reinforces individualism and conservatism. Teachers 'punctuate their work' into small units, 'concentrating on short-range outcomes as a source of gratification' and they 'do not invest in searching for general principles to inform their work' (Lortie, 1975: 212).

My professional experience verifies Hargreaves (2008) argument that in the decades following Lortie's study, there has been a concerted attempt to reduce conservatism and individualism. I regard this as largely successful, however it has, as I discuss in Chapter 4, led to diminished degrees of self-efficacy (Ashton and Webb, 1986), reduced relational trust among teachers (Bryk and Schneider, 2002) and the failed implementation of innovation and reform (Fullan, 1991). In response, there have been significant efforts to re-culture schools (Hargreaves, 1994), in order to develop greater collaboration among teachers. My research demonstrates the role of Lesson Study in developing stronger professional learning communities and enhancing a culture of continuous and shared learning.

In this section, I focus upon the negative impact of presentism on inter-school collaboration. My research found that for Lesson Study to experience success, the wider school culture must have moved away from focusing their efforts and enthusiasm on short-term improvement initiatives. Hargreaves argues short-term strategies, 'have a startling and attractive simplicity. They require only teachers' awareness and attention, not rumination or reflection, and the performance effects are often immediate in raising pupils' achievement above critical grade barriers that make a difference to them and their school' (2008: 10). As I detail in Chapter 1 and observed in my research (Chapter 7, Episode 3), Stevenage schools suffer from this short-term urgency, prompted by the 'tyranny of results' (Tomsett 2015: 91). Hargreaves identifies three prevalent forms of presentism, which I detail below. I extrapolate this to argue that the data I collected in

the course of my research indicates that the persistence of presentism similarly constricts senior leaders.

My research operated in school cultures of *endemic presentism*, encapsulating the pressing and insistent nature of classroom life for teachers, who are responsible for organising, orchestrating and reacting to everyday needs and demands (Jackson, 1968). Taking the time needed to participate in Lesson Study, concentrating on long-term improvement by engaging in structured reflection (Schon, 1983), conducting cycles of inquiry (Cochran-Smith and Lytle, 1993) and engaging in periodic school self-evaluation (Carr and Kemmis, 1986), 'seem like a reformer's distant dream' (Hargreaves, 2008: 11). I observed that headteachers also experienced this excessively heavy workload and the urgency of too many tasks. Fink (2010) describes headteachers as, 'overburdened, overworked and overwhelmed', and with greater accountability and budget cuts, this has been compounded.

My research suggests that endemic presentism thrives in a climate of intensification (MacBeath, O'Brien and Gronn, 2012). In my own time management, I utilise the Eisenhower Matrix (Covey, 1988). However, the pressing demands of the first quadrant, coupled with the temptation to retreat to the third and fourth quadrant, where tasks are easier to accomplish, often reinforces presentism. I illustrate this in the figure below, including the tasks of both classroom teachers and senior leaders.

Fig 8.2: The Eisenhower Matrix applied to education

Urgent and important ***Quadrant 1: quadrant of necessity***	**Not urgent but important** ***Quadrant 2: quadrant of quality***
• Crisis management • Last minute demands • Ofsted visit • Externally opposed tasks and deadlines	• School improvement planning • Joint practice development • Collaboration • Periodic self-evaluation • Cycles of inquiry • Structured reflection
Urgent and not important ***Quadrant 3: quadrant of deception***	**Not urgent and not important** ***Quadrant 4: quadrant of waste***
• Interruptions • Phone calls, emails • Other people's minor demands • Detailed marking • Administrative tasks (which could be delegated)	• Any activity you use to procrastinate e.g. putting up displays, tidying, social media, analysis paralysis, over-planning lessons, chatting.

My research took place within an atmosphere of *adaptive presentism,* blighted by years of encroaching standardisation of teaching, characterised by an increasingly detailed, prescribed and overloaded curriculum and assessment system. This is coupled with a reduction in resources and rapid educational reform (Woods, Jeffrey, Troman and Boyle, 1997). Intensification and initiative overload leads to change-related chaos, causing a loss of organisational memory of distilled wisdom and a long-held sense of purpose and mission (Abrahamson, 2004). My research found that Lesson Study helped to rekindle this organisational memory (see discussion on human capital in Chapter 7, Episode 2 and discussion on the professional capital pyramid activity in Chapter 7, Episode 4). Hargreaves and Goodson (2006) claim that teachers mourn the loss of their own and their pupil's creativity, complaining of being 'very burned out' and were 'tired of fighting it'. Adaptive presentism is also shaped by the age of marketisation that has placed schools in increasingly competitive relationships. Success in the delivery of short-term targets has been achieved at the price of long-term sustainability in lifelong learning and higher-

order proficiencies, within a broader curriculum. This data-driven cellular management of pupils ('targeting', 'pushing', 'diminishing the difference') is very familiar to senior leaders of Stevenage schools. As I explore in Chapter 7 (Episode 3), I also felt this pressure from teaching and learning advisors (TLAs), who were certainly exclusively interested in the quantitative, short-term impact achieved in one academic year.

My experience is that in such a climate of performativity, the impact of approaches, such as Lesson Study and coaching, often fades. The personal needs of individual teachers become distorted (Lofthouse, 2015), and coaching can fall into a more didactic and instructional form of monitoring. The objectives of coaching activity may therefore be in contradiction to achieving high examination results, the dominant activity in schools. Lofthouse and Leat (2003) argue that more organic, trust-based coaching structures may well clash with the managerial cultures which arise from the dominance of the accountability agenda.

Finally, the positive impact of my research was limited due to the influence of *addictive presentism*, which obsesses over short-term measurable improvements of a visible and unambiguous nature. These improvements demonstrate that sacrifices are worthwhile, provide regular opportunities for celebration, test long-term visions against immediate realities and increase credibility among stakeholders (Kotter, 1996). School improvement efforts focus on the processes of change, an understanding of the specific context and are dependent on the active support and engagement of practitioners (Gray et al., 1999). Here, reflecting upon the challenges of conducting my research, I saw an opportunity. If I could convince headteachers of the benefits of Lesson Study as a short-term confidence building strategy towards achieving longer-term transformational objectives, such as building social capital, it could act as an intervention to bridge the pervasive tension between immediate impact and long-term, sustainable growth. However, Hargreaves (2008) warns that the spectacular and affirming success of short-term strategies seems to entrench schools in a culture of presentism even more deeply. It becomes personally, professionally and institutionally addictive.

Despite my best intentions, on reflection, aligning my research stance with the Raising Achievement and Narrowing the Gap (RANGe) project was a mistake (see Chapter 7, Episode 3). Restricting each episode to a single academic year may have unintentionally encouraged teachers and their schools to develop a presentism approach. With the benefit of hindsight, I wish I had resisted the pressure to measure the success of Lesson Study by a short-term increase in pupils' quantitative academic attainment. My research shows that the Lesson Study cycle has the potential to curb *conservatism*, *individualism* and *presentism*. However, this will only be successful if it is placed within a broader collaborative school culture (Fig 8.1).

Bridging an educational apartheid

My research identifies significant barriers, such as presentism, can hinder the growth of professional capital. Whilst these challenges are felt by all schools, Hargreaves (2003a) warns of an 'apartheid' between different types of school. This resonates with my research (see Chapter 7, Episode 3). Hargreaves notes that performance training approaches are more commonly used in more challenging circumstances. This has certainly been my experience of the perceived solution to underachievement of pupils in Stevenage schools, as I discuss in Chapter 1. Consequently, the gap between the best schools and the rest widens, to the detriment of the whole education system. In my research, the headteacher of my school articulated this honestly.

> *Headteachers like quick fixes and are risk-averse. It is a high-pressured environment. There is a pressure to deliver (academic) results quickly – that pressure is external. We (headteachers) are all working under such pressure, so if you are a school struggling to get permanent staff, you are possibly not in the right place to work collaboratively.*
>
> *I see it as a very difficult landscape – there will always be headteachers who remain committed to a collaborative approach but there are many who will go back to a 'Del Boy Trotter' market stall approach. They are only bothered about their market stall – indeed, I see it happening.*
>
> (Conversation with WWJS Headteacher)

The evidence in my narrative in Chapter 7 (Episode 3) reinforces these concerns. As

noted by the National College, 'there is a risk of a two-tier system emerging in which some schools gain significantly from the enhanced continued professional development, the sharing of expertise, peer evaluation and challenge that comes from working with other schools, while some others will find themselves increasingly isolated' (2013: 3). The lack of capacity in primary schools to work in partnership is of particular concern.

I agree that achieving real improvement or change in schools requires a focus on learning-centered leadership, with priority given to enhancing teaching and learning (Earley, 2013). In 2012, the Ofsted annual report made this point very clearly. It asserted that it is the leadership of teaching and learning that makes the biggest difference to school standards as, 'outstanding schools strive to create a culture and ethos where professional dialogue about learning and teaching is highly valued and forms part of the fabric of the school'. Hargreaves (2008) cites research into the Finnish education system, where highly qualified teachers and leaders praise the steadiness of the system and its ability to engage the trust and co-operation of the profession and community in pursuit of a common economic and social vision (Aho, Pitkanen and Sahlberg, 2006).

Through my research, I discovered that the characteristics which I had assumed were present in Stevenage schools were not (Fig 8.1). Without these characteristics, the impact of Lesson Study was limited. This was magnified by the apartheid system I describe above, which is acutely felt by many headteachers in Stevenage schools. My research found that, in order to break free of these shackles, brave leadership is required (Harris, 2012) with a long-term vision, and leaders who trust their teachers and their pupils, and who are willing to take risks (see Chapter 7, Episode 4).

Whilst I was not as successful as I had hoped in facilitating inter-school collaboration, I did experience many positives. Certainly, many of the teachers who took part in this research perceived it a success. Below I explore how my research contributed to teachers' professional development. I consider the lessons that can be learnt before laying out a set of recommendations for those facilitating Lesson Study.

Facilitating joint practice development

As I explain above, Lesson Study is most effective in growing professional capital when the school culture enables it to flourish (Fig 8.1). With the right characteristics in place, my research demonstrates that Lesson Study can be a powerful form of JPD (Hargreaves, 2012a; Gregson, Nixon, Spedding and Kearney, 2013). This is an approach to professional development that puts collaboration at its core, focusing on teachers working together in a trusting, democratic environment in order to improve their own practice and have an impact on pupil progress. It is very different to traditional CPD, as it requires teachers to work together over a period of time, building expertise and developing interventions, aiming to engage teachers and enabling them to innovate through collaboration.

In the next section, I discuss ways in which my research demonstrates Lesson Study can enhance teachers' professional development. As I outline in the subsequent sections, JPD enables reflection-in-action and reflection-on-action, provides space for the development of professional dialogue and dialogic teaching, promotes metacognition, self-regulation and feedback, scaffolds extended professionality and facilitates teacher self-efficacy, voice and distributed leadership.

Enabling reflection-in-action and reflection-on-action

My research indicates opportunities for teachers to observe each other's lessons supported their professional development; I suggest that greater attention and status should be afforded to developing this practice (see 'Sharing learning, building knowledge' in Chapter 7, Episode 4). Teachers repeatedly highlighted the advantages of classroom observation, enabling them to simultaneously reflect-in-action and reflect-on-action (Schon, 1983; Argyris, 1991). It still surprises me how few opportunities teachers are granted to visit each other's classrooms. Hargreaves (2016) offers an artist analogy; just as artists visit galleries, teachers should visit classrooms. This resonates with Chen's (2013) research, who explains Chinese teachers contrast the knowledge of external

experts, ‘knowledge in a museum’, with the practical knowledge of teaching, ‘knowledge in a workshop’.

The Lesson Study cycle enables teachers to develop the skills of assessment for learning (Black, Harrison, Lee, Marshall and William, 2002; Clarke, 2005, 2008). For example, I recount in Chapter 7 (Episode 4), how a teacher was able to critically reflect on the content and structure of lessons, concluding she needed to talk less; more traditionally approaches to professional development had not enabled her to make this shift in her pedagogy. Assessment for learning resonates with Chen’s (2013) description of Chinese teachers’ development of a ‘lesson eye’ (Clarke, 2014). I think it would be helpful to explore the observation skills needed by teachers, and perhaps the use of new technologies such as video would help to hone these skills. There were occasions in my research when teachers appeared to consider observation less important than teaching (see the discussion on human capital in Chapter 7, Episode 2). I was surprised by this distinction. Affording greater importance to observation, would help teachers to further develop reflection-in-action.

My research shows that because the Lesson Study cycle necessitates reflection-on-action, it encourages double-loop learning (Argyris and Schon, 1978). Single-loop learning is the repeated attempt at the same problem, with no variation of method. Double-loop learning allows an individual or group, having attempted to achieve a goal on different occasions, to modify the goal in the light of experience. During the course of my research, after acting on feedback from teachers, I compressed the cycle, ensuring that three loops were completed within one week (see Chapter 7, Episode 1). This adjustment supported teachers in acting more quickly upon their reflections, in line with the principles of assessment for learning (Black et al., 2002), and aided their reflexivity (Elliott, 2003). My research demonstrates that reflection-on-action, facilitated by the Lesson Study cycle, supports teachers in moving from rapid thought to deliberate and contemplative thought (Claxton, 1997). This was also explained by a senior leader.

> *I think staff need a variety, there is a lot to gain from training on the job, with our children, in our circumstances, with our resources. It is coming from another angle…this is about them learning for themselves. That opportunity to reflect, change, improve and taking control of their own development is most powerful.*
>
> (Conversation with HEJS Headteacher)

I was also interested to explore how collegiality and trust could be enhanced by the integration of coaching tools. Peer coaching is based on trust rather than the use of power. Needham (2017) advises the use of a GROWTH model (goals, reality, options, will, tactics, habits) during collaborative planning (Step 2) and adoption of a positive, strength-based approach during post-lesson discussions (Step 4), to develop an enquiring habit of mind. Garmston (2008) offers advice on paraphrasing, supporting teachers to acknowledge, clarify, summarise and organise discourse.

Providing space for professional dialogue and dialogic teaching

Throughout my research, teachers reiterated the value they placed upon the opportunity to talk. This was important in the planning stage (Step 2), as it helped to clarify their thinking. Through collaborative discussion, teachers felt more able to identify the next steps in pupils' learning, and to plan lessons accordingly. This professional dialogue was expanded upon when teachers reflected on their action during Step 4 (Fig 3.2). 'Reflective conversation' or 'professional discussion' (Cochran-Smith and Lytle, 1999; Feldman, 1999) takes place within a strong collegial network. Within the Lesson Study cycle, pre- and post-lesson discussions allow space for teachers to articulate and transfer their knowledge through these social relationships. According to Cochran-Smith, professional dialogue makes possible 'the learning of new knowledge, questions and practices and, at the same time, the unlearning of some long-held and often difficult to uproot ideas, beliefs, and practices' (2003: 9).

A novice teacher at my school reflected upon this well, offering useful advice:

> *Working and talking with other teachers is good. I think you should teach in the first cycle, when you're getting used to your class. Get other teachers teaching your class so you can observe and then you can talk about it.*
>
> (TD, Conversation B)

Throughout my research, there were no examples of novice teachers stepping forward to teach in the first Lesson Study cycle. I think that experienced colleagues took the lead in order to protect novice teachers from exposing themselves so early in their career, recognising that they were not yet confident enough to take risks. However, I suspect that there is an underlying assumption that a novice has more to learn from an experienced teacher. This is a notion is reinforced by an education system which encourages schools to appoint experience mentors and judge teachers against career stage expectations, aligned with the number of years of teaching experience. In China, novice teachers are excluded from the Lesson Study cycle, conducting report lessons which are assessed, and observing demonstration lessons, taught by expert teachers, from which they learn; the research lesson is reserved for experienced teachers, who lie between these two groups (Chen, 2013).

As demonstrated in the quotation above, my research suggests there are multiple benefits to novice teachers taking part in the cycle. I was pleased that this teacher recognised that the process was supporting his professional learning. His suggestion that his class should be the subject of the first cycle arose from his reflection that this would accelerate his professional development and the outcomes of the pupils, when they needed it most. He also describes the benefit of other teachers teaching his class, whilst he observed the pupils. This represents a significant shift from a model of teachers imparting knowledge to pupils, to a model in which assessment for learning is central (Black et al., 2002), mirroring Hattie's (2003) key dimensions of expert teachers (Fig 2.1).

Once again, I drew clear parallels between what supported teachers' professional learning and what supported pupils (Appendix 8a). This is true of dialogic teaching, which harnesses the power of talk to stimulate and extend pupils' thinking, and to advance their learning and understanding. This helps teachers more to precisely diagnose pupils' needs,

frame their learning tasks and assess their progress (Alexander, 2001, 2017). Neuroscience demonstrates an intimate and necessary relationship between language and thought, and highlights the power of spoken language to enable, support and enhance children's cognitive development (Bruner, 1983; Goswami, 2015). As I explain in Chapter 7 (Episode 2), the predominant mode of teaching centres on closed questions, recall answers and minimal feedback, which limits opportunities for dialogue (Galton, Hargreaves, Comber, Wall and Pell, 1999; Resnick, Asterhan and Clarke, 2015).

My research shows a focus upon pedagogical strategies which enhance pupil talk (Mercer, 2000; Dawes, Mercer and Wegerif, 2004), developing more pupil-centred classroom interaction, support pupils thinking and learning. As I detail below, through the Lesson Study cycle, teachers-as-researchers discovered and reinforced this message for themselves. Just as teachers valued the opportunity to engage in structured dialogue for their own professional development, they also recognised the importance of talk in pupils' learning.

Promoting metacognition, self-regulation and feedback

My research found that Lesson Study provides a forum to develop metacognition, self-regulation and feedback. Once again, I drew parallels between what teachers recognised as beneficial in their own professional development and strategies they identified as supporting pupils' learning. Metacognition and self-regulation approaches, sometimes known as 'learning to learn', help learners think about their own learning more explicitly. Metacognition is a critical process that supports learning and problem solving (Bransford, Brown and Cocking, 2000), incorporating two component processes, the ability to monitor one's cognitive activities and the ability to take appropriate regulatory steps when detecting a problem (Brown, 1987). Self-regulation is the ability to manage one's own motivation towards learning (Schunk, 2008).

My narrative details that a benefit of Lesson Study is that it enables teachers to develop metacognition and self-regulation within a collaborative, safe, supportive environment (see discussion on decisional capital in Chapter 7, Episode 2). Free from the shackles of

conservatism, individualism and presentism (Lortie, 1975; Hargreaves, 2008), teachers developed a growth mindset (Dweck, 2006), and focused on their learning rather than putting on a performance. This is reflected in the HEJS Headteacher's comments (see Chapter 7, Episode 4).

My research strengthens the view that metacognition and feedback are closely linked. As Shute explains, 'feedback can promote learning, if it is received mindfully' (2008: 172). By developing a growth mindset, social and decisional capital, reflexivity and metacognition, teachers were better able to act on feedback from colleagues. In Episodes 2 and 4 I highlight teachers' comments on the usefulness of feedback from colleagues. Through this feedback and professional dialogue, teachers moved from having generic *'hopes'* about how pupils would behave in lessons to thinking forensically, and considering how their own behaviours impacted upon pupil learning.

My research highlights case pupils became more aware and thought in greater depth about their learning (see Chapter 7, Episode 1). Both teachers and pupils transferred knowledge through observation, discussion and reflection; pupils knew they were being watched and would be interviewed after the study lesson. This supported the development of pupils' metacognition, enabling them to give and receive immediate feedback, developing their capacity to reflect on and improve their own learning; this lies at the heart of effective learning (Flutter and Rudduck, 2004). Clarke (2014) describes how Japanese teachers use a large whiteboard so methods, ideas and words can be recorded and connections made; this process is termed *neriage*, referring to blending a clay pot back together after it is broken. The repetitive loops of the Lesson Study cycle, with the same case pupils, supports a broader process of *neriage,* enabling teachers and pupils to unpick the learning process together. One example of pupils' improved metacognition was their self-selection of tasks, which improved as a direct result of feedback they received through Lesson Study (see Chapter 7, Episode 3). Involving pupils in dialogue about their learning is defined by Earl (2003) as co-construction, supporting pupils to practise self-reflection and facilitating a reflexive process through a collaborative dialogue.

Supporting extended professionality

My research demonstrates Lesson Study offers teachers the opportunity to become extended professionals. Hoyle (1975) identifies two distinct aspects of teachers' professional lives, professionalism and professionality. Professionality is 'an ideologically-, attitudinally-, intellectually-, and epistemologically-based stance on the part of an individual, in relation to the practice of the profession to which s/he belongs, and which influences her/his professional practice' (Evans, 2002: 6). Hoyle construes a restricted professional as a teacher for whom teaching is an intuitive activity, whose perspective is restricted to their classroom, greatly valuing classroom autonomy. This aligns with Lortie's (1975) definition of individualism. A *restricted professional* is essentially reliant upon experience and intuition and is guided by a narrow, classroom-based perspective that values activities related to the day-to-day practicalities of teaching. An *extended professional* is a teacher for whom teaching is a rational activity, who seeks to improve their practice through reading and through engaging in CPD. The Lesson Study cycle locates classroom practice within a larger social framework, prompting teachers to become analytical researchers.

Through my research, teachers developed their teaching skills, or human capital, mediating between experience and theory, by comparing their methods with those of their colleagues and those they have been told or read about. For example, teachers tried out the pedagogical technique, 'Pose, Pause, Pounce, Bounce' (Wiliam, 2009) within the safety of the Lesson Study cycle; this common focus enable teachers to compare their experiences with advice from training, *tinkering* to make improvements for their class (see Chapter 7, Episode 1). Lesson Study also places value upon professional collaboration, building social capital.

I chose the Lesson Study cycle because it went beyond simply facilitating classroom visits. My research suggests that it enabled teachers to participate in decision making and a shared sense of purpose, by supporting them to engage in collaborative work and to accept joint responsibility for the outcome. Bangs and Frost (2011) lament teachers are often the, 'ghosts at the feast', who do not have the power to influence and bring about

change. Lesson Study is predicated on teachers exercising decisional capital and agency in the forum in which they feel most confident, the classroom (see discussion on decisional capital in Chapter 7, Episode 2). For Fullan, the equation is clear-cut: 'educational change depends on what teachers do and think – it's as simple and complex as that' (1991: 177).

Facilitating teacher self-efficacy, voice and distributed leadership

My narrative explores the extent to which Lesson Study facilitates teacher self-efficacy, voice and distributed leadership. This aligns with my third research sub-question which asks, 'How can genuine, authentic collaboration 'awaken' a community of learners and leaders?'. The verb awaken draws on the metaphor the sleeping giant of teacher leadership (Katzenmeyer and Moller, 2001; Frost and Durrant, 2003). My research stance had at its core the determination to build a community of learners and leaders.

During my research, I experienced varying success in facilitating teacher self-efficacy and voice. I detail the greatest positive impact in Chapter 7 (Episodes 2 and 4), when I introduced Lesson Study to schools with a growing professional culture, within which teachers were confident in their own knowledge and capacity. Nevertheless, teachers still struggled to articulate self-efficacy and impact on themselves. As I explain in Chapter 4, self-efficacy is the idea of one's belief in one's own efficacy. The concept of self-efficacy is linked to the concept of agency, which is a fundamental human capacity to make a difference, not only to our lives but also the world around us. It refers to our capacity to 'pursue self-determined purposes and goals through self-conscious strategic action' (Frost, 2006b: 20).

I have no doubt that many teachers experienced self-efficacy alongside exercising decisional capital (Fullan and Hargreaves, 2012). Throughout my research there are many examples of teachers overcoming challenges and recovering from setbacks (see discussion on collective and self-efficacy in section in Chapter 7, Episode 2). Lesson Study was successful in tackling a growing sense of inconsequentiality. Many teachers begin their careers with optimism and a belief that their work is 'socially meaningful'.

This moral optimism is eroded by external pressures, which in turn forces 'a reassessment of the possibilities of the job and the investment one wants to make in it' (Faber, 1991: 36). The persistence of presentism (Lortie, 1975; Hargreaves, 2008), with policies which are short-term and implementational in nature, results in initiative overload (Bottery, 2002). This, accompanied by public and punitive consequences for non-compliance, leads to a ceiling of competence on teachers rather than encouraging excellence. Teachers are required to be unquestioning implementers and creative innovators in an 'ongoing contestation between state control and professional autonomy' (Helsby, 2000: 93). As advocated by Bangs and Frost (2012), my research demonstrates success in growing self-efficacy, voice and leadership rather than allowing teachers to become passive recipients of imposed initiatives.

Through my research, I developed and valued teacher voice. This was encouraged throughout the Lesson Study cycle and at its most powerful during post-cycle presentations (Step 6). Also through guided conversations, I was able support teachers in articulating their thinking. Hearing teachers' voices relates to teacher leadership and wider school improvement.

> If teacher voice and leadership are essential to sustained and embedded educational reform then the establishment of institutional and structural arrangements are an important prerequisite to enabling teachers' voices to be heard. The collective voice and collective self-efficacy are vital.
>
> (Bangs and Frost, 2012: 42)

My research facilitated distributed leadership as it gave teachers responsibility for leading an area of pedagogy, developing the curriculum and responding to the social, emotional and wellbeing needs of pupils. Bangs and Frost (2012) argue distributed teacher leadership unlocks innovative and untapped potential in teachers; it 'awakens' the sleeping giant (Katzenmeyer and Moller, 2001), increasing the capacity of schools to meet the needs of pupils and to enhance educational achievement. Through distributing leadership, professional capital grows (Fullan and Hargreaves, 2012).

In the figure below, I summarise some of the key benefits to teachers, both individually and collectively. This list could be used by future Lesson Study cycle facilitators to support a rationale for its potential positive impact.

Fig 8.3: Impact of Lesson Study on teachers' professional development

- Necessitating reflection-in-action and reflection-on-action
- Scaffolding professional dialogue with a direct impact upon pupil learning
- Developing metacognition and collaborative feedback
- Extending professionality
- Enhancing teacher self-efficacy, voice and distributed leadership

My research demonstrates that Lesson Study is effective in scaffolding teachers' professional development. In schools where there is an emerging collaborative culture and a commitment to dialogue, risk-taking and building trust, this is particularly true (see Chapter 7, Episode 2 and Episode 4). I am convinced by the positive impact of Lesson Study on teachers' professional development, improving pupil achievement and growing professional capital.

Recommendations for practice

In this section, I draw on the evidence I present in the narrative to distil key recommendations for practice. These are built upon my experience of leading several iterations of the Lesson Study cycle. As a researcher and practitioner, I am well placed to make the following recommendations. Indeed, I have been called upon many times by leaders hoping to establish Lesson Study in their schools. In this section, I begin with some recommendations for those wishing to lead Lesson Study. Next, I discuss the importance of pupil voice. I also detail pedagogical strategies researched by Lesson Study teams, which they found to have a positive impact on pupils' academic outcomes. As I explore in Chapter 7, my critical narrative supports transferability (Lincoln and

Guba, 1985) and relatability (Bassey, 1981). My intention is for practitioners to be able to relate my conclusions to their own positions, adapting them for their own settings.

Learning to lead the Lesson Study cycle

My first set of recommendations are directed at leaders who are planning to establish Lesson Study in their school (s). I arrived at these recommendations by exploring my first research sub-question, 'How can the Lesson Study cycle be most effectively deployed and adapted?'. As I detail in Chapter 7 (Episode 1), through leading Lesson Study, discussion and reflection, I learnt how it works best, making many adjustments and improvements. For example, acting on feedback from teachers, I compressed each cycle so that all three loops took place within one week. This enabled teachers to make better use of assessment for learning strategies (Black et al., 2002; Clarke, 2005, 2008, 2014), contributing to the success of the intervention that I detail in Chapter 7 (Episode 2). In another school, teachers commented that the timescale between the initial session, which introduced them to the structure and principles of Lesson Study, and planning the study lessons, was too quick. In this school, they planned all three research lessons before they started the cycle, and this was the only dedicated planning time they were given. The headteacher justified this decision by stating *'it shouldn't be onerous – because we are making tweaks'* (Conversation with HEJS Headteacher), by which she meant making small adjustments to lessons. I recommend enabling teachers to be more responsive to what they learn during research lessons and in post-lesson discussions.

Another important leadership lesson was that the tyranny of time easily encroached on the cycle. Careful consideration must be given to timetabling, teaching costs and other pressures which compete with teachers' time. Flexibility in scheduling needs to allow the process to 'bend' and 'pause'. Lesson Study must hold a place of importance as a core kernel professional development tool (Yuefeng Zhang et al., 2013). This includes the importance of the post-lesson discussion. I found this is the most vulnerable to being guillotined, however, as I discuss above, teacher voice expressed the importance of extended professional dialogue in helping to improve their practice.

I have collated a set of recommendations, written as a set of questions for the Lesson Study facilitator to ask themselves (Appendix 8b). This includes questions such as, 'Are you sharing the facilitation with someone else, to build capacity and understanding?', and 'Have you kept the foci open enough to ensure teams maintain a sense of collective efficacy and autonomy?'. These recommendations should be read alongside the summary of the school characteristics needed in order to grow professional capital (Fig 8.1). I contend that careful consideration of each question would support the smooth introduction of Lesson Study.

The facilitator should first pay attention to the influence of the wider school culture, and the role of senior leaders in ensuring the intervention's success. Once the foundations have been laid, thought should be given to the multiple foci and how information will be disseminated to participating teachers. The facilitator should also pay attention to the various steps of the Lesson Study cycle, including lesson planning, the research lessons, post-lesson discussions and how learning will be shared and celebrated.

Listening to pupil voice

My second recommendation is to listen to and act upon pupil voice. This was strongly embedded within my interpretation of the Lesson Study cycle. Pupil voice is often found within the English Lesson Study tradition (Dudley, 2009; Allan, 2016). My research demonstrates that interviews held with case pupils, directly after each study lesson, gave teachers invaluable insight into pupils' thinking and learning. As I outline above, this feedback enhanced both teachers' and pupils' metacognition.

My research draws upon a range of literature supporting the importance of pupil voice (MacBeath, Demetriou, Rudduck and Myers, 2003; Fielding and Bragg, 2003; Flutter and Rudduck, 2004). Fullan (1991) posed the question, 'What would happen if we treated the student as someone whose opinion mattered?'. Alexander (2005) encourages teachers to view learning as a partnership, as engaging pupils in dialogue about their learning supports pupils' development. These discussions also reinforce to teachers that they are researching learning rather than teaching (Sotto, 1994; Lieberman and Miller, 2000).

Flutter urges teachers not to 'overlook the simpler and profound rationale of pupil voice, which is that it affords teachers an opportunity to refocus their attention on what really matters – learners and how they learn best' (2007: 345).

Throughout my research, teachers spoke enthusiastically about the inclusion of pupil voice, surprised by the pupils' insight and their ability to reflect on their learning. Pupils' suggestions were thoughtful and constructive, and there was considerable agreement between pupils about what helped them to learn. By observing pupils closely and listening to their voice, teachers planned and taught lessons which saw greater gains in pupil learning. Pupils often wanted more opportunities to collaborate with their peers, although the structure of this collaboration needed careful attention (see discussion on inter-school collaboration in Chapter 7, Episode 4). For example, when engaging in peer discussions, pupils understood which learning partner pairs worked best and why. Teachers reported that pupils liked the focus and attention afforded to them. Pupils also rehearsed ideas with an adult, a feature of dialogic teaching (Mercer, 2000). In line with other research, teachers felt that many of their pupils' ideas were sensible, practical and educationally desirable (McIntyre, Pedder and Rudduck, 2005). Pupils also responded well to being trusted to share their opinions and this in turn improved their engagement in lessons. Again, I drew a parallel between the importance of trust for both teachers and pupils. I recommend that teachers' listen to and trust pupils' opinions and ideas, and similarly I recommend that senior leaders afford the same trust to teachers.

Implications for improving teaching

My third set of recommendations focuses on pedagogical strategies to improve teaching. I was cognisant of the criticism that when academics write about action research, there is a tendency to emphasise the methodology rather than the outcomes, so that the work of teachers is disconnected from the development of a systematic body of knowledge (Elliott, 2013). Furthermore, MacBeath and Mortimore (2001) highlight a tension between researchers and policy makers; whilst researchers criticise policy makers for not considering issues in enough depth, nor proceeding with caution and circumspection, to policy makers this often appears as ambivalence and equivocation when clear-cut

answers are needed. Although Lesson Study often involves case studies that are not trying to generalise, teachers find themselves agreeing and providing universal insights, which groups of teachers have distilled. Through this process, Stenhouse's (1975) notion of 'teacher-as-researcher' is realised.

I consider it essential to distil and publish the outcomes of the participating teachers' research. These recommendations then add to a wider body of practitioner knowledge. The pedagogical strategies which I summarise in Appendix 8a incorporate those I list in Fig 7.4a, and were shared with teachers outside my research. They are a synthesis of the many recurrent messages articulated by teachers. These were evident in the proformas, portfolios, presentations, wall displays and guided conversations, which I describe in the four episodes of Chapter 7. These strategies were enthusiastically shared by teams and subsequently built upon by other teachers in their own classrooms. Teachers provided well thought-out rationale, explaining why these strategies were effective, tried and tested within the safety of the Lesson Study cycle.

All of these pedagogical strategies can be found in other literature, and academics have purported their importance for many years. However, through the Lesson Study cycle, teachers transferred this sticky knowledge (Von Hippel, 1994; Szulanski, 1996, 2003) through the SECI process (Nonaka and Takeuchi, 1995). I have added suggested literature links to Appendix 8a, to further promote on-going research and encourage extended professionality (Hoyle, 1975; Evans, 2002). Warren, Moore and Elliott (2002) also observe the level of adoption of new strategies as an indicator of pragmatic validity of research.

Research outcomes and impact

My research has had wide-rippling positive impact, including on pupils' learning and progress, teachers' professional development and whole school improvement, including enhancing a collaborative culture. In this section, I deal with each of these in turn. I also

summarise these possible impacts in Appendix 8c, drawing upon the many possible ripples of impact, detailed by Frost and Durrant (2002). I drew on many sources of information including: the seven key pathways of Lesson Study (Fig 3.1), outlined by Lewis, Perry and Hurd (2004); the benefits of collaboration (Fig 4.1), summarising a range of reading; my discussions about the impact of my research in Chapter 7 (Appendix 7.1k, Fig 7.3b and Fig 7.3c); and the recommendations I make in this chapter (Appendix 8a and Appendix 8b). It is essential I was able to articulate this impact in order to convince others of the benefits of the Lesson Study cycle. A headteacher explains, *'I think it is challenging at the beginning when you haven't got any impact on the table. You need to get the thinking right'* (Conversation with WWJS Headteacher).

Before formulating my conceptual framework, I identified four desired outcomes (Fig 5.1). The first mirrored my aim, and was to improve educational achievement for disadvantaged pupils. Coinciding with the close of my research, the Education Endowment Fund published an evaluation of Lesson Study. Disappointingly, it concludes, 'the project found no evidence that this version of Lesson Study improves maths and reading attainment at KS2' (Murphy, Weinhardt, Wyness and Rolfe, 2017: 4). However, I criticise the narrow parameters of this research, with the measurement of success focusing solely on pupils' academic attainment. My research had a wider brief and my research lens enabled a much broader determination of possible impact. As I detail in Appendix 8c, this included pupils becoming more aware of learning structure, accessing prior learning and identifying next steps, becoming more engaged, developing self-help strategies, challenging themselves and risk-taking, and pupils talking more openly about their learning, aiding metacognition and feedback. More promisingly, the *'Closing the gap: test and learn'* study (NCTL, 2016) explored seven teacher-led interventions, of which Lesson Study was one, seen as most likely to positively impact upon pupils with low achievement. Hall (2015) summarises the most important finding was that there is capacity within the system for teachers to do rigorous, small-scale enquires, which he describes as empowering in the drive towards a school-led system.

My second desired outcome was, to produce new approaches to pedagogy. Whilst the approaches I summarise in Appendix 8a may not be new, they have been tried, reflected upon, adapted and retested through Lesson Study. I have explored these approaches in different contexts and documented their impact, with a relentless focus upon pupils' learning. In Chapter 7, and the section above, I detail the ways in which teachers explored and adapted pedagogical approaches, within the structure of the Lesson Study cycle. I outline these in Appendix 8a, with reference to relevant literature. The adoption and adaption of these pedagogical strategies marks a shift from teachers being 'uncritical consumers of knowledge' to them exercising 'critical and transformative capacities' (Sachs, 2011: 5-7). The changes teachers made to their practice were evidence-based, as teachers moved from tinkering to knowledge creation (Hargreaves, 1999).

My third desired outcome was, to aggregate insights and share information. Drawing upon Lesson Study traditions (Lewis et al., 2004; Dudley, 2011), teachers achieved this in a variety of ways, including compiling portfolios, creating displays and presenting their research to their colleagues. The act of sharing transferred knowledge from one team to another, and over time built upon the collective tacit and explicit knowledge of the wider group (Hargreaves, 1999). One senior leader recognised these presentations as an effective form of professional development.

> *Making posters or a presentation really worked. It gave them (teachers) more ownership and allowed them to reflect a bit more. It was good to see the progress they had made and all the learning and effort they had put into things. Also, we could learn from each other and 'magpie' ideas.*
>
> (Conversation with WWJS senior leader)

The success experienced in aggregating insights and sharing information resonated with my discussion in Chapter 2. My research had impact because it was developing know-how, which was further evolving with each cycle.

> It is about capturing, creating, distilling, sharing and using know-how. That know-how includes explicit and tacit knowledge. Know-how is used as shorthand

> for know-how, know-what, know-who, know-why and know-when. It's not about books of wisdom and best practices, it's more about the communities that keep the know-how of a topic alive by sharing what they know, building on it and adapting it to their own use. It is not a snapshot of what is known at a single point in time, but an evolving set of know-how kept current by people who regularly use it.
>
> (Collinson and Parcell, 2004: 8)

Furthermore, my research had impact beyond the parameters on the individual schools. On several occasions, I shared reflections about the research with wider groups of colleagues. I led a number of presentations, often provoking professional discussions. For example, at the conclusion of the RANGe project, I presented to a group of headteachers and school improvement advisors (see Chapter 7, Episode 3). I shared the successes and challenges of my research, and some of the impact. I asked members of the workshop to reflect upon how they built knowledge in their own school, what the barriers were and how these were overcome. Headteachers described examples of working groups, faculty meetings and 'bring and share' sessions. Those who had experienced Lesson Study described overlap with peer observations with graded lessons, coaching sessions and mentoring. It was from this presentation that I made the connection with another school, spurring on the effective inter-school collaboration that I describe in Chapter 7 (Episode 4).

My final desired outcome was, to grow teachers' and schools' professional capital. It is this aspect of my research which has been most successful. During each iteration of the Lesson Study cycle, there are examples of the growth of human, social and decisional capital, with positive impact upon pupils, teachers and schools. It is this message that I would like to be heard by those in a position to impact upon wider educational policy and practice (Fullan, 1993; Bandura, 1997; Putman, 2000; Fullan and Hargreaves, 2012).

As I detail in Appendix 8c and Fig 8.3, the impact of my research on teachers' professional development is wide-reaching, including: increased subject knowledge and pedagogical understanding, leading to improved pitch, a greater understanding of progression, greater challenge and more accurate differentiation in future lessons;

teachers being better able to spot gaps in pupils' understanding and determine next steps, to uncover pupils' weaknesses and pick apart learning in forensic detail; increased ability to observe pupil learning and effective teaching in action; enhanced reflection-in-action and reflection-on-action, developing metacognition; scaffolded professional dialogue within a safe environment, enabling interpretation and evaluation of practice, focused upon the impact on pupil learning; and enhanced teacher self-efficacy, motivation and voice. One senior leader described this impact.

> *I've seen a direct impact on the quality of teaching. I've seen people grow as professionals, who are being given quality time to reflect, look at and shape a lesson, engage in dialogue at a high professional level with colleagues – that has had a direct impact on their own practice and thinking about how they can adapt their own teaching. It has definitely had an impact beyond the Lesson Study cycle itself.*
>
> (Conversation with HEJS Headteacher)

My research also had impact upon whole school improvement. School improvement addresses the raising of pupils' achievements and the school's ability to manage change (Reynolds, Hopkins, Potter and Chapman, 2001). In my most successful interventions (see Chapter 7, Episode 2 and Episode 4), my research had positive impact on whole school improvement, including enhancing a collaborative culture. This was evident in the following ways: the development of a collective responsibility for and ownership of pupil learning; a stronger connection between daily practice and long-term learning aims, increasing teacher participation and engagement; distributed leadership, increasing the capacity of individual schools; the building of trust, and therefore social capital, through stronger collegial networks; and greater consistency in approaches to teaching.

During the course of my research, the emerging discourse in East Asia around 'School as Learning Community' resonated with my findings. Sato (2006) champions grass-root initiatives, anchored in the vision of communities of learners at all levels. Writings also emphasise the creation of trust and a culture of learning (Saito, Hang and Tsukui, 2011). Soto (2006) describes teaching as the accrual of professional knowledge plus craftsmanship, and in parallel with my research design he draws upon concepts of

collaborative learning (Dewey, 1933; Vygotsky, 1978;) and the reflective practitioner (Schon, 1983), arguing collegiality as a core part of school leadership. He encourages all teachers to develop collaborative learning in all classrooms, through Lesson Study which aims to: realise the human right of high-quality learning for all pupils; help teachers be thoughtful and reflective professionals in a learning community who establish collegiality and professional autonomy; and democratise the school structure for all members to be protagonists. Saito, Murase, Tsukui and Yeo (2015) challenged the misconception that Lesson Study is discipline specific, arguing that Lesson Study as learning community is a comprehensive vision (rather than method) and framework of school reform, that needs to be taken up in a holistic way.

In conclusion, I return to MacBeath and Mortimore's (2001) research, which I summarise in Chapter 1, and I am drawn to two of the bullet points in Fig 1.1: 'a salient dimension of school improvement is helping schools to be more confident, self-critical and more skilled in research and evaluation', and 'we only make dramatic advances in educational improvement when we develop a deeper understanding of how people (both pupils and teachers) learn and how we can help them to learn more effectively'. My research demonstrates Lesson Study has the capacity to meet both these assertions. Here, I add a further bullet point to Fig 1.1: 'school improvement requires dedicated attention to growing the three dimensions of professional capital'.

Conclusion

The evidence embodied in my narrative (Chapter 7) suggests that my attempts to further grow professional capital through intra-school collaboration were resoundingly successful. There are a number of specific factors, which supported this growth. Yuefeng Zhang et al. (2013) identify these and I detail them in Fig 3.6. My research shows that an intervention cannot operate in isolation, and without a wider whole school culture, will not grow professional capital. There must already be the beginnings of a collaborative, trusting, supportive culture. Similarly, the principles underpinning Lesson

Study must be understood and shared by all participants, including senior leaders (Fig 8.1). As this was the case in my school, Lesson Study enabled professional capital to thrive.

> *I see a benefit for every school in collaboration. I actually see it as a right of teachers, with a responsibility to get something out of it. A right to a collaborative approach to improve pedagogy. We learn best with our colleagues.*
>
> *Pupil achievement has improved. I've got a group of teachers who are used to working collegiately because they have got used to working as a pack.*
>
> (Conversation with WWJS Headteacher)

The Lesson Study cycle must be a core kernel routine (Fig 3.6); I take this to mean a planned, valued and sustained activity, prioritised by senior leaders and afforded a high profile within the school. If this is the case, my research demonstrates many ripples of impact.

The legacy of my research is a group of teachers and schools who have experienced lasting the success of Lesson Study, and recognise for themselves the positive impact this has had. Both Woolenwick Junior School and Holtsmere End Junior School continued to develop Lesson Study after my research was completed. In both cases, this collaboration continued without my involvement. This approach to joint practice development (JDP) retains enough flexibility for schools to adapt it to fit their specific context and school improvement aims. The progress made during my research has laid a foundation for future collaboration, and capacity has been built so that new leaders can emerge. One such leader in my school was the assistant deputy headteacher, who recognised the extra time teachers gave, as an indicator of their dedication.

> *Time is a huge thing. Staff would go further than their staff training time. They would use consecutive days. Some staff would work on a Friday until half five. They could see the benefits. They enjoyed the team working and they enjoyed being able to bounce ideas off each other. They knew it was working.*
>
> (Conversation with WWJS senior leader)

Not only did my research have wide rippling impact, it also built upon the collective capabilities and experiences of teachers (Fullan and Hargreaves, 2012). This research enhanced the collective intelligence (Lacey, 1988; Brown and Lauder, 2000), collective tacit knowledge, collective competency (Newmann, King and Young, 2000), collective efficacy (Fullan, 2014) and collective aspiration (Senge, 1990) of each school. By growing professional capital, my research laid the foundations for further collaboration, focused upon improving pupil outcomes.

Final reflections

Here I reflect upon the personal impact and legacy of my research, on my approach to leadership. Throughout its conception and implementation, I remained determined that my research should positively impact on the outcomes of disadvantaged pupils. Nevertheless, the most profound impact was on me as a leader; the legacy of my research lives on in my day-to-day professional life. Below, I examine how my approach to leadership has changed as a result of carrying out this research. As I embarked on my first headship, I reflected on how this has informed and influenced my approach to leadership and to ensuring whole school improvement. Of greatest significance was the development of my understanding of how to grow professional capital (Fullan and Hargreaves, 2012). I conclude these reflections with a rallying call to fellow education professionals to place trust in teachers and to provide them with the support, culture and self-belief to realise their moral purpose.

Leading change

In 2015, whilst still engaged in research, I was appointed to the position of headteacher of a local primary school. This school is not in Stevenage, but it is in an area of considerable deprivation (55-per-cent of pupils are in receipt of pupil premium), and I was faced with many challenges similar to those faced by leaders of Stevenage schools. My school was regarded with disdain by the local community, with a falling pupil roll, high pupil mobility and a poor reputation. In my first year of headship I faced many challenges: inadequate procedures for health and safety, child protection and behaviour management; poor academic results, including low attainment of vulnerable groups; weak teaching underpinned by poor pedagogical and subject knowledge; a disjointed, tired curriculum which had historically suffered from a succession of unjustified initiatives; a combative parent body, with low aspirations and their own complex needs; inadequate pupil attendance and endemic disaffection, affecting pupil behaviour; a

strained budget with unsustainable staffing structures and a depleted governing body who lacked the skills or competence to either support or challenge my leadership. Unsurprisingly conservatism, individualism and presentism thrived (Lortie, 1975; Hargreaves, 2008). On my first morning, one member of staff stated, 'I hope you are not going to change anything – we've had enough change'.

In congratulating me on my new appointment, colleagues frequently assumed I would be introducing Lesson Study to my new school as soon as possible. However, my research taught me about the gradual growth of professional capital, about trust, self-efficacy and the importance of leadership. This influenced me to approach with caution. My new school's culture typified that described by Fullan and Hargreaves (1992) as 'individualistic'. Teachers worked in isolation, often with their classroom doors closed; classrooms were 'egg-crates' or 'castles' (Lortie, 1975). Levels of professional discussion with colleagues were low, and rarely included pedagogical debates; criticism of children and parents dominated staffroom conversations. My school's culture was certainly impeded by 'organisational learning disabilities' (Senge, 1990). Due to recent turbulence in senior leadership, there was an air of uncertainty and limited motivation to improve performance or embrace change. The result was that within two academic terms, almost all of the teaching staff had resigned.

In September 2015, I began the new academic year with a mixture of newly appointed and established staff. The constraints of presentism seemed unavoidable as we expected an Ofsted inspection within weeks, and the list of policies and procedures that needed establishing seemed overwhelming. Nevertheless, I knew that I needed to build a culture in which professional capital could thrive. I embraced the task of 're-culturing' my school (Fullan, 2001). This was 'a challenge of transforming mindsets, visions, paradigms, images, metaphors, beliefs, and shared meanings that sustain existing... realities and of creating a detailed language and code of behaviour through which the desired new reality can be lived on a daily basis... It is about inventing what amounts to a new way of life' (Morgan, 1997: 143). I had the daunting task of promoting interrelationships and interconnections, and simultaneously developing a culture that

promoted collegiality and individuality, which Hargreaves (1994) terms 'the moving mosaic'. I acted as a change agent and encouraged others to do the same.

At times this meant making brave decisions about how much pressure to place on teachers and how fervently to pursue an accountability agenda. Fullan and Hargreaves describe change leadership is a series of balances: 'confident and humble, resolute and empathetic, collaborative and competitive' (2012: 136). Murphy asserts that 'headteachers must learn to lead by empowering others rather than controlling others' (2002: 77). Through my research, I learnt that collaborative cultures are based on trust and strong relationships, and that they cannot be forced or contrived. Interestingly, in the NCSL's paper suggesting strategies for newly inducted headteachers (Bird, 2009), the importance of culture is conspicuous in its absence.

By September 2016, we had 'survived' Ofsted, receiving a judgement of 'good' in all areas, staffing was relatively stable and the shortcomings had been addressed and largely overcome. The inspection report states, 'the strong ethos, clearly embedded in the school values, is the bedrock on which significant improvements, including in the quality of teaching and learning, and pupils' behaviour, are based' (Peartree Primary School Ofsted Report, 2016: 3). My school had been transformed from a 'sinking' to a 'moving' culture (Rosenholz, 1989; Stoll and Fink, 1998); the culture had become far more collaborative (Fullan and Hargreaves, 1992), with examples of joint planning, uncertainty discussed rather than hidden from view, improvement regarded as a continuous process and an atmosphere of mutual respect.

Having grown the early shoots of professional capital, I judged the land was fertile enough to introduce Lesson Study. The first year was very successful and staff have embraced the process. Of course, I drew heavily on what I learnt leading my research, and Lesson Study is becoming a 'core kernel' (Yuefeng Zhang et al., 2013) in our approach to joint practice development. I am no longer 'fire-fighting' and have once again begun to support other schools in initiating Lesson Study in their settings

(Appendix 8b); each time I learn from previous cycles and enhance my approach to enabling others to build professional capital.

Final reflections and wider legacy

The central aim of my research was to impact on the achievement of disadvantaged pupils. I achieved this by building professional capital through Lesson Study. My aims, research stance and desired outcomes (Fig 5.1) were largely achieved. At times, I was frustrated with the tension of fitting doctoral studies around a full-time job as a senior leader of a school. I crammed reading, writing, project planning, analysis and reflection into holidays and weekends. For extended periods of time, particularly when I took on my first headship, the day job took priority. This recount of my research is not entirely a *victory narrative* (Stronach and McLure, 1997). As I outline in my ethical principles (Fig 6.2), my story is a real, authentic, sincere and reflexive account of research with a rippling pool of impact (Appendix 7.1k).

My project was more than a piece of research to prove or disprove a theory. I began with a determination to improve the education of pupils who come from economically disadvantaged backgrounds. However, it grew to be about the emancipation of teachers, about a fervently held belief that given the right conditions and support, and most importantly, a culture of trust, teachers' determination and capacity to improve is limitless. It became about how to overcome an outdated deficit approach to teacher development, which assumes that colleagues need to be trained, up-skilled and monitored. This is insulting to teachers and is indicative of low expectations. The teaching profession is battered and disaffected, wearied by the ever-changing winds of government policy and a narrow, data-driven curriculum, developed on the assumption that without high levels of accountability and interference teachers will not do a good enough job. Such an approach ignores teachers' moral purpose, it ignores why they work on Sunday afternoons, why they sit with children through their lunch breaks and why they spend their own money on breakfast bars, which they then give away.

Furthermore, through my research I have come to recognise the importance of school culture. If professional capital is to grow, it takes time. It also takes the confidence and determination of leaders. For teachers, and children, to grow, it must be in an environment of trust. If teachers are trusted and nurtured, they will take risks, use their initiative, support one another and develop a collective determination to improve practice. Once a culture is fertile with the growth of professional capital, it is strong enough to withstand the winds of change and times when the land is barren. If the teaching crop is nourished and given room to grow, to spread its roots and grow new shoots, it will thrive. Given the current recruitment and retention crisis, this is essential.

It is with these convictions that I continue to approach the leadership of my school. I often hear teachers complain that pupils lack creativity, resilience, the skills to problem solve, to reason and to evaluate. Now as a school leader, I have the same concerns about my staff. I am determined to cultivate these characteristics in my teachers and pupils. Furthermore, I want to speak to those in a position to influence education, whoever they may be, and ask them to do the same. Following the aftermath of the 2011 Japanese earthquake and tsunami, one principal of a school in Fukushima wrote, 'Lesson Study is the spiritual nourishment of our school and it is a chance to empower our teachers' minds and hearts' (Akita, 2012).

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Appendices

Appendix 6a: Ethical considerations throughout my research

Stage in process	Action
Prior to viva	• Read and digest BERA guidelines. • Shape a methodology with **courage** and **resoluteness**. • Consider ethics when designing my project – the ethics of action and ethics of context. • Seek supervisor's approval. • Conduct ethical initial explorations. • Build in **reflexivity** throughout the process.
At beginning of the project *Consider* ***respectfulness*** *including:*	• Disclose the purpose to all participants. • Obtain opt-in/opt-out informed consent from all participants without pressure. • Assert the action-based nature of my research, which is therefore subject to change. • Ensure anonymity – to be negotiated at various stages. • Be sensitive to individuals' and schools' needs. • Insist upon clear protocols are adhered to by all participating teachers. • Ensure all decision 'make a difference' rather than simply adding to workload.
Collecting data *Show* ***respectfulness*** *by:*	• Avoid disrupting learning. • Be honest with participants. • Obtain specific permission for those who are recorded (audio, photographs and video). • Attempt to minimise power imbalances and exploitation of participating teachers. • Ensure data is as honest as possible and that it supports the process rather than hindering it. • Store data carefully and securely. • Act upon what is learnt during data collection, rather than 'waiting'.
Analysing data *Practice* ***reflexivity*** *and* ***sincerity*** *by:*	• Try to remain objective – avoid putting my slant on the data. • Check my analysis with those involved. • Make use learning to improve the process as it is happening – revisit decisions and renegotiate with participants if necessary. • Use what I have learnt to improve practice and action.
Reporting data and findings Practice all principles including **humility**.	• Respect confidentiality. • Recognise the contributions of all parties. • Avoid disclosing data, which would harm participating teachers, pupils or schools. • Encourage participants to validate our findings. • Be as honest as possible. • Communicate in clear, straightforward, appropriate language.

Appendix 6b: Project plans – two versions

Version 1 (pre-viva)

Date	Action – my research	Action – my intervention	Writing and reflection	Notes
Autumn '11	○ Attend workshops, complete paperwork, and begin reading. ○ Begin discussions with colleagues/academics. ○ Begin to refine research aims.			○ Begin logbook and reflective journal. ○ Draft research aims – under constant review.
Spring '12	○ Initiate discussions with key protagonists in Stevenage. ○ Contact other educational trusts. ○ Attend workshops and supervisions.		○ Write 4.000 words – personal statement, collaboration, Stevenage, purpose/focus /questions clarified.	○ Notes made from interviews. Telephone conversations with BEST (Jan '12) and REAL (March '12).
Summer '12	○ Discuss pilot project with my headteacher. ○ Attend workshops and supervisions		○ Act on feedback from initial 4,000 words. ○ Have written 8.000 words – methodology, ethics. ○ Submit draft research plan to DF.	○ Notes made on pilot project, discussions and reflections.
Autumn '12	○ Begin pilot project within my own school. ○ Attend workshops and supervisions.	○ Set out dates in school calendar. ○ LS process planned and added to SIP. ○ Lead staff training to initiate process. ○ Run first cycle.	○ Act on feedback from 8,000 words. ○ Write 12.000 words.	○ Notes, photographs, journals, tools used, group interviews.

Spring '13	○ Evaluate first cycle of pilot. ○ Attend workshops and supervisions	○ Set out dates in school calendar. ○ LS process planned and added to SIP. ○ Provide feedback to staff from first cycle. ○ Run second cycle.	○ Submit research plan (12,000 – 15,000 words).	○ Present work to HertsCam conference. ○ Notes, photographs, journals, tools used, group interviews.
Summer '13	○ Continue pilot project within my own school. ○ Attend workshops and supervisions.	○ Set out dates in school calendar. ○ LS process planned and added to SIP. ○ Provide feedback to staff from second cycle. ○ Run third cycle.	○ Act on feedback and refine submission.	○ Paper on conference written. ○ RANGe initial meetings x2.
Autumn '13	○ Attend workshops and supervisions. ○ Attend WALS Conference and reflect. ○ Begin to collect initial data.	○ Initiate set up of Stevenage project and negotiate timings (10/9/13). ○ Get headteachers to commit with named teachers. ○ Lead Stage 1 workshop (7/10/13). ○ Lead Stevenage project – cycle 3a & 4a. ○ Evaluate project (ongoing). ○ Lead session for Stevenage CofP.	○ Attend viva ○ Make changes to research plan as appropriate.	○ PowerPoint of presentation. ○ Notes from workshop. ○ Reflective journal. ○ Interview notes.

Spring '14	○ Begin to collect analyses initial data – is collaboration being facilitated? ○ Tweak process as necessary.	○ Lead Stevenage project – cycle 3b & 4b. ○ Evaluate project (ongoing).	○ Make changes to research plan as appropriate. ○ Submit viva revisions.	○ As above – retain flexibility.
Summer '14	○ Begin to analyse initial data – is collaboration being facilitated? ○ Tweak process as necessary.	○ Lead Stevenage project – cycle 3c & 4c. ○ Evaluate project (ongoing). ○ Consider repeating the process.	○ Write up 1st year of intervention and reflect. ○ Act on feedback.	○ As above – retain flexibility.
Autumn '14	○ Analyse data – is collaboration being facilitated? ○ Tweak process as necessary.	○ Lead Stevenage project – cycle 3a & 4a. ○ Evaluate project (ongoing).	○ Write 30,000 words. ○ Act on feedback from supervisions.	○ Add to reflective log.
Spring '15	○ Analyse data – is collaboration being facilitated? ○ Tweak process as necessary.	○ Lead Stevenage project – cycle 3b & 4b. ○ Evaluate project (ongoing).	○ Interim submission to DF (30.000).	○ Add to reflective log.
Summer '15		○ Lead Stevenage project – cycle 3c & 4c. ○ Evaluate project on completion.	○ Act on feedback from 30,000 words.	○ Add to reflective log.

Version 2 (post-viva) – changes in bold

Date	Action – my research	Action – my intervention	Writing and reflection	Notes
Autumn '13	○ Attend workshops and supervisions. ○ Attend WALS Conference and reflect. ○ Begin to collect initial data.	○ Initiate set up of Stevenage project and negotiate timings (10/9/13). ○ **Plan sessions with TLA.** ○ Get **senior leaders** to commit with named teachers. ○ Lead Stage 1 workshop (7/10/13). ○ Lead Stevenage project – cycle 3a & 4a. ○ Evaluate project (ongoing). ○ Lead session for Stevenage CofP **(14/12/13)**	○ Attend viva. ○ Make changes to research plan as appropriate – **review research questions and conceptual framework.**	○ PowerPoint of presentation. ○ Notes from workshop. ○ Reflective journal. ○ Interview notes. ○ **Tools created with TLA.**
Spring '14	○ Begin to collect analyses initial data – is collaboration being facilitated? ○ **Gather data from my school.** ○ **Reflect on process and adapt in light of tensions and barriers to inter-school collaboration.**	○ Lead Stevenage project – cycle 3b & 4b. ○ Evaluate project (ongoing). ○ Lead session for Stevenage CofP **TBC** ○ **Continue to lead LS in my school.**	○ Make changes to research plan as appropriate. ○ Submit viva revisions.	○ As above – retain flexibility.

Summer '14	○ Begin to analyse initial data – is collaboration being facilitated? ○ Tweak process as necessary.	○ Lead Stevenage project – cycle 3c & 4c. ○ Evaluate project (ongoing). ○ Lead session for Stevenage CofP **TBC** ○ **Continue to lead LS in my school.** ○ Consider repeating the process.	○ Write up 1st year of intervention and reflect – **what are the barriers and how can these be overcome?** ○ Act on feedback.	○ As above – retain flexibility. ○ **Present at RANGe conference and gather feedback**.
Autumn '14	○ **Analyse data – how is collaboration being facilitated? What is different?** ○ Tweak process as necessary.	○ **Lead collaborative project between mine and another school – cycle 3a & 4a.** ○ **Collaboratively evaluate project (ongoing).**	○ Write 30,000 words. ○ Act on feedback from supervisions.	○ Add to reflective log. ○ **Introduce new data collection methods to explore the growth of professional capital.**
Spring '15	○ **Analyse data – how is collaboration being facilitated? What is different?** ○ Tweak process as necessary.	○ **Lead collaborative project between mine and another school – cycle 3b & 4b.** ○ **Collaboratively evaluate project (ongoing).**	○ Interim submission to DF (30.000).	○ Add to reflective log. ○ **Introduce new data collection methods to explore the growth of professional capital.** ○ **Started headship in new school.**
Summer '15		○ **Lead collaborative project between mine and another school – cycle 3c & 4c.** ○ **Collaboratively evaluate project (ongoing).**	○ Act on feedback from 30,000 words. ○ **Compare this cycle and the one led last academic year.**	○ Add to reflective log. ○ **Introduce new data collection methods to explore the growth of professional capital.** ○ **Present at HertsCam annual conference.**

Appendix 6c: Capturing critical conversations

Date:	**Venue:**	**Time:**
Conversation with		
Questions, thoughts and action prior to the conversation (if not ad hoc)		
Notes during conversation		
Questions and thoughts after the conversation		
Future action – next steps		

Appendix 6d: Guided conversation questions

Type of question	Explanation	Why useful to me	Example
Grand tour questions	enables people to express their experience and perspectives in their own terms	will enable the group to talk at length without too much intervention – rich source of data	What types of professional development activities take place in your school? How did the LS cycle run in your school? What did you get from it? What has been the impact of collaborating with teachers from other schools?
Mini-tour questions	statements from previous questions are reframed into questions	will enable me to clarify answers, keep on task and delve deeper into areas of interest e.g. knowledge building	Imagined statement – 'there is never enough time' Reframed into a question – What are the barriers to creating time? Imagined statement – 'I got a lot from going into other classrooms' Reframed into a question – What are the benefits of observing in other teachers' classrooms?
Guided tour questions	often a tour of a classroom etc.	will enable teachers to talk at length in an environment in which they are most comfortable	Can you show me your first research lesson? (teachers can then show hands-on resources, displays, ICT resources, planning, workbooks etc.)
Task-related questions	enables people to demonstrate how they are achieving their purpose	links well with workshop activities – gives reticent teachers something to do – creates an artefact I can take away and analyses	Can you draw a mind map of what you learnt during this LS cycle? Can you draw a map of the links you made to other teachers during this LS cycle?

Drawing upon Stringer, E. (2008) *Action Research in Education*, Upper Saddle River, New Jersey: Pearson, p 69–70.

Appendix 6e: Lesson Study proforma

School:	**Teachers participating**:
Year group focus:	**Subject focus**: maths

Learning concept to be developed: (e.g. division, grammar)
Teaching technique /pedagogical tool to be developed: (e.g. guided group work)
Whole school goal to be developed: (from school vision/aims)
Planning link / unit / learning objective:
Case pupils selected: (Including attainment levels / reason – no/slow progress, FSM) Pupil A: Pupil B:

Date / time allocated for planning: Loop 1 Loop 2 Loop 3	Date / time allocated for delivering lesson: Lesson 1 Lesson 2 Lesson 3
Roles for participants: Teacher A Teacher B Teacher C	Date / time allocated for post-lesson discussion: Loop 1 Loop 2 Loop 3
Opportunities to follow up with other staff:	Opportunities for further development: (e.g. follow up lesson/s)

Planning for lesson carried out jointly using schools' preferred planning format. Attach copy of plan.

- **Please decide how the observer will make notes/capture – e.g. on lesson plan, on separate note pad, on post-its, take photos, take video clips (no more than 20 seconds).**
- **Please prepare lesson together e.g. IWB files, worksheets, set out resources, photocopy etc so lesson is a shared venture.**

Observations of case pupils: (Further sheet/s may be attached)

Lesson 1

	How you hope they will respond:	How they were observed to respond:
Pupil A:		
Pupil B:		

Lesson 2

	How you hope they will respond:	How they were observed to respond:
Pupil A:		
Pupil B:		

Lesson 3

	How you hope they will respond:	How they were observed to respond:
Pupil A:		
Pupil B:		

Pupil interviews (**to be done very soon after the lesson**):

Lesson 1

Pupil interviews: (Questions to be modified)	Case pupil A	Case pupil B
What did you enjoy most about that lesson?		
What did you learn? (What can you now do?)		
What part of the lesson worked best for you? Prompt.		
If the same lesson were taught to another group, what might you change?		

Lesson 2

Pupil interviews: (Questions to be modified)	Case pupil A	Case pupil B
What did you enjoy most about that lesson?		
What did you learn? (What can you now do?)		
What part of the lesson worked best for you? Prompt.		
If the same lesson were taught to another group, what might you change?		

Lesson 3

Pupil interviews: (Questions to be modified)	Case pupil A	Case pupil B
What did you enjoy most about that lesson?		
What did you learn? (What can you now do?)		
What part of the lesson worked best for you? Prompt.		
If the same lesson were taught to another group, what might you change?		

Protocol for post-lesson discussion with participating teachers

- ☐ **The teacher who has taught the lesson speaks first and has the chance to point out any difficulties before they can be pointed out by others.**
- ☐ **The lesson belongs to the whole group: it is 'our' lesson, not 'your' lesson.**
- ☐ **Discussion focuses on the data collected – on the pupils and learning.**
- ☐ **All lessons (however wonderful) can always be improved.**
- ☐ **Mistakes are embraced. Much can be learned from imperfect lessons.**
- ☐ **Rather than seeking originality, greatest importance is placed learning.**

Loop 1

What went well / strengths of the lesson?
What could be further developed?
How / When this could be followed up in class?
How this will be shared with other staff?

Loop 2

What went well / strengths of the lesson?
What could be further developed?
How / When this could be followed up in class?
How this will be shared with other staff?

Loop 3

What went well / strengths of the lesson?
What could be further developed?
How / When this could be followed up in class?
How this will be shared with other staff?

Appendix 6f: Example of framework analysis

Comments from teacher	My reflection	Connection to literature	Link to my framework
more confident – putting hand up, taking the lead in talk partners (GR July '14)	A lot of comments are around increased confidence – is this because they were looking at invisible girls?	Invisible girls? Talk	Human capital - SPK
The focus children definitely benefitted because they knew they were being watched – they upped their game – would be good if we could do that every lesson. Not that realistic. Good for them because they got noticed (TD July '14)	Interesting that being watched makes a difference.	TD's team have lit link in their presentation	Human capital - OR
Big effect on the whole class because three teachers doing one lesson – three teachers impact rather than one (TD July '14)	Notion that teachers can make a difference of pupil outcomes.	Self-efficacy	Decisional capital – CSE & CA
Pupils – definitely did – girls came out of their shell very, very quickly – they liked the attention and the focus on them – they started to trust us more – encouragement – 'have a go…it's ok to get it wrong'. Pupils – 2nd cycle – progress evident in terms of the children's explanations and vocabulary – recorded children at the beginning and end (LM July '14)	Again, articulated in terms of pupil's increased confidence because they were focused upon. Trust mentioned. Clearly tracked improvement explanations – almost all links to speaking and listening.	Trust	Social capital – RT Human capital – SPK
Good for pupils to have input of other teachers and the experience of working with other teachers – pupils enjoyed other adults and getting to know them (TC July '14)	Teacher links the benefits of the process to forming relationships – in her practice she places this highly.	Building bridges and bonds	Social capital - BB

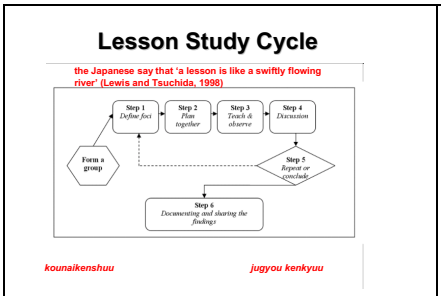
Appendix 7.1a: School improvement plan

Priority 2: To develop the use of questioning by teachers so they deepen pupils' understanding consistently by challenging them to think deeply, to accelerate progress in English.	**Priority Target:** **100% of teachers document improvements in their questioning.**	**Priority coordinator:** Clare Herbert (as part of doctorial studies – pilot)

Objective	Specific Actions (dated)	Person/s Responsible	Success Criteria	Specific Monitoring (dated)	Evaluation of impact on pupil progress
2.1 To plan a cycle of lesson study and communicate to teachers.	Lesson study planned. Proformas modified. Foci established. Staff training to explain/describe the process and set protocols. Initial training on 'what is already known' about questioning. LS display in staffroom.	CH CH CH	LS planned and clearly articulated to teachers. Teachers' understanding of quality questioning improves. Display supports staff development.	MC – as part of CH performance management.	By the end of the term, 100% of children will have made at least satisfactory progress (1 APS), of which 80% will have made good progress (1-1.3 APS) in English.
2.2 To run the first cycle of lesson study.	Step 1 – foci defined – questioning, boys' writing, grammar, independence.	CH with teachers	Lesson cycle runs smoothly and impacts upon teachers'	Through discussions.	

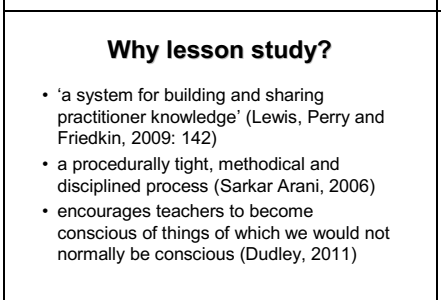
	Step 2 - year group partners plan a lesson. Step 3 – lesson taught and observed. Pupil voice interview conducted. Step 4 – post-lesson discussion	Teachers Teachers Teachers with CH	professional development.		
2.3 To evaluate cycle and impact, leading to planning the next cycle.	Discussion about impact of LS and evidence examined. Second cycle planned.	CH with teachers CH		Ongoing.	

Appendix 7.1b: Initial staff training - summary of presentation slides



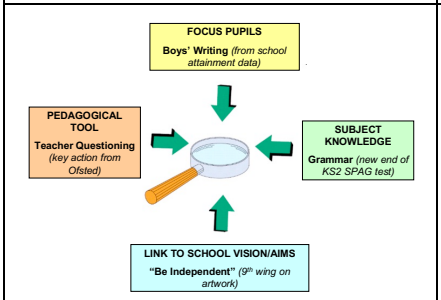
Slide 1

Depicting the process as a whole and illustrating the stages in the cycle.



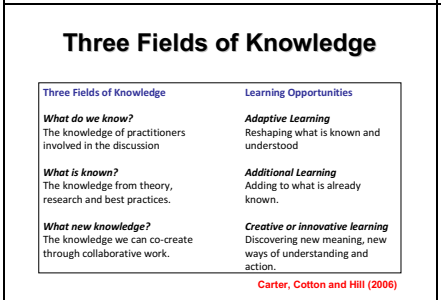
Slide 2

Providing a rational for choosing this process of professional development.



Slide 3

Establishing teams and then defining the multiple foci determined by key Ofsted actions, data analysis and whole school concerns.



Slide 4

Beginning Step 2 by exploring what we already know about teacher questioning before looking in more detail at 'what is known?'

Appendix 7.1c: Summary of teacher discussion on questioning

<table>
<tr><td colspan="2">Why question in real-life?
• politeness
• information
• clarify understanding
• get what you want
• insult/put down
• attention
• find out how someone is</td><td>Why question in the classroom?
• assess understanding of knowledge
• extend understanding
• think more deeply
• make sure understood
• reflection
• behaviour management
• instructions
• rhetorical questions
artificial – usually already know the answer</td></tr>
<tr><td colspan="3">Effective questioning</td></tr>
<tr><td>Range
• open/closed
• ultimate
• leading
• follow-up/extension
• rhetorical</td><td>Well structured
• focused
• scaffold
• purpose/outcome
• 1 or a set?</td><td>• Thinking time
• Classroom ethos
• Targeting questions
• Planned questioning
• Reflex questions</td></tr>
</table>

Appendix 7.1d: Initial staff training - summary of presentation slides

Pose, pause, pounce & bounce • Pose - Ask a good question (plan it) • Pause - Give wait time (difficult bit) • Pounce - Choose carefully (how?) • Not ping-pong (all the thought, wisdom, learning revolves around the teacher) • Bounce - Basketball (ask another child to evaluate the first answer, ask another to explain why/how that is right or wrong)	**Slide 1** An outline of 'Pose, Pause, Pounce, Bounce'.
Pose – Ask a really good OPEN question • How would you tackle this sum? • What do you like about this sentence and why? • What is the same and what is different? • How do you know? • Why? • Explain to me what you have done. • Why have you made that choice? • Talk me through what you have done.	**Slide 2** Pose – asking a really good open question. What do we need to think about?
Pause – probably the hardest bit • If 1:1, wait at 5 seconds before you speak again. • Do not change the question or ask a leading/ prompting question unless you really have to. • If with a small group, use talk partners much more. Do not play ping-pong.	**Slide 3** Pause – discussing 'wait time' and ways to facilitate thought.
Pounce – who do you pick? • If 1:1 , easy! • If small group, how do you chose who to answer a question? • Ok to use talk cards or strategically target questions.	**Slide 4** Pounce – who do you pick and how?
Bounce – Get the children to build on contributions • Do you agree with Tom? • What do you think about what Tom said? • Can you add to what Tom said? • Can you put what Tom said into your own words?	**Slide 5** Bounce – how to get children to build on each other's contributions.
Bounce – Use sentence stems to help them or connectives (with actions) • … because …. • … although … • I agree/disagree … • I think … • If …, then … • Building on that …	**Slide 6** Bounce – using sentence stems to help children to structure their answers.

Appendix 7.1e: What teachers have learnt – group discussion

PEDAGOGICAL TOOL **Teacher Questioning** *(key action from Ofsted)*	**SUBJECT KNOWLEDGE** **Grammar** *(new end of KS2 SPAG test)*
• teams planned 3 open questions • planning ahead of lesson improved questioning • *still developing ability to Bounce questions around the room*	• obviously, some children confused • children showed lack of thought when applying knowledge • *children needed to challenge themselves more*
FOCUS PUPILS **Boys' Writing** *(from school attainment data)*	**LINK TO SCHOOL VISION/AIMS** **"Be Independent"**
• boys were learnt best from kinaesthetic and visual activities • talking through their ideas helped • *need to be pushed not to go for the easy option*	• lots of adults in room may have hindered independence • could talk about learning and complete task • *need to revisit what we understand by independence*

What data did you collect?
Conversations with the children, photographs, note taking including on the plan

How was the process?
Easy, worked well, will get better with practice, would have liked more time, liked working with partner/team

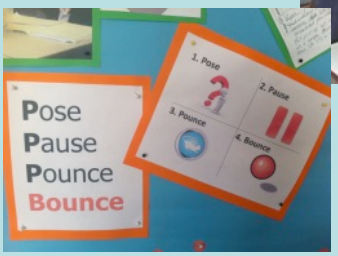
What next?
New teacher/class but possibly the same lesson, develop whole class questioning, lesson content, plan observer roles more carefully

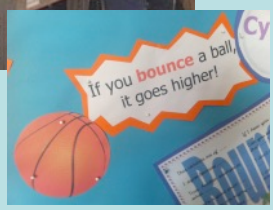
What are you going to add to the Lesson Study wall?
Notes, children's work, annotated lesson plan, completed proforma

Appendix 7.1f: Examples from 'Lesson Study Wall' display

Step 2 – Collaborative Lesson Planning

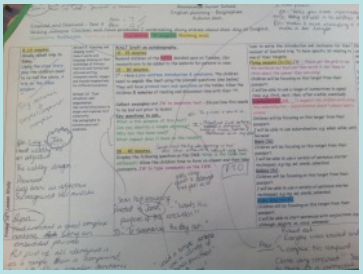
- What is already known?





Step 3 – Teach and Observe

- Set up lesson together
- Observe the pupils (learning), not the teaching
- Collect data – video, photos, notes, books
- Pupil voice



Appendix 7.1g: Questionnaire

Name: Please circle one number for each statement.

Due to the small sample size, this questionnaire could not be anonymized. You may choose not to complete this questionnaire or not to answer certain statement.

Initial staff training	**Agree**				**Disagree**
I understood the goals and process of lesson study prior to starting the cycle.	1	2	3	4	5
The introductory activity/discussion was helpful in developing my understanding.	1	2	3	4	5
I found the collaboration with colleagues helpful prior to starting the lesson study cycle.	1	2	3	4	5
I understood the multiple foci (pedagogy, subject knowledge, pupil group and link to school vision) of lesson study.	1	2	3	4	5

Any comments:

Planning the research lesson	**Agree**				**Disagree**
My lesson study group collaborated effectively to plan a research lesson.	1	2	3	4	5
The lesson matched our overarching goals.	1	2	3	4	5
The lesson study group used other materials (books, internet, resources from training) to plan the lesson.	1	2	3	4	5
Developing the lesson allowed me to think deeply about issues in my teaching.	1	2	3	4	5
Developing the lesson allowed me to better understand pupil thinking/challenges.	1	2	3	4	5

Teaching and observing the lesson	**Agree**				**Disagree**
Observing pupil learning and thinking during teaching was an important learning opportunity for me.	1	2	3	4	5
OR Teaching the lesson was an important learning opportunity for me.	1	2	3	4	5
The lesson felt like a shared, supportive experience.	1	2	3	4	5
I feel our research lesson was successful.	1	2	3	4	5
Asking pupils about their learning allowed me to better understand pupil thinking/challenges.	1	2	3	4	5

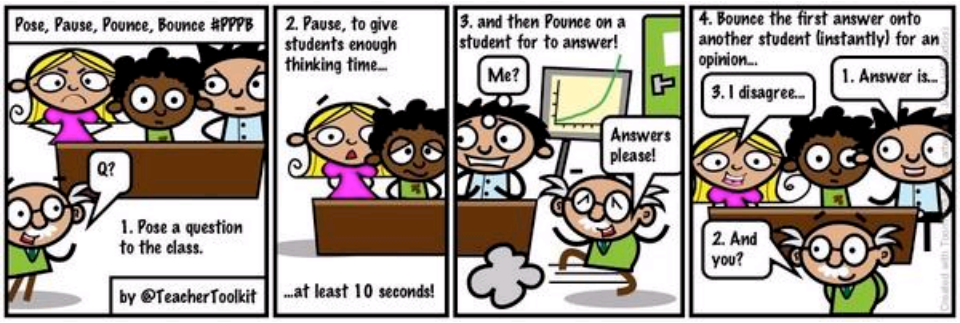
Any comments:

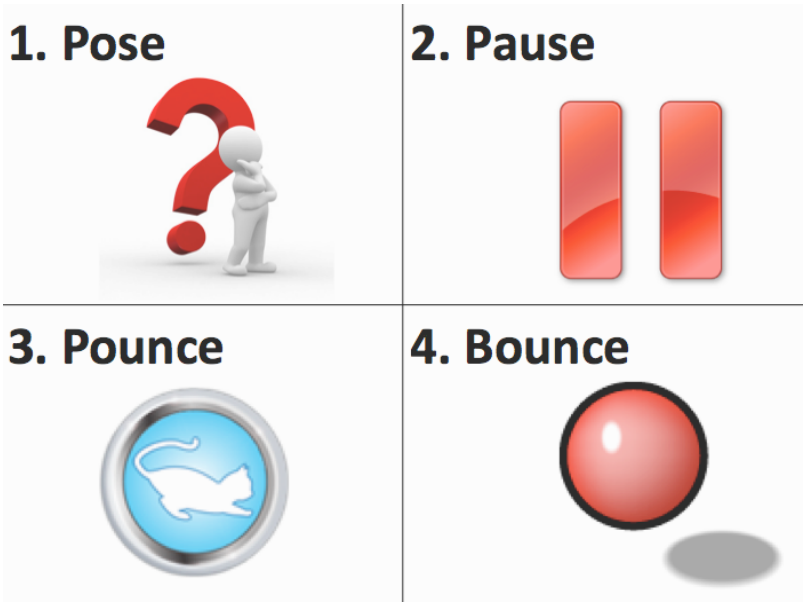
Post-lesson discussion	**Agree**				**Disagree**
The post-lesson protocol and lesson study template were helpful in guiding our discussion.	1	2	3	4	5
The data we collected was useful in our post lesson discussion.	1	2	3	4	5
The post-lesson discussion has helped me reflect upon my teaching.	1	2	3	4	5
On completion of the cycle, I feel ready to conduct cycle 2.	1	2	3	4	5
Lesson study has helped me to become a better teacher.	1	2	3	4	5

One thing I will improve in the next lesson study cycle is…

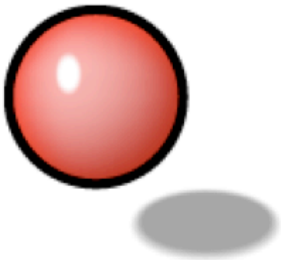
Any comments:

Appendix 7.1h : 'Pose, Pause, Pounce, Bounce' cartoons

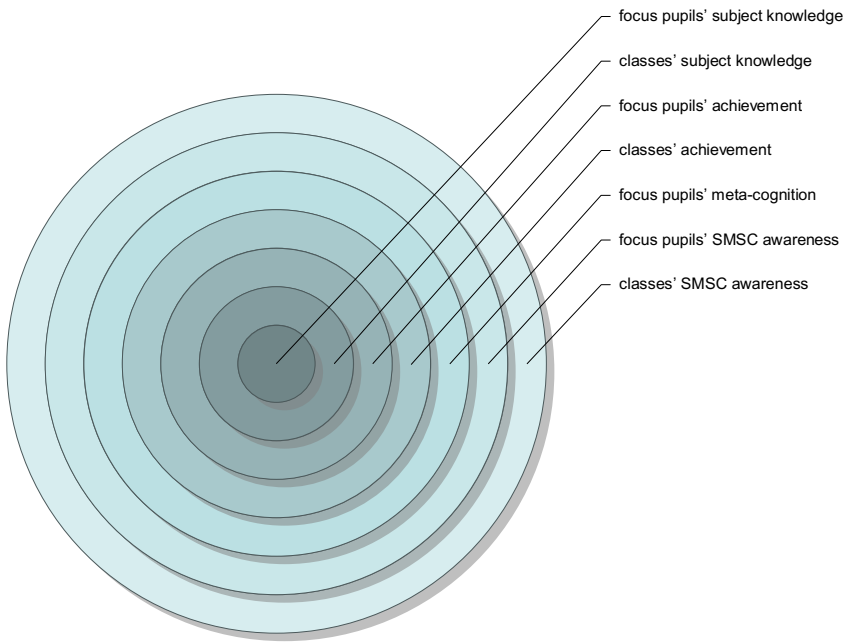




Appendix 7.1i: Top tips for 'Pose, Pause, Pounce, Bounce'

Pose • Open and higher order • Chose vocabulary and wording carefully • Plan key questions	**Pause** • Don't talk • Wait 5/10 seconds • Use talk partners/mini-whiteboard
1. Pose 	**2. Pause** 
3. Pounce 	**4. Bounce** 
Pounce • Target specific children (pre-plan) • Pre-warn reluctant pupils • Use talk cards Question-card-adjust Card-question-adjust	**Bounce** • Resist giving an opinion on what has been said • Provide sentence stems • Echo answers back – "I think you said…"

Appendix 7.1j: Pools of possible impact



Lesson Study Pupils

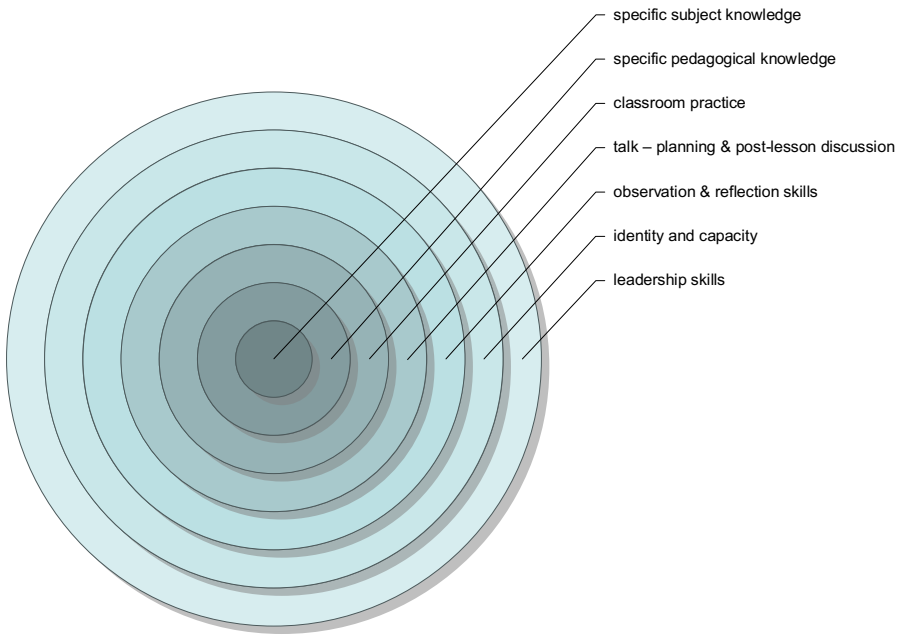
'All children within the lesson, regardless of ability can use practical resources to support grammar'

'Pupils have been given the opportunity to see how adults collaborate'

'Allow children to feedback on their lesson – what helped them and what they would change'

'Become more independent'

'They are more aware and thinking about learning, as they expect to be asked about it'



Lesson Study Teachers

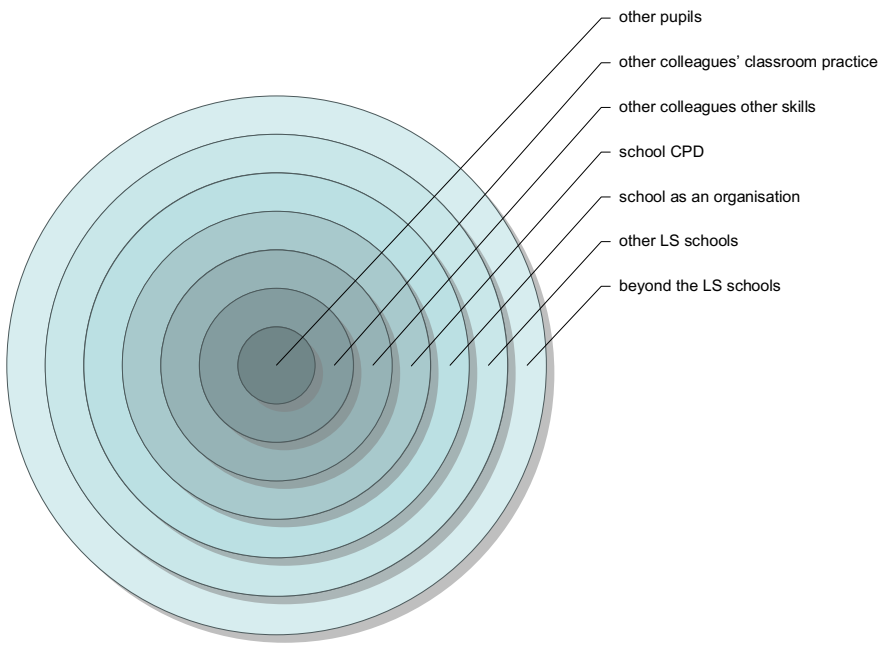
'Good to have an outside perception – will affect our future teaching. Picked up on things we didn't notice when teaching'

'Makes you review and adapt your teaching'

'Better understanding of questioning and how to plan it'

'Supports both the teacher and those observing – pick up tips'

'Use of resources – microphones'



Beyond Lesson Study Groups

'Other children have benefitted from new methods/ strategies/questioning'.

'Mutual support/team building'.

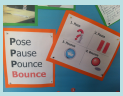
'Consistency across the school – teaching and questioning'..

'Clare has presented to HertsCam and other people have visited the school'

Appendix 7.3a: Presentation to senior leaders

Step 2 – Collaborative Lesson Planning

- Time to plan
- Share ideas
- Identify pupils – talk about them



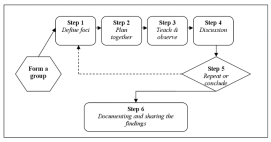
External experts –

"knowledge in a museum"

Teachers –

"knowledge in a workshop"

Step 3



"a lesson is like a swiftly flowing river"

Step 3 – Teach and Observe

- Set up lesson together
- Observe the pupils (learning), not the teaching
- Collect data – video, photos, notes, books
- Pupil voice

Step 4 – Discussion Post-lesson protocol

- The teacher who has taught the lesson speaks first and has the chance to point out any difficulties in the lesson before they can be pointed out by others.
- The lesson belongs to the whole group: it is 'our' lesson, not 'your' lesson.
- Discussion focuses on the data collected at the research lesson – on the pupils and the learning, not the teacher.
- All lessons (however wonderful) can always be improved.
- Mistakes are embraced. Much can be learned from imperfect lessons.
- Rather than seeking originality, greatest importance is placed on whether the lesson promotes learning.

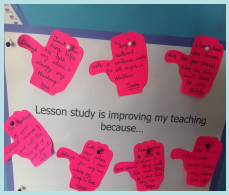
(Adapted from Lewis, 2002b)

"observe one's actions whilst listening to one's talk"

What are the possible impacts for individual teachers?

- Greater confidence
- Improved teaching competence
- Development of the 'lesson eye'
- Experience effective teaching in action
- Improved observation skills
- Able to articulate their thinking better
- Able to identify individual pupil's needs
- More reflective
- Take more risks – feel safe

From my pilot study…



What are the possible impacts for pupils?

- Teaching tailored to more specific needs
- Improved attainment
- Social skills developed alongside academic skills
- Pupil voice is heard and acted upon
- Learning picked apart in detail – forensic

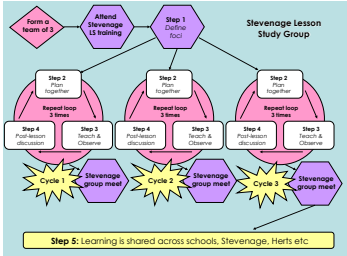
What are the possible impacts for your school as a whole?

- More collegiate approach
- Meet several school improvement aims through one strategy
- More effective use of CPD budget
- Greater consistency
- More articulate, confident, empowered teachers!

How could this work in Stevenage?

- Drawn on work of Pete Dudley
- Drawn on work at Edge Hill
- Drawn on reading
- Drawn on learning from WALS

This is my suggestion…



Appendix 7.3b: Identifying pupil barriers tool

Initial workshop activity

- Teachers in small groups.
- Read speech bubbles and discuss in the context of their schools.
- Sort speech bubbles into order of agreement.
- Stick onto sugar paper. With markers make a note of their comments.

Taken from DCSF (2012) *Pockets of Poverty*, p8.

Accessed 17.02.14 on the World Wide:
http://webarchive.nationalarchives.gov.uk/20130401151715/https://www.education.gov.uk/publications/eOrderingDownload/DCSF-00170-2010.pdf

Appendix 7.4: Professional capital pyramid cards tool

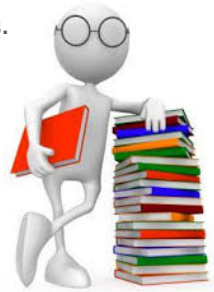
I felt the LS process helped me to become a better teacher.	I felt enthusiastic and I enjoyed the LS process.
I felt the LS process has helped me to become more reflective about my teaching.	I felt I learnt ways to teach more effectively (the 'how' of teaching).
I felt I learnt how to better teach difficult subject areas (the 'what' of teaching).	I felt the pupils made progress as a result of the LS process.
I felt observing and giving (or getting feedback) was very valuable.	I felt a collective responsibility for ensuring the pupils learnt during the LS process.
I felt learning from other teachers and teaching assistants was very valuable.	I felt having time to talk about teaching and learning was very valuable.
I felt the LS process built up greater trust between my colleagues and me.	I felt I was making a difference to the improvement of the school.
I felt able to take risks, try new things and adapt lessons/teaching.	I felt that my opinions and my decisions were valued.
I felt that I (and my team) were able to impact on pupils' learning and outcomes.	I felt like I was making a difference.
Key blue – human capital red – social capital green – decisional capital black – pupil progress	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 +16

Appendix 8a: Pedagogical strategies

Focus on learning gains rather than content

- Lessons which were content heavy were less effective. One simple idea (Countdown) was enough.
- Case pupils enjoyed the opportunity to practice skills independently.
- A few lessons on the same topic build case pupils' confidence.
- Flexibility in lessons reaped the greatest learning gains.
- Use of AfL.
- **Want to know more?**

Black and William, 1998; Clarke, 2005, 2008, 2014



Provide challenge

- Case pupils want to be challenged.
- They like when they can choose their level of challenge.
- Case pupils liked open-ended tasks where there was no right or wrong answer.
- Strong, meaningful real-life links help to contextualise learning.
- Open-ended challenges worked well.
- **Want to know more?**

Badham, 1994; Watson and Mason, 1998; Renzulli, 1998

Not lack of ability – lack of confidence

- Case pupils liked the additional attention
- Case pupils liked being able to rehearse their ideas with an adult who they perceived to be an expert.
- Case pupils grew in confidence throughout the LS cycle.
- Let pupils take ownership of their learning.

- **Want to know more?**

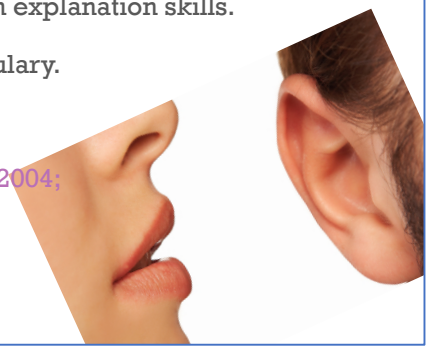
Bruner, 1966; Vygotsky, 1978; Wood, 2003

Speaking and Listening

- Think carefully about the pairing of pupils. Case pupils feel ability matched pairing enables them to work with someone at the same level.
- Provide extended opportunities for pupils to explain/convince. Partner work rather than large groups leads to more in-depth discussion.
- One team effectively videoed case pupils at the beginning and end of the cycle to show improvements in explanation skills.
- Provide opportunities to rehearse vocabulary.
- **Want to know more?**

Mercer, 2000; Dawes, Mercer and Wegerif, 2004;

Alexander, 2017



Scaffold learning

- Think about how to build towards the learning
- Model – I do, we do, you do
- Provide support and scaffolds so children can be come increasingly independent

- **Want to know more?**

Bruner, 1966; Vygotsky, 1978; Wood, 2003

Use of resources

- Case pupils liked practical, hands-on lessons and felt this supported their learning.
- Use of resources increased pupils' engagement.
- Resource heavy lessons take more preparation but are worth it.
- Ideally resources would be used in every lesson.
- **Want to know more?**

Piaget, 1952; Gattegno and Cuisenaire, 1954;

Bruner, 1960; Dienes, 1969

Fig 8b: Advice and questions for the facilitator

Give consideration to the wider school culture.

- Are you introducing the Lesson Study cycle into a culture which is already collaborative?
- Are the senior leadership team committed to the underlying principles?
- Are you sharing the facilitation with someone else, to build capacity and understanding?
- Does your school currently have the capacity to trust teachers and encourage risk-taking?
- Is Lesson Study divorced from the appraisal process, with separate systems for mentoring underperforming teachers?

Give consideration to the multiple foci.

- Is your rationale clear for the choices you make? Does it incorporate the wider school vision?
- Have you taken enough time to share this rationale with participants?
- How can you make your rationale very explicit and visible?
- Have you kept the foci open enough to ensure teams maintain a sense of collective efficacy and autonomy?

Give consideration to how you will disseminate information.

- Is your initial introduction of the cycle clearly planned?
- Can you draw in the support of teachers from other schools who have experience lesson study, as their voice is very powerful?
- How will you ensure you have mechanisms in place to 'mop-up' when staff are unable to attend parts of the process (but discourage absence)?
- Could you develop a staffroom display to ensure the cycle remains visible and in teachers' minds?

Give consideration to the formation of and role within teams.

- Who will work together well? Which 'bonds' would you like to develop?
- How much autonomy will you give to teams?
- What are your expectations of teams (e.g. 5-minute presentation at the end of the cycle, portfolio documenting the cycle)?
- Will senior leaders be part of teams? How will you negotiate this dynamic?

Give consideration to the lesson planning and research lesson stages.

- Can you timetable cover so each team's cycle spans no longer than a week?
- Is there a dedicated space to plan and prepare lessons?
- Is there planning time *within* the cycle, so teams can really reflect and respond to what they are learning?
- How do participants gather data and reflections during and straight after the lesson? Are you going to create a proforma? Do they have permission to take photographs or videos?
- Do other colleagues (e.g. secretaries, visitors) know not to interrupt the lesson or process?

Give consideration to the post-lesson discussions.

- Have you provided and emphasised the importance of the protocol for the discussion?
- Have you ensured protected time (preferably during the day - no excuse not to take part)?
- How will this discussion be documented?

Give consideration to how learning will be shared and celebrated.

- How are teams expected to document the process e.g. portfolio?
- What time have you protected for teams to share their new learning/ knowledge?
- How will the success of the cycle be celebrated e.g. presentation?
- Will your school's new learning/knowledge be shared outside of the school itself?

Fig 8c: Possible impact

Possible impact on pupils' learning and progress:

- pupils more aware of learning structure, accessing prior learning and identifying next steps;
- pupils more engaged, developing self-help strategies, challenging themselves and risk-taking.
- pupils' self-esteem improves, with greater confidence in their own learning;
- pupils talk more openly about their learning, aiding metacognition and feedback;
- pupils' social skills develop alongside academic skills;
- pupil voice is heard and acted upon, with teaching tailored to meet the needs of all pupils.

Possible impact on teachers' professional development:

- increased subject knowledge and pedagogical understanding, leading to improved pitch, a greater understanding of progression, greater challenge and more accurate differentiation in future lessons; a toolkit of effective strategies, lesson plans; Shared knowledge and ideas;
- teachers better able to spot gaps in pupils' understanding and determine next steps, to un-cover pupils' weaknesses and pick apart learning in forensic detail;
- increased ability to observe pupil learning and observe effective teaching in action;
- enhanced reflection-in-action and reflection-on-action, developing metacognition;
- scaffolded professional dialogue within a safe environment, enabling interpretation and evaluation of practice, focused upon the impact on pupil learning;
- enhanced teacher self-efficacy, motivation and voice.

Possible impact on whole school improvement, including enhancing a collaborative culture:

- development of a collective responsibility for and ownership of pupil learning;
- stronger connection between daily practice and long-term learning aims, increasing teacher participation and engagement;
- distributed leadership, increasing the capacity in individual schools;
- trust built and therefore social capital, through stronger collegial networks;
- greater consistency in approaches to teaching.