Establishing sustainable school-based teacher research activity as a mechanism to support teachers' career-long professional development.

Rachel Ann Sarah O'Sullivan

Manchester Metropolitan University

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Acknowledgements.

For Carol, who made this possible and never stopped believing or cheering.

Abstract

Upon election, the coalition government in England (2010 – 2015) were swift to introduce reforms intent on improving standards of education in England. Central to the reforms were measures designed to improve the quality of both teaching and teachers, factors widely recognised as lying at the heart of educational improvement. A national network of Teaching Schools was announced, outstanding schools that would lead and develop career long teacher development. The work of all Teaching Schools would be underpinned by six core strands of professional development including a requirement to engage in research and development activity. This thesis reports on the extent and nature of research activity occurring at six Teaching Schools in the North West of England. The research findings offer insight into the potential for school-based teacher-research activity to support meaningful professional development within the teaching profession. Furthermore, findings indicate the conditions required to facilitate teachers in their research endeavours such that research activity may become established as a meaningful and sustainable expectation of practice. Analysis of the data makes clear the real potential for school-based teacher-research activity to underpin career-long professional development and learning. However, the results indicate that existing levels of teacher research literacy are low and teachers require support, guidance and access to research resources and expertise. School leadership emerged as a highly significant factor in creating a research-rich environment in which research is valued and celebrated. However, the strongly 'top-down' model of organisation evident in each research-active school has implications for the long-term future of a research agenda. An absence of 'bottom-up' momentum is likely to leave the research agenda vulnerable to staff change or shifting priorities either of which may cause the agenda to collapse, a factor that was not acknowledged by participants. This research adds to existing knowledge on the benefits of teacher-research activity and provides robust evidence for politicians, policy makers and practitioners that a blend of 'bottom-up'/'top-down' organisation is required to build a self-sustaining model. A blended approach existing within a research-rich school culture and supported by research expertise offers the potential to establish a sustainable model of teacher research activity. This research indicates that research active teachers are enabled to effectively interrogate their practice and find answers to their professional questions and problems. Research offers teachers the means to become empowered, agentic professionals who through ongoing inquiry, learning and professional development are positioned to become more effective in their practice.

Chapter One: Introduction

This thesis is concerned with the relationship between teacher-research activity and improved standards of teaching and learning. The acknowledged link between education and economic growth (Ball, 2013) has resulted in a drive for high quality teaching in pursuit of improved pupil attainment. The growing interest in, and significance of, international comparisons of student performance, most notably PISA, have led governments and policy makers across the world to examine how standards of education can be improved in their particular context and in this way offering the promise of an elevated position in the PISA league table. The quest for improved standards of teaching and learning has led to a resurgence of interest in the long-held notion of research as a basis for teaching (Stenhouse, 1979a). Evidence indicates that 'research-rich school and college environments are the hallmark of high performing education systems'. If teachers are to be most effective in their practice they 'need to engage with research and enquiry' (BERA-RSA, 2014: p.6). Rather than being the passive consumers of research undertaken by 'experts', research-engaged teachers stand to be positioned as active agents in the research process, thinking, questioning and experimental in their practice.

The coalition government in England (2010 – 2015), intent on raising educational standards, were swift to announce significant educational reforms (Department for Education, 2010). The formation of a national network of Teaching Schools lay at the heart of the reforms. Teaching Schools would 'lead and develop sustainable approaches to teacher development across the country' (Department for Education, 2010: p.23) and 'The Big 6' would underpin their work; six key areas through which

school improvement would be shaped and driven. It is the sixth strand, 'Research and Development', that is of interest in this research, specifically how Teaching Schools have responded to the requirement to engage in research and development activity. Furthermore, to what extent does teacher-research activity offer teachers the means to become more effective in their practice? My interest has been shaped and informed by my experiences as a secondary school teacher and as a senior lecturer at a post-92 university, factors that I will discuss in section 1.0.

Through this thesis, I will present the findings of my research into school-based teacher-research activity and to what extent, at the time this research was conducted, such activity was being developed in six Teaching Schools in the North West of England. I will offer insight into the conditions necessary to develop and embed research activity as a sustainable expectation of teachers' practice and report my findings relating to the organisation of research activity, the support available to teachers to facilitate their research endeavours and the attitudes of research active staff towards their activity.

The significance of 'effective teaching' is central to this thesis and requires consideration and explanation. Whether teaching is deemed effective or not, is largely measured against student progress with progress being taken as an indicator of teacher quality (Coe et al., 2014). The link between effective teaching and pupil achievement and consequently the link between pupil achievement and economic prosperity has led to governments and policy makers across the world becoming preoccupied with the quality of teaching in their own system (Lewis, 2014; Pollard, 2010; OECD, 2005). It is the potential for research activity to enhance

teacher pedagogy, inform teachers' professional judgement and improve teacher practice that is central to this research.

In approaching this study, it is relevant and important for me to consider my position and personal story and how my own ontologies and epistemology have shaped my thinking as I embarked on this research. The following account will provide the rationale underpinning my research interest.

1.0 My story

My graduation in 1995 signified my qualification as a secondary school teacher of physical education and marked the end of my engagement with theory and formal learning relating to the development of pedagogy. Throughout the following twelve years I learned through experience, on the job. I did not engage with, or in, any form of research and did not have ready access to academic texts or journals, particularly as this was the pre-internet era. My promotion through roles of increasing responsibility seemingly affirmed that I was effective in my practice and good at my job. I was confident, perhaps even arrogant, in my ability to teach, lead and manage. I remained ignorant and unaware of the potential value of reflective practice and inquiry as a dimension of professional development. My professional development existed as a specific activity that occurred either in the form of compulsory school INSET or occasional one day, one-off, off-site courses. Such days were a welcome 'day off', the highlights of which were usually the lunch and

an early finish. While enjoyable, the impact of such professional development was limited, largely due to the decontextualized nature of the activity and the absence of follow up. I do not recall any opportunity throughout my years as a teacher to engage in any form of professional development that required me to reflect upon my practice with a view towards improvement. Significantly, there was no requirement, suggestion, encouragement or opportunity within the school meeting cycle to engage in reflective practice, inquiry or any form of research activity as a means to develop and improve practice.

An absence of discourse around reflective practice, or inquiry, meant that as a teacher I operated within a cycle of un-critical practice. I was compliant and unquestioningly implemented the policies and initiatives required of me by the headteacher. I did not seek to understand the rationale underpinning my actions or my practice and I did not question why my teaching was or was not successful, or why pupils behaved in particular and often predictable ways, or why I similarly acted in particular and predictable ways. My teaching reflected a model of 'doing what I did because I had always done it that way'. I repeated behaviours that at times were effective and positive but equally at other times were ineffective and negative. I could identify when my practice did or did not work well but I failed to consider the reasons why. Thus, I did not alter my behaviour or my practice but relied on and repeated the same methods and approaches with little regard as to how I might change, become more effective or develop.

I now recognise that the absence of praxis in my pedagogy was a significant and limiting factor in my evolution as a teacher. I was a model example of Ball's performative worker – 'a promiscuous self, an enterprising self, with a passion for excellence' (Ball, 2003: p.215). Excellence and improvement were the driving force of my practice. My vocabulary was of performance and success set against targets and measured by promotion – pastoral head, subject leader and ultimately assistant headteacher. On the surface, I may have appeared effective, professional and successful but this facade disguised a woeful lack of criticality, inquiry and theory. I was compliant and unquestioning while at the same time, naïve, and self-assured. I believed that I possessed the knowledge, experience and skills to teach, lead and manage. I knew the names of my colleagues' children, holiday destinations and the finer points of home improvements but I knew nothing of colleagues' pedagogy. We did not engage in professional conversations, discuss or share our professional practice or problems and operated largely in isolation, secure in our own classrooms, safely hidden behind closed doors.

After twelve years of teaching at secondary level, I moved to the position of Senior Lecturer at a post-92 University. I was well received by students as a female addition to an all-male teaching team. I held currency as I was straight out of school and students felt I could identify with their school-based problems and concerns. However, the move from school into the academic world of higher education led to my rapid realisation of the thin theoretical basis upon which my practice was built. My colleagues used a different language, one I struggled to access and that left me feeling inadequate, excluded and inferior in my knowledge and understanding of educational theory. I knew within a few months of my appointment that my recent

and relevant school experience was not in itself sufficient to be effective in my role as Senior Lecturer. The gaping void in my knowledge of theory underpinning effective pedagogy was becoming increasingly apparent, to me at least. Perhaps most significant was the shift in my thinking – from a position where as a teacher I knew what to do even when I did not know what to do, to a recognition that I actually knew very little about what makes for effective teaching, if I really understood what represented effective teaching at all.

In seeking to develop my understanding of 'effective teaching', I turned to the literature and found there to be no simple definition or clear explanation of what represents effective teaching. However, the significance of effective teaching upon the educational achievement of pupils should not be underestimated (Department for Education, 2010; Barber and Mourshed, 2007), indeed the OECD positioned the quality of teaching as 'the single most important variable influencing student achievement' (OECD, 2005: p.2).   Such thinking is not new and almost fifty years ago, Stenhouse (1980b), identified that the improvement of schooling rested upon increasing the number of outstanding teachers and for this goal to be achieved teachers must be enabled to develop and progress in their professional practice. Stenhouse rejected efforts to constrain teachers through forcing their compliance with policy and requiring them to respond to diktats that controlled their practice. He called for teachers to take control of their own classrooms, he demanded that teachers be trusted as autonomous professionals arguing that good teachers 'do not need to be told what to do' (Stenhouse, 1980b) but instead will rely on opportunities to deepen their knowledge and understanding of teaching. The construction and reconstruction of teachers' knowledge cannot, according to

Stenhouse (1980b) be imparted from one to another as a master might instruct an apprentice. Rather, it depends upon a teacher's personal construction of knowledge drawn form a range of resources that enable her/him to develop sound professional judgement and in this way become more effective.

I came to recognise that graduation should not signify the end of a teacher's learning but merely a milestone on a career-long journey of professional development, a quest for ongoing improvement. This sparked my interest in how schools could support teachers' continued professional learning thus enabling them to become more effective in their practice. It is consideration of these issues that will be explored through this thesis.

1.1 The doctoral journey

At the same time as my interest in research-based practice was developing, I embarked on the EdD programme. I struggled to access the content of the study weekends and found the reading tasks impenetrable. I struggled with a new world of ontologies, epistemologies and paradigms. I began reading the work of Dewey and Stenhouse and recognised that many of the themes in their work resonated with my growing awareness and recognition of the importance of reflective thinking (Dewey, 1910), research as a basis for teaching (Stenhouse, 1979a) and of a need for teachers to be curious about what they do and why they do it. I began to understand the powerful potential for questioning, reflection and curiosity as means

to empower teachers, moving them from a position of passive compliance, at best the consumers of others' research, to becoming active agents of their own practice. Through engaging in and with research as active participants teachers stand to gain a deeper understanding of their own practice, improved professional judgement and a developed capacity to make effective, informed decisions that in turn shape and guide their practice.

It seemed astonishing to me that until this point I had not been aware of or understood the importance of thinking about, reflecting upon or questioning my teaching or of searching for evidence to support my professional practice and ideas. In trying to understand why this gap in my own thinking and practice existed, I recognised that there had been an absence, throughout my years as a secondary school teacher, of opportunity, encouragement or requirement to engage in or with research to develop and improve my practice. Stenhouse (1980d) argued that teachers must be exposed to the value of and opportunities for enhancing and furthering their practice, such matters should not be left to chance. He called upon schools to take responsibility for the development of teachers in the same way that a repertory theatre company develops its actors. The repertory company is concerned with the improvement of its actors and technicians to entertain, motivate, appeal to and educate its audience, similarly a school must invest in, encourage and support teachers. Through continuing to learn, develop and improve, teachers will be better positioned to entertain, motivate, appeal to and educate young people. While this approach may seem reasonable, even logical, it was not my experience.

It was therefore with interest that I read about the formation of Teaching Schools under the coalition government in England (2010 - 2015). Teaching Schools would be required, as part of their designation, to support teachers' professional development at all stages of their career. One aspect of this support would be in the form of research and development activity as an element of 'The Big 6' - six strands of a school-led system of professional development to be delivered by Teaching Schools and designed to raise the quality of teaching in English schools. The research and development requirement potentially offered the means and opportunity to support teachers in interrogating their practice to identify where improvements could be made. The research-literate, research-active teacher would arguably be positioned to test different, innovative and creative methods and approaches in her/his teaching and through critical reflection identify where and how practice could improve while at the same time resisting over-reliance on habituated practices.

However, engaging in and with research activity would potentially represent, for many schools and many teachers, a significant departure from the norms and expectations of what teachers do. I became interested in how Teaching Schools would fulfil the research and development requirement of their remit and more specifically, what conditions would be necessary to establish teacher research as a valued, whole-school activity. For practitioner research to become a meaningful, worthwhile, sustained endeavour routinely embedded in practice, teachers would almost certainly need support in developing research literacy. The nature and availability of such support was of particular interest to me.

1.2 Research rationale and research questions

At the time I embarked on this research, the research and development requirement of all Teaching Schools was a new policy directive and consequently there was very little research relating to the topic, this created a strong rationale for gaining an understanding of how the policy shift would play out in practice. Through this study, I will seek the answers to my research questions and it is these questions that have shaped the methods and methodology of this study:

1. What is the potential for teacher-research activity to support teachers' professional development and improve their practice?
2. What conditions are necessary to embed teacher-research activity as an expectation of teachers' practice?
3. What support do teachers require to develop their skills of research literacy?

Through chapter two, I will consider the policy landscape in England. The coalition government (2010 – 2015) made clear its ambition to raise standards and improve teacher quality in England through a series of significant and whole-scale reforms announced in the White Paper (Department for Education, 2010).   As discussed, among the reforms was a requirement for Teaching Schools to engage in research and development activity as a means to improve teacher quality. Through critically reviewing the literature, I discuss how research as a basis for teaching may support teachers' professional development, equipping teachers with the research skills and confidence to interrogate their own practice, finding solutions to their own problems through enhanced professional judgement.   I will consider the conditions required to facilitate teacher-research activity and the central role of school leaders in establishing such conditions that research activity becomes an established

meaningful, valued, whole school activity, embedded in teachers' every day practice.

Chapter three offers a justification for the chosen methodology underpinning this research and provides a rationale for the research methods I selected, through which I was able to obtain rich qualitative data. Through interrogation of the data, I establish three key themes; 'leadership', 'resources' and 'culture' that emerged as central to establishing school-based teacher-research activity. I gain insight and understanding of the nature of teacher-research activity occurring through the selected sample of Teaching Schools enabling me to answer the research questions that are central to this study. I will, through chapter three consider unexpected issues that arose relating to research methods and data collection and explain how problems were overcome to ensure that data obtained was valid reliable and ethically sound.

Chapter four explores the theme of leadership that emerged through the data as a central factor in establishing, driving and promoting teacher-research activity. I discuss the 'top-down', leadership led approach towards research activity that was evident within all participating schools where research activity was occurring. I will consider the strengths and limitations of this approach suggesting an alternative model of facilitation.

Chapter five offers insight into the nature of resources required by teachers to make the aspiration of research activity a reality and consideration is given to the extent to which resources were accessible to teachers to support their endeavours. The reliance on existing in-house research knowledge and expertise is discussed and how this may be a potentially limiting factor in enabling teacher research literacy and activity to develop. The significance of establishing partnerships enabling schools to draw upon the support and research expertise of external partners e.g. HEIs is discussed.

Chapter six considers the extent to which school culture plays a role in promoting, or indeed supressing, teacher-research activity. The significance of a culture of collaboration is discussed and the extent to which it offers teachers support and confidence in adopting experimental, creative and alternative methods of practice. Only when a research-rich culture exists is it likely that teacher-research activity will develop as a valued expectation of what teachers do, such that it becomes embedded in practice and regarded as the 'norm' rather than the exception.

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Chapter Two: Review of literature

2.0 Introduction to the literature

For forty years, successive governments in England have placed increasing importance on improving the country's education system (Ball, 2013). The belief that improved educational standards correlate to a strengthened economy have added a 'fierce urgency' (Department for Education, 2010: p.7) to the government's case for reform. Through the following chapter, I will discuss changes that have occurred within the education system intent upon driving up educational standards and improving outcomes and how successive reforms have shaped, and continue to shape, the practice of teachers. The election of the coalition government in 2010 brought with it a series of rapid and whole-system educational reforms (Department for Education, 2010) ostensibly designed to improve teacher quality, raise standards and position the education system in England as one of the highest performing systems in the world (Department for Education, 2010). A national network of Teaching Schools was launched, based on the model of teaching hospitals (Department for Education, 2010) and it would be through this model that the training and professional development of teachers, at every stage of their career, would be led. 'The Big 6' would shape the work of Teaching Schools according to six distinct areas of practice – of which one was 'research and development'. Through this thesis, I will consider what research and development may offer teachers. How school-based teacher-research activity may be a significant element of teachers' career-long professional development, with the potential to raise teacher quality and what may be necessary to develop teacher research literacy

and promote school based research activity as an embedded, sustained and expected element of what teachers do.

2.1 The reform of education in England

We live in 'globalising times' (Ozga, 2009: p.511). We inhabit 'a shrunken world, a world of contacts, frictions, comparisons, communication and movements' (Eriksen, 2014: p.x) and the far-reaching hand of globalisation has left few aspects of life in the early part of the twenty-first century untouched; education being no exception. The growing significance of education in our globalised world has emerged as governments recognise the critical contribution of the 'knowledge economy' to the economic wellbeing of citizens (Baird et al., 2011) and in turn the economic wellbeing of nations. The basic economic resource of society is no longer capital or labour but knowledge; knowledge workers of knowledge economies have replaced the machine workers of industrial economies; where once manual workers used their hands, knowledge workers use their heads and in so doing, 'produce or articulate ideas, knowledge and information' (Ball, 2014: p23). 'A knowledge economy runs not on machine power but on brain power – the power to think, learn and innovate' (Hargreaves, 2003: p.19).

The concept of globalisation rests on a sense of shrinking distances due to ease of transport and huge technological advances enabling the swift transmission of

information and images (Tomlinson, 1999). Consequently, there is greater connectivity between individuals and nations which is coupled by greater proximity as continents and time zones cease to present the barriers that existed as recently as a decade ago. The discourse of globalisation includes references to a 'shrinking world', the 'global village' and the 'global neighbourhood'. A definition of globalisation is offered as:

> the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa (Giddens, 1990: p. 64).

It is recognition of local educational contexts being shaped and influenced by practices within educational systems occurring many miles away that is of interest here. The dawn of the twenty first century has seen Governments across the globe engage in a relentless pursuit of economic growth and one identified means to achieve economic progress is through raising standards of education (Ball, 2013). It is the perceived link between education and economic progress that has positioned education at the heart of government policy in countries worldwide. Education is regarded as the magic key that promises to unlock a country's potential and secure future success prosperity and growth. Education has become the new, sought after currency (Department for Education, 2010). Governments the world over are looking for ways to strengthen their own 'currency' and school improvement has been pushed to the 'top of the global educational agenda, both academically and politically' (Sigurthardottir and Sigthorsson, 2015: p.599). International comparisons of student performance, namely PISA, came in little over a decade to occupy a central position in government thinking, a position that belies their relatively recent emergence (Grek, 2009). Since its launch in 1997, PISA is widely

accepted by governments and policy makers across the world as 'the premier yardstick' (OECD, 2014: p.2) against which education systems are measured and compared (OECD, 2010). A top ranked PISA position has come to be associated with future economic security and is regarded as a useful measure of the extent to which students, at the age of 15, have acquired the knowledge and skills deemed essential for participating in the labour market and society (Fischbach et al. 2013). Consequently, governments and educators are engaged in a global search to identify policies and practices proven to raise standards of education that can be adapted to their own local contexts (OECD, 2014). PISA data have, since the publication of the first results, come to inform reforms of entire school systems (Lewis, 2014; Fischbach et al. 2013; Grek, 2009) and 'test based accountability has become a truly global phenomenon, shaping local and national educational priorities and policies' (Unwin and Yandell, 2016). It would seem that where PISA points, others follow and 'PISA-envy' dominates education agendas across the globe in both OECD member and non-member countries. Some indication of the global interest in PISA is offered by the 540,000 15 year olds from 72 countries that participated in the most recent PISA 2015 assessment (OECD, 2016).

There was perhaps no country more surprised at the top ranked position achieved by Finland in the first, PISA 2000, assessment than Finland itself. Finland proceeded to dominate the PISA league table for a decade and as a result was thrust into the spotlight and held as a model for others to emulate, even becoming leader in a new niche market of education tourism. Finland's success was attributed to its comprehensive system of education, teacher autonomy and motivation (Grek, 2009). While Finland's success became the envy and the goal of policy makers and

politicians across the world, other systems were found to be left wanting. Germany found itself in the bottom third of participating counties, which came as 'a severe shock to policy-makers, school teachers and parents' (Grek, 2009: p.29). The response of the German education authorities was to announce urgent reforms including developing standards for measuring students' competencies, the introduction of large-scale testing and German teachers found themselves under increasing pressure working within a system that had switched its focus to outputs rather than inputs (Grek, 2009).

Fifteen years after the first PISA assessment Shanghai has risen to the top spot and while Finland remains in the top five ranked nations, the focus is on what lessons can be learned from Shanghai and applied in a different context. PISA data gathered from across the globe may indeed offer valuable insight into a nation's strengths and limitations and point to effective solutions and offer answers, however there is a strong rationale for countries to exercise caution in their response. Nations would do well to engage in critical self-reflection and resist the temptation to launch into whole-system reform. However, what has emerged strongly as a common factor in all top-performing nations is that the quality of teachers and teaching lies at the heart of educational improvement. It is the undeniable and overwhelming importance of teacher quality that has emerged from PISA that has come to occupy a central place in government thinking and educational policy in nations across the world, England being no exception.

It is clear from PISA evidence that central to improvement and key to improving standards is the quality of the teacher (Department for Education, 2016; Department for Education, 2010; Pollard, 2010; Barber and Mourshed, 2007). The OECD (2005: p.2) identified teacher quality as 'the single most important variable influencing student achievement' a view reinforced by Pollard who identified excellent teaching as 'the single most significant means of improving the performance of national education systems' (Pollard, 2010: p.4).

Interestingly, concern over standards in education and a recognition of the central role of the teacher in raising educational standards are themes that date back some fifty years. The Crowther Report of 1959 highlighted the critical role of the teacher in securing educational progress stating that 'Everything in education depends ultimately on the teacher' (Central Advisory Council For Education, 1959: p.472). Seventeen years later James Callaghan, in his Ruskin College speech of 1976, was the first prime minister to devote a major speech to the topic of education (Ball, 2013). Callaghan expressed concerns that all too often school leavers were not equipped with the skills required of them by employers and that unsatisfactory standards of school performance were too common. He called upon teachers to strive for improvement and not settle for the status quo, 'we cannot be satisfied with maintaining existing standards let alone observe any decline. We must aim for something better' (Callaghan, 1976: p.1). Callaghan's speech may be regarded as having set in motion a chain reaction in educational policy that has continued to gather momentum ever since and remains central to government thinking today.

Within three years of the Ruskin College Speech a General Election saw Margaret Thatcher elected Prime Minister, a political change that brought with it significant change to education in England. The prevailing government view under the new right wing government was that 'Education had changed too much and changed inappropriately, it was too radical and too progressive' (Ball, 2008: p.110). A discourse of blame grew up around teachers who were held responsible for what the government claimed were poor educational standards and for their part in the ''progressive collapse' of English education' (Whitty, 2002: p.64). The election of Margaret Thatcher's government heralded the end of the 'golden age of teacher control' (Le Grand, 1997: p.156), a period between the 1944 Education Act and the mid-1970's during which teachers were regarded to know what was best for their pupils and left to act accordingly (Bassey, 2005; Simon, 1991). Politicians and policy makers attacked the integrity of the teaching profession arguing that teachers had abused their autonomy to the detriment of their pupils and society (Whitty, 2002) and could no longer to be trusted to act on behalf of the state or in the best interest of their pupils. Consequently, a series of reforms were introduced that were designed to increase teacher accountability and tighten regulation of the teaching profession. Teachers would no longer have a professional mandate to operate independently and would be subjected to greater control and surveillance (Whitty, 2002). The national curriculum (1988), Standard Assessment Tests or SATs (1991), school league tables (1992), and performance management were all mechanisms designed to observe, monitor, measure, compare and control teachers' professional competence (Ball, 2013; O'Leary, 2012; Evans, 2011). The teaching profession became regulated and accountable, measured against standards and judged by pupil outcomes (Ball, 2013). Additionally, the advent of PISA has led to the

performance of fifteen year olds across the globe being scrutinised and compared, disected and discussed with little regard for the different cultural factors and contexts behind the headline scores. Despite critisims levelled at PISA and arguments that PISA data is flawed and unreliable (Kreiner and Christensen, 2014) politicians and policy makers have an acute interest in their own ranking and something of an obsession with that of other nations.

While such reforms may have achieved the government's aim of increasing teacher accountability and regulation, they have also 'worked to shut down the spaces in which teachers can exercise their capacity to think for themselves, to theorise and generate their own practice' (Swann et al., 2010: p.552). Teachers have found themselves under surveillance (Perryman et al., 2011; Clegg, 1999) and unwittingly cast in the role of technicians, based upon the simple premise that teaching is regarded as 'a 'doing' activity' (Hancock, 2001: p.303). Quite simply, teachers teach and pupils learn (Pollard, 2010). As technicians, teachers are merely 'adopters and implementers of externally determined reform' (Donaldson, 2014: p.181), implementing the educational ideas of others, rather than professionals who think about matters for themselves (Alexander, 2008). The teacher technician is expected to take 'pre-packaged knowledge and 'dish it out' to their passive students' (Kincheloe, 2003: p.103). Teaching is positioned 'as an activity which does not require thought except about what one is teaching' (McIntyre, 1995: p.30), teachers implement what is required of them/imposed upon them with little criticality or consideration (Jarvis, 2002). Traditionally teachers have not been expected to consider or comment on the theory and practice underpinning their work and few have done so (Hancock, 2001). According to this view teaching is 'a process in

which the mind of the teacher is simply reproduced in the learner' (Elliott, 2007: p.9) and so supports a misconception that teaching is 'a mainly technical or else pastoral activity' (Pollard, 2011: p87). The model of a teacher technician reinforces the notion that teachers have become 'a technical workforce to be managed and controlled rather than a profession to be respected' (Tomlinson, 2001: p.36). The successive reforms that began under Thatcher's government (1979 – 1990) served to constrain teachers in their practice and demand compliance; opportunities for collaborative, creative, innovative practice were all but closed down or removed as teachers did as they were told.

The formation of the Teacher Training Agency in 1994 was significant in reinforcing notions of teachers as technicians, signalling the emergence of a new value-laden language. Teacher education become teacher training, students became trainees, subject knowledge became content and training institutions became providers (Burgess, 2000). Teacher performance was to be judged according to a list of competencies that were criticised for representing 'technical rationality and neglecting more reflective and critical competencies' (Whitty, 2002: p.74). Teacher autonomy was being eroded, the profession was being disempowered and teachers found themselves plunged into a period of political and public criticism that has continued to undermine their status:

> to a large extent, classroom teachers' skills and knowledge are, at best, underestimated, and at worst, disregarded – by parents and the general public, by politicians, by the children and, curiously, by many teachers themselves (Hancock, 2001: p.301).

Thus, teachers have found themselves in a position where they are not expected to research or write about their professional practice, they are marginalised from government change agendas, their voices largely unheard and the demanding nature of teaching leaves little time or energy for teachers to become research active, even if they would like to be.

2.2 A culture of performativity

The increased regulation, erosion of autonomy and the growth of an 'accountability movement' (Elliott, 2007: p.4) that emerged during the late 1970s signifies a shift towards a 'culture of performativity' (Ball, 2003: p.215). A culture based on a 'language of curriculum delivery, attainment, targets, competence, appraisal, inspection, etc.' (Collins et al., 2001: p.4). The teacher as a 'performative worker' operates within a culture 'that employs judgements, comparisons and displays as means of incentive, control, attrition and change based on rewards and sanctions' (Ball, 2003: p.216). Quality and value is measured in terms of performance and productivity and measurable outcomes become important as indicated by the Ofsted school inspection framework that is 'focused closely on what matters most – outcomes not processes' (Department for Education, 2016: p.110).

Performativity stifles creativity, promotes competition between teachers and departments, suppresses professional relationships and conversations (Ball, 2013; Earley et al., 2004) and in so doing forces teachers into isolated practice. Teachers

and schools are repeatedly told that they 'must perform more 'effectively'' (Collins et al., 2001: p.4). They operate within a culture of increased accountability, low trust and high levels of surveillance (Perryman et al., 2011) ever fearful of not meeting the targets and expectations set for them and consequently reluctant to depart from reliable tried and tested practice:

> Teachers with over-examined professional lives complain of eroded autonomy, lost creativity, restricted flexibility, and constrained capacity to exercise their professional judgement. They keep their heads down, struggle along alone, and withdraw from work with their colleagues. Professional community collapses, time to reflect evaporates, and the love of learning disappears (Hargreaves, 2003: p.5).

Critical reflection, collaboration and thoughtful inquiry are not requirements of the performative teacher (Burton and Bartlett, 2005). S/he is unlikely to adopt a critical perspective of, or question the values and assumptions embedded in day-to-day practices (McGilchrist et al., 2004) but is likely to rely on the safe, reliable tried and tested methods required by line managers and school leaders. A culture of performativity is no place for deviation from accepted norms or for risk-taking, such practice may be regarded as maverick, even damaging to pupil progress and school improvement. The performative teacher is caught in the relentless pursuit of improvement, fearful of being perceived as 'requiring improvement' or 'inadequate' (Ofsted, 2015: p.62) and haunted by 'the terrors of performativity' (Ball, 2003: p.215). S/he inhabits a world of work where conditions are likely to exacerbate stress, reduce morale and lead to high levels of teacher burn-out (Vandenberghe and Huberman, 1999).

A performance model rests on a belief that providing teachers follow prescribed methods, reliable outcomes are assured. It suggests a homogeneity between pupils that enables assessment and comparison to occur and upon which detailed prescriptions of how to improve attainment can be applied (Collins et al., 2001). The performative teacher is required to provide justification for her/his judgements and actions and will be 'held accountable for the outcomes of their decisions' (Department for Education, 2016: p.21), particularly if targets are not achieved. Performativity serves to create conditions whereby teachers operate in fear of underperforming. Quite simply, if pupils do not achieve the standards expected of them, teachers will have to defend themselves and their practice and provide justification for pupils' results.

This rather bleak depiction of the working world of teachers offers some insight into why teachers may be reluctant to deviate from tried and tested reliable methods of practice. The potential risk of a fall in standards is likely to constrain practice, stifle creativity and suppress professional judgement. While teachers created in this likeness may be attractive to governments, policy makers and school leaders, precisely because of the unquestioning, unchallenging obedience it represents, it is a model that arguably contradicts what constitutes effective teaching. Research indicates that the most effective teachers are characterised by their ability to think critically, reflect upon and interrogate practice, question and challenge assumptions and test new ideas and approaches (BERA-RSA, 2014; McDonagh et al., 2012; Stenhouse, 1979a). Instead of following 'top-down orders without question' (Kincheloe, 2003: p.18), the inquiring teacher is her/himself a learner who questions what they do and why and through interrogation of her/his own practice is able to

develop a 'sense of themselves as empowered professionals' (McDonagh et al., 2012: p.15). Engagement in on-going professional learning enables teachers to develop an authentic knowledge of practice and in this way teachers develop their ability to exercise professional judgement about what constitutes quality in education (McDonagh et al., 2012). The critical, inquiring, curious teacher stands to be empowered and able assert her/his status as a professional whose practice is based on sound, informed professional judgement. The critical, inquiring, curious teacher engages with and in educational research to develop and improve thinking, learning, judgement and practice (Stenhouse, 1979a) and through adopting a research stance s/he is empowered and positioned to reject the characterisation of a technician.

It is interesting and significant that there exists considerable tension between the model of the teacher-technician and the teacher-researcher. Stenhouse's teacher-researcher seeks a 'better way' (Evans, 2011: p.865) of working and in adopting a critical, reflective and inquiring stance opposes the compliant, unquestioning, teacher-technician. The research active teacher has the potential to become a 'self-evaluating agent of change' (Elliott, 2007: p.5), rejecting taken for granted, habituated practices and seeking new, improved approaches to meet the individual needs of learners. Increased agency facilitates teachers in challenging assumptions and in becoming more self-directed and proactive in their responses and their practice (Zeichner, 2003). The research literate teacher may require greater justification and a clear rationale before putting policy into practice; is positioned to be questioning and critical in her/his approach to existing practices and new initiatives (Swann et al., 2010: p.552). The research active teacher stands

to represent a reflective, critical practitioner who rejects insularity and recognises agency to be empowering and liberating. The research active teacher holds knowledge to be problematic and is less likely to occupy a position 'of wanting to be told and then believing what they are told' (Rudduck and Hopkins, 1985: p.2) but will instead seek their own answers and make informed decisions about what will best suit learners to achieve desired ends.

The seminal work of Lawrence Stenhouse led the way in what came to be known as the 'teacher-research movement', a movement he believed could and should lead to the improvement of teacher practice. Stenhouse called for teachers to engage in research to inform their thinking, guide their judgment and in so doing, improve their practice (Stenhouse, 1979a). He believed that it was only through teachers developing their research literacy that they could enhance their professional understanding and develop their professional knowledge, ultimately making them more effective in their role. Stenhouse argued that only through developing a research stance, 'a disposition to examine one's own practice critically and systematically' (Stenhouse, 1975b: p.156), could teachers develop a better understanding of their own classrooms and their practice. A research stance would offer teachers the means to find answers to their classroom questions and problems and in so doing become more effective. Stenhouse passionately believed in the notion of teachers as learners engaged in a continuous, career-long, pursuit of knowledge and he regarded school-based teacher-research activity as a powerful means to support the professional development of teachers and to facilitate professional growth and improvement (Stenhouse, 1979a). It is the potential for

school-based teacher-research activity to enhance, advance and improve the quality of teaching and learning that lies at the heart of this writing.

The UK Conservative-Liberal Democrat Coalition Government (2010 – 2015) were swift in placing the reform of the education system in England as a central priority. The publication in November 2010 of the School's White Paper, acknowledged that teaching standards in England had improved and at the time of publication the cohort of trainees was among the 'best ever' (Department for Education, 2010: p.3). It makes clear that the school system had 'important strengths' and benefitted from 'many outstanding school teachers and leaders' (Department for Education, 2010: p.8) but despite the acknowledged improvements and strengths the Government made clear their concern that standards remained too low. The school system in England was described as performing 'well below its potential' (Department for Education, 2010: p.8) while schools in many other countries in the world were improving faster, as indicated by PISA. The challenge facing the education system was identified as assuring year-on-year improvement but also developing the ability 'to keep pace with the best education systems in the world' (Department for Education, 2010: p.46). The results of PISA 2006 indicated that England had fallen in its ranking in science, literacy and mathematics and urgent reform was necessary to improve the quality of teachers and teaching in England (Department for Education, 2010).   David Cameron, then Prime Minister, vowed to ensure that our education system caught up and provided the 'world-class schools our children deserve' (Department for Education, 2010: p.3).

The ambitious whole-system reform of education would drive school improvement and raise teacher quality. Reform would be realised through a national network of Teaching Schools, schools identified as being 'of the highest quality – truly amongst the best schools in the country' (Department for Education, 2010: p.23). The government's vision, articulated through the White Paper (2010) made it clear that Teaching Schools, recognised by Ofsted to be outstanding schools, proven in their innovative practice, would work with other schools and strategic partners to provide high-quality teacher training and professional development to new and experienced teachers. Teaching Schools would play a leading role in raising standards through a self-improving and sustainable school-led system (National College for Teaching and Leadership, 2014). Based on 'evidence from around the world' (Department for Education, 2010: p.19), teachers in the highest performing systems receive focussed training and development at each stage of their career and the importance of continuing professional development (CPD) was positioned as central to the work of Teaching Schools. Career-long CPD would be delivered according to the six strands of the Teaching School remit on which all Teaching Schools would be held accountable (Qu et al., 2014). The six strands, widely referred to as 'The Big Six' may be considered as separate chords 'braided into a rope that is strong enough to support, sustain and lift the quality of teaching and learning' (Matthews and Berwick, 2013: p.38).

'The Big Six':

     1. School-led initial teacher training

     2. Continuing professional development

     3. Supporting other schools

     4. Identifying and developing leadership potential

     5. Specialist leaders of education

     6. Research and development

(National College for Teaching and Leadership, 2014).

It is the sixth strand that is of specific interest within this writing; how through engaging in and with research teachers may improve the quality of both what they do and how they do it and so become more effective in their practice. Potentially, school-based teacher-research activity offers the means to achieve the government's ambition of raising the quality of teaching, improving standards of education and ultimately of becoming one of the world's top performing nations (Department for Education, 2010).

2.3 Towards an understanding of 'effective teaching'

The concept of teacher effectiveness is wide ranging and encompasses many different aspects of a teacher's work and performance. Despite repeated emphasis on the important role of 'quality teaching' (Department for Education, 2010: p.9) and a call for teachers to be more effective in their practice (Department for Education, 2010), there is an absence in government documentation of how effective teaching

may be recognised or achieved. A view that teacher effectiveness can be measured in terms of student achievement fails to appreciate the complex, multi-faceted role of the teacher and it is due to the complexity of the role that a multi-dimensional view of teacher effectiveness is required (Campbell et al., 2004). A view that teaching is 'an unproblematic passing on (or passing down) of what the teacher knows about' – a simple consequence, given practice, of 'knowledge and love of subject'' (Edwards, 1995: p.44) is narrow and overly simplistic (Labaree, 2000) and fails to take account of the far greater depth of knowledge, skills and understanding involved in effective teaching. Teacher effectiveness encompasses a wide range of elements and relates to 'the impact that classroom factors, such as teaching methods, teacher expectations, classroom organisation, and use of classroom resources, have on students' performance' (Campbell et al., 2004: p.64).

Rowe et. al. (2012) suggest that the terms 'effective teaching' and 'good teaching' are synonymous and share the same objective of striving to ensure all pupils achieve. An effective teacher will facilitate the development of 'every individual pupil to the best of their potential and ability' (Rowe et al., 2012: p.7). Rather than effective teaching being regarded as merely a fixed set of skills and knowledge MaGilchrist suggests effective teaching requires teachers to be 'constantly evolving and adapting to the learning needs of different groups of pupils' (McGilchrist et al., 2004: p.93). If teachers are to successfully meet the individual needs of all learners and respond to the ever-changing, unpredictable, dynamic nature of the classroom they must make pedagogical decisions based on professional judgement. It is the ability to make 'informed pedagogical choices between competing claims and possibilities' (Pollard, 2011: p.30) that enables teachers to best shape teaching and

learning and in this way demonstrate effective teaching through exercising their professional judgement. Ultimately, teacher judgement is critical to teacher effectiveness (Stenhouse, 1979b) and it is how teachers are supported in developing their 'expert professional knowledge' (Pollard, 2011: p.88) that is key to raising standards of achievement and teacher effectiveness. However, while raising the quality of teaching and improving standards of teaching may be a government priority it is significant to acknowledge that notions of 'good', 'effective' and 'quality' are all contested and consequently may not mean the same to all stakeholders. Defining 'teacher effectiveness' is therefore problematic.

Effective teaching requires a blend of subject knowledge, professional knowledge and skill, all factors that arguably should continue to evolve as a teacher's career progresses. It is through meaningful career-long professional development that teachers may be enabled to engage in the continued development of their pedagogical knowledge, so positioning them to 'exercise wisdom and judgement in the unpredictable circumstances they regularly encounter in the course of their activities' (Elliott, 2001: p.560).

Rather than responding to the requirements imposed upon them, it is when teachers make outstanding use of their understanding of the research and knowledge-base to support high-quality planning and practice (Husbands and Pearce, 2012) that they are they likely to become more effective. The research literate, research-engaged practitioner stands to have greater capacity to develop skills and confidence to engage in a cyclical process of ongoing reflective practice. Through

critical inquiry and the use of evidence to inform and underpin judgements and decision-making the reflective, reflexive, research literate teacher will arguably become more effective in her/his practice and so reach the high quality identified by the OECD (2005) as central to student achievement. However, there exists a clear tension between the model of a teacher who is inquiring and reflective and trusted to exercise their professional wisdom, judgement and act autonomously in the best interest of their pupils and the model of a teacher technician, a performative worker, who is told what and how to teach and responds without question. There exists a contradiction between what is recognised to characterise the effective teaching so desired by the government and the model of teacher that has been created by successive governments, a model that is arguably the antithesis of the inquiring, critical thinker and reflective practitioner.

The relationship between teaching, teacher research and improved practice is not new. Dewey, writing at the beginning of the twentieth century, encouraged a process of thoughtful consideration urging teachers to seek confirmation to validate their ideas and their practice. He called upon teachers to:

> hunt for additional evidence, for new data, that will develop the suggestion, and will either… bear it out or else make obvious its absurdity and irrelevance (Dewey, 1910: p.13).

Dewey believed that reflective thinking combatted habituated practice and he urged teachers to challenge taken for granted beliefs and to seek alternative approaches to the delivery of the curriculum. He advocated that a state of doubt is desirable

and challenged teachers to think and reflect upon their work, and the work asked of them, and to engage in an ongoing process of critical inquiry (Dewey, 1910).

Some seventy years after Dewey, the work of Stenhouse is characterised by 'a profound respect for thinking that is disciplined by evidence' (Rudduck, 1995: p.3). Stenhouse regarded teachers as learners who he urged, on qualification, to embark on a career-long journey of professional development, seeking evidence to underpin their practice. He called upon teachers to be tentative, sceptical, experimental and reflective (Rudduck and Hopkins, 1985) and to try and test different strategies and methods in a quest to meet the needs of their learners. Stenhouse was an outspoken critic of moves to de-professionalise teachers; he maintained his trust in teachers as professionals and fiercely defended their autonomy. The characterisation of the teacher-technician would almost certainly have appalled Stenhouse who argued in the early 1980's that legislation to regulate teachers was turning them into 'intellectual navvies'. He likened the curriculum to a site plan; teachers were being told 'exactly where to dig their trenches without having to know why' (Stenhouse, 1980c: p.85). Above all, Stenhouse was a passionate advocate of the value and benefits of teacher research, he believed that the inquiring teacher would be empowered to take control of her/his practice and trusted to use professional judgement to act in the best interest of students, rather than merely responding to diktats handed to them. Stenhouse's teachers would be prepared to take risks in their work, struggle with uncertainty in their practice and assert their status as autonomous professionals, rejecting moves that would see their judgement overruled by authority (Stenhouse, 1978b).

2.4 Research as a basis for teaching

Every day, teachers are surrounded by rich research opportunities and Stenhouse (1980b; 1978b) challenged them to experiment in their 'laboratories' and to test educational theory. He called for classrooms to be 'in the command of teachers, not of researchers' (Stenhouse, 1979a: p.20) and for teachers to be the architects of their own research and practice. He made clear his view that 'it is not enough that teachers' work should be studied: they need to study it themselves' (Stenhouse, 1975a: p.93). Crucially, when teachers themselves become the researchers they 'become active producers of meanings, not simply consumers' (Kincheloe, 2003: p.56).

For too long the theory/practice divide (McGilchrist et al., 2004) has positioned teachers as passive participants in, or consumers of, research that is based in their classrooms and on their practice by academics cast in the role of research 'experts' (Bassey, 2005). Educational research has been the preserve of universities, a 'mystery penetrable only by insiders' (Edwards, 1995: p.45) with 'insiders' being taken to mean academics. Stenhouse called upon teachers to become the researchers and no longer accept being positioned as merely the researched. It is through engaging in research on their own practice that teachers stand to gain a fuller understand of what they do and why they do it. So important is teachers' understanding of their practice Stenhouse believed that ultimately the world of the school would be changed through teachers' understanding of it (Rudduck and Hopkins, 1985). The teacher researcher is able to interrogate her/his own practice,

question assumptions and so better understand their own classroom (Carr and Kemmis, 1986). It is through developing reflective, critical curiosity and problematizing education as an integral aspect of practice that teachers stand to develop and strengthen both their professional judgement and their professional status. Indeed research and teaching should not be regarded as separate binaries but as interlinked endeavours:

> There is no borderline between teaching and research; they are complementary and overlapping activities. A teacher who is advancing his general knowledge of his subject is both improving himself as a teacher and laying foundations for his research (Committee on Higher Education, 1963: p.182).

The separation of educational research from educational practice means that it is common for research not to reach the teachers to whom it is most relevant consequently informing neither policy or practice (Goodnough, 2008). Moreover, 'experts' fail to appreciate teachers' points of view, the complexities of the teaching-learning process, or the daily challenges teachers must face (Mertler, 2014). Stenhouse believed that engaging in research activity would empower teachers against external experts. He argued that the route to teacher professional autonomy was through developing 'a trained capacity for investigating and reflecting on their own practice' (Edwards, 1995: p.45). Teachers should think and question for themselves and not be subservient to, or in awe of, the ideas of others (Stenhouse, 1979a). Research offers teachers the ability to review and critically assess their own experiences and use the findings of their inquiries to supplement and enrich their judgement (Stenhouse, 1976: p.41). Through adopting a critical research stance, teachers need no longer be passive consumers of research but instrumental in knowledge production and as Michael Foucault (1980) repeatedly pointed out,

knowledge is power. Kincheloe (2003) asserts that it is only through demanding a role in the production of knowledge will teachers be able to protect their autonomy and regain a voice in the workplace. He called for teachers 'to take the solution of their problems into their own hands' (Kincheloe, 2003: p.23), moving beyond merely problem solving to a new level of problem discovering. In this way Kincheloe (2003: p.24) believes that teachers can end 'the erosion of competence' to which they have been subjected since the mid-1970s and once again, become agents of their own practice, empowered against the technicalised world that has become so evident in schools.

It may appear that in order for Stenhouse's ambitions to be achieved teachers need only to be willing participants in the teacher-research movement, not so. He recognised the inherent and significant challenges involved in establishing teacher-research activity. Stenhouse stressed that 'as a starting point teachers must want change, rather than others wanting to change them' (Stenhouse, 1980d: p.102) and he highlighted the importance of providing adequate resources to support the development of teacher research literacy as well as establishing a culture that would promote research activity. He did not underestimate the commitment and the effort that such practice would demand and acknowledged that 'the most serious impediment to the development of teachers as researchers is quite simply 'shortage of time' (Stenhouse, 1980b: p.11). He called for all teachers, at every stage of their career, to be given time for planning and reflection as a mechanism to improve their practice stating that 'the greatest barrier to the improvement of teaching is the inexorable load on the teacher's attention of the burden of present contract hours'

(Stenhouse, 1979b: p.7). Burgess (2000) also stressed the importance of time being made available for teachers to reflect, suggesting that an absence of dedicated time will limit or prevent teachers from engaging in a cycle of reflection, critical inquiry and research engagement to inform and improve their practice.

Shortage of time is regularly cited by teachers as a limiting factor in their ability to respond to change (Precey, 2015; McGilchrist et al., 2004) but merely creating time for teachers to engage in research activity is no guarantee of improved practice (Szczesiul and Huizenga, 2014). Furthermore, the scheduling of research time may be significant in determining how teachers respond and engage with research activities. In cases where research time is scheduled after the school day research may be regarded as a 'bolt-on' activity rather than integral to teachers' work, an expectation of their daily professional life. In locating opportunities for CPD within the working day it is more likely that connections will be made between the activities and classroom teaching creating the potential for sustained practice (Seferoglu, 2010). Interestingly, Kirkwood and Christie (2010) suggest that if teachers are released from their class teaching to engage in research activity, the model of activity that is likely to develop will almost certainly be wholly reliant on having time devoted to it. Thus, if support is withdrawn and time is no longer designated, research practice is likely to cease. This suggests that there exists a fine balance between allocating teachers time and opportunity to engage in research activity but in not creating false, unsustainable conditions whereby research will only occur if time is provided. Arguably, the ideal situation is one in which teachers receive support, guidance and resources to develop their research literacy in this way

positioning them to independently undertake research activity within their everyday practice. Only when research is not regarded as an additional extra and is a valued whole-school activity, a norm rather than an exception, is it likely to be sustained when support is reduced or withdrawn.

It is noteworthy that while teachers may offer limited time as a reason not to engage in research activity, it may be argued that they find time to achieve the tasks that are a requirement of their role or that they want to do. Offering 'time' as a limiting factor to research engagement may indicate that research is regarded to be of a lower priority than other aspects of a teacher's role. This could be explained by a limited understanding of what research engagement involves or of the potential benefits a research stance may offer to teachers' practice. The responsibility to present a clear rationale for the research agenda and to promote research activity as a valued and desirable endeavour is likely to rest with the school leadership team.

As already discussed, the coalition government's plans for the 'radical reform' of education in England (Department for Education, 2010) were deemed necessary to achieve their ambition of becoming a 'world-class' education system. The reforms announced through the White Paper (2010) would be led through the creation of Teaching Schools and underpinned by 'The Big 6'. The requirement to undertake research and development activity was one mechanism designed to support teachers in becoming more effective in their practice and in creating conditions through which high quality teaching could be achieved.

Through research and development activity, Teaching Schools would be expected to:

- build on existing research and contribute to alliance and wider priorities
- base new initiatives within your alliance on existing evidence and ensure you can measure them
- work with other teaching schools in your area, or nationally, where appropriate
- ensure that your staff use existing evidence
- allow your staff the time and support they need take part in research and development activities
- share learning from research and development work with the wider school system.

<div align="right">(National College for Teaching and Leadership, 2014).</div>

How Teaching Schools were responding to the requirement to engage in research and development activity is of interest within this writing. Furthermore, the potential for research activity to positively influence and shape the professional development of teachers will be explored.

2.5 Professional development

To understand the relationship between teacher-research activity and the potential it may have in supporting teachers' professional development, it is necessary to interrogate what is meant by professional development. Significantly, what makes for effective professional development and what are the challenges and constraints that may affect teachers' ability to sustain career long learning and development?

The different sectors of education have over the years, debated at length the nature of professionalism, professional development and professional practice, trying to establish a common understanding and definition of the terms (Edwards and Nicoll, 2004). A definition of professional development offered by Guskey (2002) positions CPD as the 'systematic efforts to bring about change in the classroom practices of teachers, in their attitudes and beliefs, and in the learning outcomes of students' (p.6). Thus, if professional development is understood to represent systematic practice that promotes learning through life intent upon improvement it seems reasonable to suggest that central to teacher professional development will be the desire to enhance student learning experiences (Edwards and Nicoll, 2004).

It is perhaps of little surprise that the demands for high standards within education and the call for teacher improvement has led to an increased focus on the professional development of teachers. Nationally and internationally, politicians, policy makers and practitioners are emphasising the importance of the professional development of teachers to achieve the quality teaching so sought after (McLaughlin, 2013). Professional development is an essential mechanism through which teachers' knowledge and practice can evolve and develop (Creemers, Kyriakides, Antoniou, 2013). Arguably, it is only if, and when, a teacher's knowledge and practice evolves that they will better understand and respond to their learners' needs and better able to teach to high standards. While some may argue that effective teaching requires nothing more than sound subject knowledge (Goodwin, 2012), a contrasting view is that teaching is a complex endeavour that requires teachers to develop 'scholarly understanding' (Shulman, 2004) and that effective

teaching rests upon acquiring specialized knowledge. Such specialized knowledge will encompass factors including knowledge of pedagogy, curriculum, learners and knowledge of educational ends, purposes and values (Shulman, 2004). Arguably it is through meaningful, planned and structured teacher CPD that teachers' specialized knowledge may effectively be developed. The purpose of professional development may therefore be regarded as 'the acquisition or extension of the knowledge, understanding, skills and abilities' that will enable individual teachers to maintain and enhance the quality of their practice (Blandford, 2001); the ultimate aim of professional development being that of improving teachers' classroom practice.

Teachers are a 'schools' greatest asset' (Day, 1999: p.2) but only if teachers are well prepared for the profession and they continue to improve their knowledge through career-long learning is it likely that they will be most effective in their role and so recognised as a great asset. Day argues that the relationship between effective teaching and improvement is so significant that successful school development depends upon successful teacher development. However, while few would oppose the notion of professional development, the reasons for developing a specific aspect of teachers' practice or the approach adopted may be questionable. Furthermore, the make-up of a particular group of teachers involved in professional development activities and how those teachers are mobilised is likely to depend upon the extent to which individuals and groups are convinced that an initiative or proposed working practice is relevant and meaningful to them. An audience that remains unconvinced of the benefit of a particular form of professional development

may resist involvement and reject engagement. If teachers are sceptical of the potential benefits of research based practice they are unlikely to willingly engage in professional development that is focussed upon teacher research activity (Edwards and Nicoll, 2004).

The potential benefits of effective professional development may be clear however, there does exist a tension between professional development that requires teachers to keep up with changes imposed upon them and professional learning that 'arises out of teachers' engagement with the knowledge and takes forward their professional actions and identities' (Edwards, 2012: p.265). If professional development is taken to be more than merely 'keeping up' and is viewed as the development of expertise, the capacity to effectively use resources to overcome classroom problems, a long-term view is necessary. Acquiring professional expertise will require teachers to be afforded opportunities to work within 'learning-centred' organisations in which the learning of both pupils and teachers is valued and positioned at the heart of the organisation (Bisschoff and Rhodes, 2012). Traditionally teacher CPD has taken the form of, and in many schools remains limited to, In-service Education and Training (INSET) (Blandford, 2001). Alternatively, CPD may take the form of external workshops or training activities that are often criticised for the decontextualized nature of content and the limited influence in changing teachers' thinking or practice. Ultimately too much professional development does not affect the intended changes (Opfer and Pedder, 2013; Seferoglu, 2010) and while both INSET and external activites may contribute to CPD professional expertise is unlikely to be gained on short courses. If teachers are to meaningfully develop expertise across the duration of their career CPD needs

to be embedded into their career path. A teacher's career should be viewed as a continuum with support available at any point over the professional lifecourse (Blandford, 2001). This approach should be regarded as wider than simply promotion planning and should consider the individual needs and aspirations of every teacher in a school.

Whether or not teachers warrant the status of professionals remains contested and a debate too great to address in this writing but it is relevant to acknowledge that the notion of 'professional' is associated with training, specialist knowledge, qualifications, extended study and status (Hoyle and John, 1995). It is how teachers may develop their specialist knowledge and partake in extended study such that their professional judgement is developed, strengthened and informed by current educational thinking and practice that is of interest here. Specifically, the extent to which investment in a planned, structured programme of lifelong professional learning can enable teachers to develop and adapt their range of practice with the specific aim of making them better at what they do. The OECD calls for teachers to be 'high-level knowledge workers who constantly advance their own professional knowledge as well as that of their profession' (Schleicher, 2012: p.36). If the teaching profession is to respond effectively to this call, the relationship between promoting professional leaning with schools, led by the schools is likely to be fundamental to effective professional development

It appears that there exists a growing consensus, driven by international comparisons, that teachers' learning is necessary for the development of educational practice (McLaughlin, 2013).

The literature makes clear the potential benefits of teacher research to teacher practice however, this prompts consideration of what may represent or be recognised as 'teacher research'. An uncomplicated definition of research offered by Stenhouse (1980b: p.1) positions research activity as 'systematic self-critical enquiry'. Further, research is 'any deliberate investigation conducted with a view to learning more about a particular educational issue' (BERA-RSA, 2014: p.40). Kumar (2005) suggests that research encompasses any activity requiring the researcher to think, examine critically and question as a means to find answers with a view to making practice more effective. Common to these definitions is the notion of engaging critically with practice intent on developing understanding. There is no suggestion that research is, or should be viewed as, a mysterious, scientific, positivist endeavour carried out by experts and lying beyond the grasp of teachers, as is sometimes presented in scholarly texts and academic journals. Rather, the suggestion is that research is a process requiring the 'researcher' to engage in critical thought and reflection enabling her/him to learn about and better understand a specific issue or aspect of practice and in turn improve the learning and progress of their pupils. Mertler defined research as, 'simply one of the many means by which human beings seek answers to questions' (Mertler, 2014: p.5); arguably it is this unthreatening, uncomplicated approach through which teachers can seek answers to their professional questions and problems as a means for improvement.

Through developing reflective practice teachers are able to think beyond the superficial elements of their experiences and explore their professional lives in greater depth. Such practice is:

> undeniably the key to deep and meaningful learning. It is also this process that enables teachers to develop a more sophisticated understanding of teaching and learning (Myers, 2013: p.1).

The teacher-researcher is engaged in a continual cycle of reflection and experimentation and it is the complex interrelationship between theory and practice (Pollard, 2011) that is best defined as praxis (Kincheloe, 2003; Carr and Kemmis, 1986). In praxis 'thought and action (or theory and practice), are dialectically created' (Carr and Kemmis, 1986: p.34) and may be best understood as 'an action that is taken as a result of reflection' (McDonagh et al., 2012: p.56); it is through reflection that future actions can be modified and new thinking may emerge. Praxis is an ongoing process, a 'continual reconstruction of thought and action' (Carr and Kemmis, 1986: p.34) that demonstrates a commitment to, and creates opportunities for, improvement in practice.   It is through the synthesis of knowledge, theory, experience and ideas that teachers are likely to be better positioned and more confident in their judgement to make effective decisions of what to do next (McGilchrist et al., 2004). When a 'practitioner becomes a researcher into his own practice, he engages in a continuing process of self-education' (Schön, 1983: p.229) and in this way stands to be renewed and empowered in her/his work, able to bring unique expertise, talents and creativity to best meet the needs of learners.

Stenhouse believed that the very purpose of educational research 'is to develop thoughtful reflection in order to strengthen the professional judgement - of teachers' (Stenhouse, 1979a: p.21). Stenhouse called upon teachers to engage critically in their work, asserting that hard work alone is not sufficient to ensure development and progress. The teacher who does not think, reflect and strive for improvement will surely stagnate with damaging consequences to her/his practice, pupils' progress and ultimately the profession. For the research literate, research-engaged teacher, 'research ability provides the vehicle by which teachers reach the emancipatory goal of learning to teach themselves' (Kincheloe, 2003: p.47).

However, trialling new approaches and methods is not without risk and presents its own set of challenges. Schön (1983) suggests that when a professional, in this case a teacher, moves towards new ways of working or new competences s/he moves away from familiar, comfortable methods and in so doing:

> gives up the rewards of unquestioned authority, the freedom to practice without challenge to his competence, the comfort of relative invulnerability, the gratifications of deference (Schön, 1983: p.229).

The reward of departing from reliable, tried and tested, comfortable ways of working is discovery (Schön, 1983); in the case of a teacher this may mean the discovery of new strategies, approaches and methods to develop practice and improve teaching and learning. There is also the potential for teachers to rediscover enthusiasm and motivation for teaching that may have become diluted over the intervening years since qualification. However, the risk of departing from reliable and comfortable approaches should not be underestimated. Teachers existing within a performative

culture may be forgiven for a reluctance to embrace new approaches or in exercising caution when being called upon to depart from their trustworthy methods. As performative workers, teachers are judged on pupil performance and measured by pupil results; they live in fear of underachievement. Such fear is likely to supress creative, innovative and alternative approaches unless teachers are confident that they have leadership support for their research endeavours.

The premature death of Stenhouse in 1982 did not signify the end of the teacher research movement and supporters of 'research as a basis for teaching' (Stenhouse, 1979a) have continued to promote the concept (McDonagh et al., 2012; Elliott, 2007; Kincheloe, 2003; Rudduck, 1995). The GTCE (2011) called for research activity to become part of teachers' practice recognising that it offered teachers the opportunity to better understand 'the complex nature of teaching expertise or pedagogy' (Pollard, 2011: p.106). The researchED movement 'is a grass-roots, teacher led organisation that started in 2013' (researchED, 2016: online) intent upon enabling teachers to share research ideas and research practice. The rapid growth of researchED from its origins on Twitter to an international movement with an extensive following and an annual conference tour is an indication of the research interest that exists within the profession. However, teacher-research activity has largely remained a minority activity predominantly located in the practice of teachers undertaking postgraduate courses and master's degrees (McGilchrist et al., 2004; Stenhouse, 1980b). There has been no formal requirement for teachers to develop their research literacy or engage in research activity until the policy reforms laid out in the 2010 White Paper positioning research and development activity as a requirement of Teaching Schools.

2.6 Leadership and Management: the significant role of school leaders in establishing a school-based research agenda

There exists an extensive body of literature focussed on school leadership and the importance of leadership in creating conditions for success. The central role of school leaders in influencing pupil learning and achievement and the development of accompanying theory has, in the last two decades, attracted increasing interest and recognition (Bush and Glover, 2014). So significant is the influence of school leadership on teaching and learning, it was identified by Leithwood et al., (2008: p.28) as 'second only to classroom teaching as an influence on pupil learning'.

Despite much having been written about leadership a clear definition of the concept has proved difficult to establish and notions of leadership and management vary. Bush and Glover offer the following definition that is helpful in positioning leadership as a process of influence as opposed to management that is associated with carrying out a leader's vision and philosophy and so making the vision a reality:

> Leadership is a process of influence leading to the achievement of desired purposes. It involves inspiring and supporting others towards the achievement of a vision for the school that is based on clear personal and professional values (Bush and Glover, 2003: p. 10).

The ability of school leaders to improve staff performance, and in turn pupil performance, is a complex challenge but critical to any school's success and there is widespread recognition that the quality of leadership 'has very significant effects on the quality of school organisation and on pupil learning' (Leithwood et al. 2008:

p.29). The importance of school leaders' influence was highlighted by Leithwood et al. (2008: p.29) who could not find one example of a school 'successfully turning around its pupil achievement trajectory in the absence of talented leadership'. School improvement requires leaders to guide and impact upon factors such as staff motivation, commitment, skills and knowledge (Leithwood et al. 2008) and the literature indicates that unless school leaders play an active role in shaping and guiding teachers' practice, meaningful, sustainable changes are unlikely to occur. Such findings indicate that regardless of how motivated or enthusiastic staff may be, without strategic guidance and influence from the headteacher, changes in practice are likely to be limited or unsustainable.

While the potential for classroom research undertaken by teachers may indeed be a powerful means to improve teacher practice and drive up standards of teaching and learning, such activity is unlikely to occur of its own accord and if leadership support and commitment is absent such activity is highly unlikely to occur at all. If Teaching Schools are to be successful in establishing a research stance, specific conditions will be required to make this aspiration a reality and school leaders will play a vital role in creating the required conditions. School leaders play a pivotal role in determining improved teacher engagement with, and commitment to, any activity or initiative (Orphanos and Orr, 2014) and in organising staff to meet a common goal (Garnett, 2012). Consequently, the extent to which research is positioned 'at the heart of school policy and practice' (Godfrey, 2014: p.305) will almost certainly be determined by school leaders' commitment to the research agenda.

School leaders are key to mobilising and energising staff towards a goal or initiative and therefore central to school development and professional learning (Fleming and Kleinhenz, 2007). The extent to which a headteacher and her/his leadership team value, celebrate and promote the creative, innovative practice that may emerge from research endeavours and recognise the potential for research activity to underpin professional development is likely to be highly significant in influencing staff attitudes and commitment towards research activity. The extent to which the leadership team promote and encourage teacher-research activity will largely determine whether a school-based research-culture becomes successfully established, embedded and sustained in teacher practice and regarded as a valued activity. Interestingly Leithwood et al. (2008:p.29) identified that 'leadership serves as a catalyst for unleashing the potential capacities that already exist in the organisation', suggesting that the capacity for research pre-exists in schools but remains largely dormant. Only with the involvement and support of school leaders will such capacity be realised, enabling research activity to become a reality rather than remaining an aspiration. Establishing new or different ways of working will draw on leaders' passion, determination and vision (Fleming and Kleinhenz, 2007) in finding ways to encourage staff and in ensuring that staff are adequately supported and prepared to be involved in change (McGilchrist et al., 2004).

It is through SLT support and involvement in promoting a research agenda that a clear message will be conveyed to all staff that research activity is valued, important and desirable, indeed 'without supportive organisational and leadership configurations, change is unlikely' (Dimmock and Goh, 2011: p.215). While the headteacher may not be directly involved in driving a school research agenda,

without her/his backing, research activity is unlikely to receive the investment, resources or acceptance necessary to embed the activity. Consequently, teacher research will almost certainly remain, at best, a small-scale, marginalised activity and the likelihood of building successful, sustainable whole-school teacher-research activity is unlikely.

While SLT backing may be a critical factor in establishing a research stance, it is likely that a school-based research agenda will be the designated responsibility of one member of senior staff. A formal, top-down, SLT led, organised and driven agenda aligns with an instructional leadership style (Earley et al., 2004). An instructional leader is central in shaping, directing and overseeing the learning of both staff and pupils by directly instructing and leading staff via top-down strategies. The handing down of directives from the headteacher to the research-lead, who in turn hands down requirements to teachers, may be regarded as representing an instructional leadership approach. Such an instructional leadership style may prove problematic, as the potential exists for the research-lead to assume a position of dominance directing the research agenda to such an extent that it counters the notion of teacher autonomy. Rather than teachers receiving support to trial new methods, seek alternative approaches and experiment in their practice, they may be directed to engage in and with research in specific, predetermined ways. Furthermore the passing on or handing down of information could result in a weakened message as information is filtered from headteacher to research-lead and then to teachers. To avoid filtering and potentially weakening the research message, effective communication will be essential to ensure that the vision and

rationale for the research agenda are clearly articulated and transmitted to all stakeholders (Coleman and Glover, 2010).

The ability of the research-lead to facilitate discussion between all stakeholders is likely to be highly significant in advancing a research agenda and in creating conditions whereby research endeavours are valued for their learning potential, whether the desired or anticipated outcomes are achieved, or not (Coleman and Glover, 2010). If professional communication is understood to mean discussion between teachers relating to the sharing of ideas, practice and problems across a school, the potential for collaborative, whole-school research activity to be established becomes a real possibility; in this way sharing ideas, supporting and learning from each other become the norm (Seferoglu, 2010). Professional communication reinforces teachers as 'professionals, not merely technicians, and positions teaching as an intellectual activity, requiring complex, contextualized decision-making' (Butler et al., 2004: p.437). Conversely, an absence of effective, professional communication increases the likelihood of 'casting teachers as 'technicians'' (Butler et al., 2004: p.437) upon whom a requirement to engage in professional development activity is imposed without adequate explanation or opportunity for discussion. A preferable approach is one in which teachers' professional development places emphasis on the teacher as a professional, not merely a technician, and views teaching as 'an intellectual activity, requiring complex, contextualized decision-making' (Butler et al., 2004: p.437). Effective communication, in the form of professional conversations, offers teachers the opportunity to develop their capacity for decision-making and strengthens their professional judgement.

It is widely acknowledged that leadership is associated with an individual's ability to exert influence over an individual or group (Leithwood et al., 1999). It is how school leaders exert their influence to bring about changes in teacher practice and promote engagement in and with research that is of interest here. The following discussion will centre on the strategies that school leaders may use to promote, encourage such behaviours.

Szczesiul and Huizenga (2014) highlight the challenge faced by school leaders in influencing the behaviour of their staff either through formal control, such as enforced meetings, or through softer control, such as voluntary engagement. Historically, leaders have tended to rely on formal controls – 'directives and rules, prescribed routines, structural changes and sanctions for noncompliance to coordinate and promote collaborative activity between teachers' (Szczesiul and Huizenga, 2014: p.177). However, a formal, 'top-down', enforced approach to activity may not positively influence teacher behaviour or create desired patterns of collegiality that will ultimately sustain teacher learning (Szczesiul and Huizenga, 2014). Enforced engagement in any activity may be detrimental to engagement and motivation, research activity being no exception. Teachers are less likely to be open and willing to engage in research activity if they perceive it as an additional requirement to an already heavy workload. The predominance of a 'top-down', Senior Leadership Team (SLT) research agenda has significant implications relating to the longer-term sustainability of teacher-research activity, as without the willingness, desire and cooperation of participants to build research capacity, it is highly unlikely that a research culture will develop (Pickton, 2016). A wholly 'top-down' model is neither desirable nor likely to be successful (Fullan, 1997). If part of

the rationale underpinning the notion of research as a basis for teaching is to assert the status of teachers as autonomous professionals who use their professional judgement to make informed decisions about how best to support their pupils' learning and progress, an enforced agenda works to contradict this position. Enforced research activity points to a clear tension between the 'competing discourses of professional autonomy and accountability' (Patrick et al., 2003: p.238). An enforced requirement may also be regarded as yet another facet of the 'accountability movement' (Elliott, 2007: p.4). Establishing a model that 'promotes meaningful shifts in practice that are sustained even when a temporary learning community collapses' (Butler et al., 2004: p.439) is likely to be a necessity if research activity is to become an embedded and sustained aspect of teachers' practice.

Effective leadership 'promotes opportunities for both formal and informal collaboration, supports joint professional ventures that potentially lead to lasting, trusted professional relationships between staff' (Hargreaves, 2003: p.164). Szczesiul and Huizenga (2014) suggest that the most effective leaders employ a blend of both formal and informal controls to achieve desired outcomes. While a formal, 'top-down' model may be necessary in the early stages of establishing a research agenda, systems that promote a 'bottom-up', teacher driven agenda are likely to be required if research activity is to become embedded into the everyday work of teachers. 'Top-down' initiatives that support change from the 'bottom-up' and draw upon models of leadership that 'encourage and embrace collaboration and networking' (Godfrey, 2014: p.303) are likely to be required if long-term change is to be achieved. Fullan (1997) suggests that a blend of 'top-down'/'bottom-up'

practice is necessary to achieve improvement based on the premise that initiatives demanding compliance are unlikely to gain teachers' commitment and it is 'bottom-up' energies that are necessary to bring about meaningful change.

Effective leaders will recognise and understand the significance of teachers being able to take ownership of their own research journey and work to establish a 'bottom-up' model of practitioner research that will both motivate and engage participants (Pickton, 2016). Earley et al. suggest the following strategies to engender participant engagement:

> building vision, establishing commitment to agreed goals, providing intellectual stimulation, offering individualised support, and explicating and encouraging high expectations for staff (Earley et al., 2004: p.14).

A pivotal task of the research-lead will lie in 'leveraging social processes' (Szczesiul and Huizenga, 2014: p.178) that will enable staff to collectively identify desirable attitudes and behaviours and establish a strong, cohesive and collaborative culture. Collaboration and cohesion are likely to be significant factors in creating the potential to drive research practice from a grass-roots level and so facilitate teachers in undertaking their own research, build research capacity and recognise the benefits of such practice. If teachers themselves recognise the benefits to their practice of becoming research literate and research-engaged they are potentially the best advocates for practitioner research and will be well positioned to bring about the desired whole school change required to promote a self-sustaining system (Prosser, 1999).

However, the challenge of convincing staff to undertake research into their own practice should not be underestimated. Fullan (1991: p.117) sums up the challenge of change faced by leaders stating that, 'educational change depends on what teachers do and think. It's as simple and as complex as that'. This indicates that the challenge for school leaders lies in convincing teachers of the value of practitioner research so as to change what they do and how they think. Leithwood et al. (1999: p.135) suggest that teacher commitment is 'hard (if not impossible) to change' and is closely associated with teacher motivation, personal goals and beliefs and an appreciation of a need for change.

Not only is it likely that teachers will need persuading of the potential benefits to their practice of research-engaged practice, there may be negative connotations associated with being research active that could present a further barrier to teacher engagement. Hargreaves (1996) suggested that some colleagues may perceive the research active teacher as 'showing off' deterring some staff from either engaging in research or from sharing their research interests with colleagues. While colleagues might not be hostile towards research active colleagues, the indifference of co-workers and subsequent feelings of isolation experienced by a teacher engaging in practice that was regarded as different from the norm, were identified by McNicol (2004) as significant barriers to establishing successful practitioner research. The lone researcher may become estranged (Christenson et al., 2002) due to colleagues' limited understanding of the nature, purpose or requirements of research activity. Whatever the reason for colleagues' limited support or reluctance to engage, any practice that leads to an individual feeling marginalised, isolated or

estranged is unlikely to lead to the practice gathering momentum at either individual or whole school level, regardless of how desirable it might be.

While a relationship between effective teaching and teacher-research activity may exist (Stenhouse, 1979a), only when teachers receive adequate support in developing their research literacy and in undertaking research activity is it likely that meaningful research will occur. The responsibility for creating conditions that facilitate teachers in their research endeavours rests with school leaders. Staff need both practical support but significantly, they also need the reassurance and confidence that being experimental and taking risks in their teaching will have leadership backing. In supporting teacher-research activity, school leaders are ostensibly offering teachers the autonomy to interrogate practice and adopt alternative methods. However, the performative culture pervading the education system means that teacher autonomy almost certainly comes with the caveat that, alternative methods are encouraged and supported providing that teachers at least maintain standards but preferably improve upon them. This is a further example of the 'dual ambiguity of autonomy-performativity' (Patrick et al., 2003: p.239) whereby teachers are free to be creative and experimental providing they maintain standards and meet expected targets. If teachers are fearful of changing their practice because of perceived risks associated with trying new or different approaches that may, or may not generate improvements in pupil attainment, it is unlikely that they will have the confidence to do things differently which in turn could undermine a school-based research agenda.

Stenhouse claimed that 'what teachers most often lack is confidence and experience in relating theory to design and in the conduct of research work' (Stenhouse, 1980b: p.11). Practitioners frequently cite lack of confidence as a deterrent to their involvement in research (Pickton, 2016). A lack of confidence may be due to several factors, including a reluctance to deviate from established tried and tested practices for fear of underachievement, a real or perceived lack of research skills, inadequate research training or experience, limited motivation or the absence of incentive (Pickton, 2016). The extent to which teachers feel 'safe' and able to collaborate, share concerns, problems and limitations and to help each other (Seferoglu, 2010) is likely to be significant in building, or indeed undermining, teacher confidence. Only if conditions 'reduce feelings of uncertainly and vulnerability' (Szczesiul and Huizenga, 2014: p.178) is it likely that teachers will share their weaknesses and engage in difficult professional conversations. Such conditions will almost certainly rely on SLT support if they are to become a reality.

2.7 Teacher access to research support and expertise

A culture of research activity will not happen by accident or simply because it is desirable (Smith and Amushigamo, 2016). It is clear from the literature that school leaders play a central role in creating, or indeed undermining, the conditions required to establish the culture of any organisation. The extent to which school leaders understand their role in establishing values, norms and shared expectations for influencing, shaping and guiding teacher behaviour is likely to be highly

significant in establishing a research-rich culture. However, the role of leadership in driving a research agenda extends beyond influencing attitudes and creating conditions in which teacher-research activity will flourish. The extent to which a research agenda is resourced and teachers receive practical in-house support, input from providers external to the school as well as having access to academic material will be highly significant in successfully establishing research as a basis for teaching. Links and partnerships with universities and other research-based organisations can be important sources of external support and critical friendship (Godfrey, 2014). The ability to critically analyse research findings and draw conclusions from an informed perspective are central factors in teachers' professional practice and development (Campbell et al., 2003) and if such skills are to be developed, adequate resources will almost certainly need to be allocated to facilitate teachers' professional development.

Building research capacity in novice researchers, in this case teachers, involves 'learning about research, learning to do research and all the different strands that are so intricately entwined in the concept of research' (Gray et al., 2011: p.123). However, it is only likely that in cases where adequate resources are made available to support the development of research literacy is it likely that staff will learn together in a 'culture of research and scholarly activity' (Gray et al., 2011: p.123). An absence of support to facilitate teachers in their research endeavours is likely to result in teachers 'dabbling in a rather amateurish way at issues which are too big to be tackled by lone researchers' (Bassey, 1999: p.10). The outcomes of such 'dabbling' are unlikely to be valid or reliable and potentially will have very limited

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scope for any wider application than the individual teacher's own classroom. Without adequate support and investment, teacher-research activity is likely to remain small-scale and likely to flounder. It should not be assumed that teachers are equipped with a level of research literacy that will enable them to interrogate their practice and generate valid, reliable research findings.   Indeed Kincheloe (2003) suggests that teacher education has actively countered moves to develop teacher research literacy:

> Theoretical understandings are necessary to the teacher's appropriation of authority – to his or her empowerment. The culture of teacher education, however, has tacitly instructed teachers across the generations to undervalue the domain of theory while avoiding basic questions of their ideological, psychological and pedagogical assumptions underlying their practice (Kincheloe, 2003: p.37).

He goes on to suggest that even when teachers have undertaken research courses 'few ever recognize the relationship between their research experience and their lives as teachers' (Kincheloe, 2003: p.37) and that neither their classroom experience or INSET 'are committed to the cultivation of the teacher's role as researcher' (Kincheloe, 2003: p.37).   Thus, the inclusion of research and development as a strand of 'The Big 6' offers Teaching Schools the opportunity to counter these points and put in place a package of support that will enable teachers to explore and develop research ideas, generate research questions, understand research methods, methodologies, interpret data and access relevant literature (Hall, 2010; Burton and Bartlett, 2005).

In cases where schools are relying on existing in-house expertise to guide a school research agenda, the responsibility to provide such expertise will almost certainly rest with the school research-lead. It therefore seems reasonable to expect her/him to have a secure knowledge and understanding of research skills and some experience of practitioner research. However, research support is likely to extend beyond practical support and guidance to encompass academic material such as texts and journals and access to research expertise. The accessibility of relevant academic literature may be problematic, due in part to the paywalls behind which much academic material is held. Potentially, only teachers or schools engaged in a formal HEI partnership or arrangement are likely to be able to access academic journals and texts, a factor, which may present a significant barrier to teachers developing their knowledge, understanding and awareness of relevant educational research. Even with access to academic material, the often-inaccessible language of journal articles may present a further challenge to teachers (Mertler, 2014). Stenhouse suggested that 'most educational theory is made more inaccessible to practitioners than it need be' and interestingly, he argued that 'theory would actually be improved by being made more accessible' (Stenhouse, 1978a: p.9). The challenge to research-leads it would seem is to up-skill teachers and demystify educational research to enable a school-based research stance to develop.

The responsibility need not rest entirely with the research-lead. The Teaching School model is based on the premise that schools will benefit from the support of strategic partners. These could include other schools, universities, local authorities or private sector organisations (National College for Teaching and Leadership, 2014). Through accessing the support of a strategic partner, schools could gain

valuable expertise to further their research agenda. For example, a higher education institution (HEI) could provide valuable support, resources and expertise that may be essential, particularly for schools where a lack of in-house research expertise exists. However, securing an equal partnership arrangement may be difficult and will almost certainly involve careful negotiation between the school and the HEI to ensure that the requirements and expectations of both parties are clear from the outset. There is a risk that the HEI could assume a dominant role in the partnership or that the agenda of school staff may conflict with that of academic staff. Teachers may be overly reliant on the guidance of academics (Hall, 2010; Rudduck, 1992a) and consequently the potential for teachers to gain the confidence to undertake sustainable, independent research activity may not be realised. If successful collaboration is to occur between schools and HEIs, a shared vision that fulfils the interests of all parties will be required, a vision that values and respects the status and contribution of all participants (Cooper and McIntyre, 1996; Watson and Fullan, 1992). A further factor that may influence a partnership between schools and HEIs are the market forces that control both schools and universities (Ball, 2013; Rudduck, 1992a). Support of an HEI will come at a cost and clarity will be required from both parties about the terms of the agreement relating to the requirements, nature and extent of support that will be provided. The potential for the client to be dissatisfied if they do not feel they are getting value for money will be as true in the case of a school buying in HEI research expertise as in any situation involving a service provider and customer.

A popular approach to undertaking school-based research activity is through lesson study. This approach that has gained popularity as a means through which teachers can reflect upon and interrogate their practice through mutual collaboration and feedback leading to a positive impact on teaching, efficiency and collaborative practice between teachers (Myers, 2013; Avalos, 2011). However, establishing a lesson study model is not without challenge due to a range of factors including, teacher reluctance to be observed, limited teacher knowledge and understanding of the expectations and requirements, time constraints and the requirement of leadership commitment to make the necessary timetable arrangements (Widjaja et al., 2015). Lesson study requires considerable time to be allocated in order for the model to run effectively and while evidence to support the efficacy of the model is clear, the long-term sustainability of lesson study as a form of research-based practice is questionable due to the significant resourcing required to enable the process to occur.

Allocating specific time for research activity comes at a cost due to the requirement to provide supply or to make alternative provision to ensure teaching is not disrupted. A requirement for schools to provide financial backing to support research activity could be seen as a limiting factor, particularly as school spending falls (Adams, 2016) and school budgets are put under increasing pressure. Yet, it seems reasonable to argue that the cost of not providing adequate resourcing and support for school-based teacher-research activity will, in itself, be high. If teachers are to engage in a career-long journey of learning and improvement to position them as autonomous, reflective, inquiring professionals, the initial costs associated with resourcing a school-based research agenda will arguably be offset by the potential

improvements in practice and in creating a self-sustaining model of research activity. The research-active, research-engaged, research-informed teacher who works collaboratively within a learning organisation to seek resolution to classroom problems and practice dilemmas (Godfrey, 2014) stands to be more effective and demonstrate higher quality teaching deemed so desirable by governments across the world (OECD, 2005). For this aspiration to be realised the school culture is likely to be a highly significant factor in sustaining and embedding research activity.

2.8 Towards a research-led school culture

In considering the extent to which school culture may influence or impact upon the extent to which research activity is valued and promoted within a school, consideration of what is meant by school culture is relevant. Defining the concept of 'culture' is surprisingly difficult, so much so that Raymond Williams identified it as being 'one of the two or three most complicated words in the English language' (Williams, 1976: p.87). Williams refers to three broad categories of usage suggesting that culture refers to matters associated with:

- The process of intellectual, spiritual and aesthetic development of an individual, group or society;

- The works and practices of intellectual and artistic activity

- The activities, beliefs and customs of a people, group or society

While each of these three categories is, to an extent, applicable to a school it is perhaps the third usage of the term that best captures how receptive a school may be to accepting or embracing research activity with the potential to establish

research-rich working practices. The existence of a research active staff, a whole-school shared belief in the value of research as a basis for teaching and the customary practice of all teachers engaging in professional conversations and collaborative practice as an expectation, rather than an exceptional aspect of their work, may all be recognised as what central to a research-rich school culture. Culture plays a powerful part in, and has a complex relationship with practice (Smith and Riley, 2009) and consequently the culture of any organisation is significant in shaping how members of a particular group behave, act and respond (Prosser, 1999). Culture refers to the institutional norms that exist or 'the unspoken rules for what is regarded as customary or acceptable behaviour and action within the school' (Prosser, 1999: p.36) and as in other organisations the organisational culture of a school is characterised by overt and covert strata:

> The overt stratum is defined as the way in which things are done
> and appear in an organisation while the covert stratum of
> organisational culture refers to the beliefs, values and behavioural
> norms that are not clearly and openly evident (Klein, 2017: p.393).

The culture of a school encompasses such factors as 'the knowledge beliefs, values, customs, morals, rituals, symbols and language of a group' or quite simply, 'the way we do things round here' (Hargreaves, 1995: p.25) and the significance of school culture in establishing new or different working practices should not be underestimated.

There exists growing recognition of the significant link between leadership and organisational culture (Smith and Amushigamo, 2016). Thus, the extent to which school leaders model, communicate and nurture a research stance and support

research activity is likely to be highly significant in promoting research as a valued, whole-school endeavour, a part of a research-rich school culture. The nature and the quality of leadership in shaping a school's research culture will be critical in bringing about meaningful change in teachers' practice (Stoll et al., 2006).

Leadership and culture may be regarded as 'two sides of the same coin' (Schein, 2010: p.3) a metaphor that captures something of the complex task faced by the research-lead. S/he may be working to establish a culture of teacher-research activity through influencing and shaping teachers' research behaviours, while at the same themselves influenced and shaped by the prevailing school culture that may be resistant to change.

The potential for tension to exist between the longstanding behaviour norms existing within school culture and the requirement for change that may counter or even oppose those cultural norms and expectations may limit a change agenda and therefore stifle meaningful development of research activity. Only in situations where the whole school culture celebrates, encourages and adequately resources practitioner research, is it likely to become a valued whole-school endeavour in which teachers are regarded as learners looking for a 'better way' (Evans, 2011: p.865) to approach teaching and learning. If teacher research is regarded as an exceptional or alternative practice, undertaken by an interested few who have (or are perceived to have) the time to engage in such activity, it is unlikely that it will progress from being a marginalised, minority activity. Consequently, it is likely to remain small-scale and effects are likely to be 'weak or inconsistent' (Hargreaves, 2003: p.166).

2.9 Collaborative practice, a powerful means for improvement

A significant and recurring theme in supporting and encouraging teacher-research activity is the extent to which school culture encourages collaborative practice:

> There is now little or no doubt that schooling is improved when teachers collectively examine new conceptions about teaching, question ineffective practices and actively support each other's professional growth' (Fleming and Kleinhenz, 2007: p.7).

Educational researchers and policy makers are increasingly recognising collaborative practice as a powerful means for improving teaching and learning, driving school improvement, developing individual teachers' knowledge and ultimately facilitating educational change (Moolenaar, 2012; Fleming and Kleinhenz, 2007; Wood, 2007).

Research indicates that collaborative practice, with emphasis on reflection and feedback on pupil learning, can benefit teachers' practice and consequently student achievement (Szczesiul and Huizenga, 2014). Effective collaboration between teachers has been demonstrated to promote the cross-fertilization of ideas that may lead to greater creativity in teachers' practice (Campbell and Jacques, 2003). Furthermore an increasing body of evidence indicates that, in order for schools to succeed in keeping up with the rapid pace of global change, school communities need to work and learn together to find what works best for their learners (Stoll et al., 2006). This has led, in recent decades, to emphasis being placed on 'promoting collaborative work in school and developing communication networks among teachers and between teachers, management and the community' (Klein, 2017:

p.393). Schools are increasingly working to develop collaborative structures as a mechanism to promote teacher interaction with a view to driving teaching improvement (Szczesiul and Huizenga, 2014) and it is recommended that effective professional development programmes 'should include collaboration' (Department for Education, 2016: p.1).

Campbell et al. (2003) highlight the important contribution of collaborative groups and networks in sustaining and embedding school-based research and stress the value of collaboration in providing a useful means for both identifying and finding solutions to problems of practice.   Effective collaboration enables teachers to develop and learn together and it is this practice that is recognised to be a significant element of practitioner inquiry (Burton and Bartlett, 2005). Collaboration affords teachers opportunities to benefit from an enriched experience through the sharing of different perspectives and opportunities to exchange ideas, good practice and research findings (Shakir-Costa and Haddad, 2009). A culture of collaboration enables teachers to self-regulate their learning about teaching and it is through adopting a reflective, critical perspective towards their work that teachers are enabled to identify and share models of best practice (Butler et al., 2004). However, this again relies on the school culture being one of support in which teachers feel safe to both acknowledge their strengths and weaknesses and be receptive to suggestions for alternative strategies and means for improvement. Professional conversations and teacher collaboration are unlikely to occur unless conditions are engineered to make them a reality (Prosser, 1999). Only if a school culture provides 'safe' opportunities for teachers to talk, share, cooperate and support each other is collaborative practice and teacher research likely to flourish. Schools must prioritise

and celebrate learning at all levels, from the youngest pupil to veteran teachers, if professional learning relationships are to become a routine part of how teachers work, an expectation of what they do (Eisner, 2002). If a professional learning and research culture is to be successful, school leaders will be required to influence and shape school culture in order to embed opportunities for collaborative practice as a meaningful, valued and integral expectation of what teachers do.

Teacher collaboration existing within a culture of professional learning represents something of a departure from the traditional norms of the teaching profession. Teaching has long been an isolated activity with teachers going about their daily work essentially unseen, away from scrutiny, hidden behind their classroom doors. Historically 'the dominant culture was one of isolation and privacy of practice' (Fleming and Kleinhenz, 2007: p.9).   An explanation for the isolated existence of teachers is offered by Hargreaves and Evans (1997: p.112) who suggest that schools have been 'organised like egg crates since the mid nineteenth century' and consequently teachers have been separated from one another, existing in their individual classrooms, acting in isolation without interference or surveillance (Perryman et al., 2011). Teaching has widely been regarded 'as a private activity' (Widjaja et al., 2015: p.3) reinforcing a notion of teachers working alone, in secrecy, potentially at the expense of their professional development (Rudduck, 1992a). 'Societies define what comprises a 'teacher'' (Butler et al., 2004: p.438) and while it seems reasonable to suggest that society may know what a teacher is, few really know what a teacher does, such is the secrecy in which many teachers have, for so long worked. The 'golden age of teacher control' (Le Grand, 1997: p.156) the 'era of permissive individualism' (Hargreaves, 2003: p.163), was a time when teachers'

formal qualifications alone were valued as a licence to offer autonomy and 'protection from interference for the duration of their careers' (Hargreaves, 2003: p.164). Hargreaves' reference to 'protection from interference' resonates with the suggestion of Perryman et al. (2011) that isolation left teachers free from interference or surveillance, both strong indicators that involvement from a colleague, or colleagues, was regarded as negative and undesirable and ultimately something from which teachers needed protecting. Consequently, the prevailing attitude within the teaching profession became being one of resistance to collaboration and an absence of opportunities or of willingness for teachers to work together. Potentially, this attitude has over a period of years, limited opportunities for developments in teaching and learning:

> Without opportunities to learn from colleagues or benefit from their
> encouragement to take risks in trying new practices, individualism
> in teaching created decades of barriers to widespread and
> sustained positive educational change and classroom improvement
> (Hargreaves, 2003: p.164).

Where once qualification was in itself a passport to career-long effective practice, the importance of meaningful, career-long professional development is now regarded as central to effective teaching (Department for Education, 2016; Department for Education, 2010) and collaboration is recognised as an important means through which teachers may continue to learn and develop.

The extent to which effective collaborative practice is achieved will almost certainly be determined by the SLT however even a leadership team that advocates for collaboration may find the challenge of convincing teachers to engage in

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collaborative working practices a struggle. Teachers may resent a requirement to engage in such practice as for too long 'to share professional thinking with other adults has simply not always part of the school culture' (Dalin et al., 1993: p.101). Admittedly, progress may have been made since Dalin's work in the early 1990s but it does indicate the challenge faced by school leaders in changing the school culture and in establishing collaborative practices.

Resistance to change is identified by Schein (2010) as a persistent issue faced by managers and leaders within many organisations, not just schools, and it is only through understanding the assumptions and forces acting within an organisation and shaping the organisational culture that progress can be made towards overcoming resistance. Prosser (1999: p.60) suggests that one of the greatest obstacles to establishing a new cultural direction is the existence of a 'resistance group' or 'counter-culture', the actions of which actively subvert management, erode the morale and commitment of supporters and frustrate leaders.   It is not difficult to see how establishing a culture of school-based teacher research could be compromised by the actions of a 'resistance-group'. Teachers, as any other group of individuals, will inevitably oppose change they see as being forced upon them, particularly if they do not recognise or believe the potential change to be 'better' than the existing practice with which they are familiar and comfortable. Klein (2017) suggests that while teachers usually comply unquestioningly with the instructions of school leaders, this is not likely to be the case when 'teachers perceive the instructions as unreasonable or as impinging on their professional autonomy' (Klein, 2017: p.393). Stenhouse stressed that, 'As a starting-point teachers must want change, rather than others wanting to change them' (Stenhouse, 1980d) and he

called for school leaders to be explicit in outlining the potential for professional improvement and satisfaction that can result from effective professional development. To accept and embrace change, the change must be accepted as offering something better than what will be replaced (Evans, 2011). Teachers who are confident and secure in their practice may need convincing of the potential value that lies in changing their methods, deviating from reliable norms. Prosser (1999) suggests that the most effective way to counter a resistance group is to get rid of it. This may not be a viable course of action in a school situation and an alternative strategy, also offered by Prosser (1999), is to change behaviour by persuading individuals to adopt new ways of working. Examples of new ways of working could be trialling 'new forms of pedagogy in the classroom' or of 'mutual observation in classrooms with a view to sharing good practice' (Prosser, 1999: p.62) both being relevant examples of practitioner research. Through the experience of working in different ways, the potential is created to adjust beliefs, attitudes and values which may lead to changed behaviour; in this way, enabling a new culture to emerge. A research-lead who anticipates resistance to change is arguably well positioned to counter and overcome it.

Summary of Chapter Two

The dawn of the twenty-first century has heralded new thinking, new policy and new attitudes towards education in nations across the world. School improvement has become a preoccupation for governments and policy makers across the globe

(Sigurthardottir and Sigthorsson, 2015), driven largely by comparisons of student achievement, in particular PISA testing. From Austria to Vietnam, nations are looking to learn lessons from their neighbours that they might apply to their own education system intent on improving their PISA ranking and making their own system more effective. The higher ranked PISA position, the greater the perceived opportunity for a country's economic growth and prosperity (Ball, 2013). Pupil achievement is viewed as a driver for economic prosperity and the central determinant for the success of an education system, measured by pupil achievement, has been identified as the quality of teaching (Barber and Mourshed, 2007; OECD, 2005). It is this recognition that has been pivotal in shaping the rapid reform of education in England since 2010 (Department for Education, 2010).

The ambitious and whole-system reform of education in England announced by the coalition government in 2010 remains central to government policy under the conservative government elected in 2015. The reforms were designed to improve the quality of teaching in English schools and achieve a top ranked PISA position. Reform would be led and delivered by Teaching Schools who were required, as part of their remit, to engage in research and development activity in part fulfilment of 'The Big 6'.

Through chapter two, I have considered the implications of teachers engaging in and with research and addressed some of the challenges that Teaching Schools may face in meeting the research and development requirement. The literature points strongly to the benefits of teacher research as a powerful mechanism for

career-long professional development and through this section, I have reflected on the benefits teachers stand to gain through adopting a research stance. I have discussed how the teacher-researcher is equipped with the skills to further their understanding of what they do and why they do it and to seek and test alternative methods in the quest for improvement. The teacher-researcher is positioned to move from being the subject of research, a passive consumer, working within a technical model, to the position of researcher, engaged in active inquiry, agentic, empowered and professional. However, despite the recognised benefits of research as a means to strengthen professional judgement with consummate benefits to teachers' practice (BERA-RSA, 2014; Elliott, 2007; Kincheloe, 2003; Rudduck and Hopkins, 1985; Stenhouse, 1979b; Stenhouse, 1979a), school-based teacher-research activity has long remained a minority activity, the preserve of teachers undertaking further degrees (McGilchrist et al., 2004; Stenhouse, 1980b).

I have discussed factors that may have led to a reluctance amongst teachers to engage in and with research activity, most notably the moves brought in under Thatcher's government (1979 – 1990) to make teachers more accountable for their practice and the emergence of a culture of performativity (Ball, 2013) that has grown up around teaching. The 'accountability movement' (Elliott, 2007: p.4) and the fear of not meeting targets or maintaining standards associated with the 'Terrors of Performativity' (Ball, 2013) have served to constrain practice, stifle creativity and suppress professional judgement. However, the coalition government's commitment to improving the quality of teaching in England (Department for Education, 2010) positioned teacher-research activity as a central strand of the planned reforms. The coalition's commitment to teacher research and development

seemingly offers schools and teachers the professional mandate to reject the constraints that may have suppressed their practice and to seek new, innovative approaches to best meet the needs of learners and support pupil progress. It is how and the extent to which Teaching Schools are responding to the requirement to engage in research and development activity that I have considered through this chapter. It has emerged from the literature that school leaders play a central role in promoting and resourcing a school research agenda and in determining teacher engagement with, and commitment to research activity (Orphanos and Orr, 2014). School culture is determined and shaped by school leaders. It is only school leaders who have the influence and authority to provide the funding, time and access to research materials and expertise that are required to support teachers in developing research literacy. Only if school leaders are committed to research activity is it likely that the agenda will gather momentum enabling a research-rich culture to develop. Despite the central role of school leaders in creating conditions for research activity to develop a research agenda that is wholly shaped, driven and dictated according to a 'top-down' model of delivery is unlikely to be sustained in the long term. The absence of any 'bottom-up' momentum is likely to mean that the withdrawal of resources or departure of the research-lead will potentially lead to the collapse of research activity. The extent to which schools create conditions through which research activity can develop and evolve while at the same time recognising the importance of a teacher-led, 'bottom-up' approach is likely to be significant in establishing sustainable activity.

The potential for a teacher-led, sustainable model of teacher-research activity raises interesting issues around empowering teachers. Through empowering teachers as research literate, inquiring, critical thinkers and reflective practitioners, the potential may be created for the teachers to reject being positioned as technicians and demand recognition for their professional status, recognition that has arguably been eroded since the early 1980s. The implications of teachers becoming less compliant and less accepting remain to be seen, as change will arguably take time. However, it is through moves to develop teacher research literacy and promote teacher-research activity that the government and policy makers may have unwittingly provided teachers with the ammunition to defend themselves against the 'cult of deprofessionalisation' (Rudduck, 1995: p.4) and the skills to resist or challenge the relentless, rapid reforms imposed upon the teaching profession since the Thatcher government (1979 – 1990).

Through this research, I will establish the nature of support being made available by Teaching Schools to support teachers in developing teacher research literacy and the extent to which research activity is being embedded as an expectation of teacher practice within a research-rich school culture. I will seek to ascertain the extent to which teachers are engaging in research as a basis for their teaching and whether they recognise benefits of adopting a research stance and to what extent research activity is supporting teachers in becoming more effective in their practice.

Chapter Three: Methodology

A researcher's methodology will outline both the philosophical and theoretical positions that inform and guide the research process. Methodology shapes and informs all aspects of the research process and through this chapter, I will explain the methodology underpinning my research design and how my chosen methodology enabled me to gather, interpret and make sense of the data I collected and ultimately answer my research questions.

In seeking to understand my position as a researcher and locate myself within a research paradigm it is necessary for me to consider my own personal biography and how that, both consciously and sub-consciously, is significant in shaping how I see, understand and act in the world. My experience of the world as a woman, a teacher, specifically a teacher of physical education, and latterly a university lecturer and a doctoral student are all highly significant factors in shaping my worldview and consequently any research that I undertake. It is necessary for me to consider the 'binaries, contradictions and paradoxes' (Denzin and Lincoln, 2003: p.283) that have shaped my life, that influence my thinking and that will inevitably permeate my quest for 'truth' and understanding.

If I return briefly to my introduction, I discussed how eight years after qualifying as a teacher I was an assistant headteacher at a large comprehensive school. I had progressed to that position without any meaningful investment in my professional development; I had learned on the job and through experience. My teaching, while

largely effective, was habitual. I relied on tried and tested methods, reflection and criticality did not feature in my practice. On moving from school to a teaching post at a post '92 university, I quickly recognised the absence of theory in my practice and the importance of engaging in and with educational research to keep abreast of current developments in educational thinking and practice. The absence of theory and a lack of engagement in, or with research, had undoubtedly limited my pedagogy and development as a teacher. I did what I did because I had always done it that way and consequently did not seek or trial new or alternative methods or approaches to improve my practice. While I can only speak about my own experience, during twelve years of teaching at secondary level I worked with approximately 150 teachers and to my knowledge, none were research active. I do not recall any of my colleagues ever discussing, engaging with or sharing findings from research and while pockets of research activity may have existed, I was not aware of it indicating that it would almost certainly have been small-scale, short-lived and the findings were not made public i.e. distributed to staff.

I recognised the powerful potential of research-engaged practice as a means to maintain teachers' interest and curiosity in what works and how research engagement offered teachers the means for improvement. I became curious to find out how such potential might be realised. I consequently set out to establish the potential for schools to create a research-rich, research-led culture through which teacher research literacy and activity might flourish. I was interested in establishing the nature and extent of resources available to teachers working at Teaching Schools to support them in their research endeavours and the scope for school-

based teacher-research activity to become an embedded, sustainable, expectation of all teachers, a direction clearly influenced by these experiences.

3.0 A qualitative paradigm

The research questions that underpin any research study, the methods of data collection used and the way in which data is interpreted enabling the researcher to tell the research story are all shaped and guided by the researcher's chosen paradigm. Guba (1990: p.17) defines a paradigm as 'a basic set of beliefs that guides action' that may be likened to a net in which a researcher's ontological, epistemological and methodological position is captured (Denzin and Lincoln, 2003). The paradigm within which a researcher works explains how s/he sees, understands and interprets the world and enables a researcher to focus upon taken-for-granted 'fundamental assumptions about the nature of reality' (Patton, 2002: p.72).

As a social scientist, I believe that human behaviour can be interpreted and understood, that meaning can be made and behaviour explained through gathering data relating to the human experience. It is my belief that social reality is a product of those who inhabit the situation being interrogated. In this way, social reality is interpreted by those who investigate it and as a consequence, meaning shifts according to who carries out the investigation, when and why (Wisker, 2007). It is

according to a qualitative paradigm that I have approached my research and this will enable me to describe the phenomenon being researched (Kumar, 2005).

As a qualitative researcher I have courage in the conviction that rich, or 'thick' (Geertz, 1973) descriptions of the social world are possible and valuable, and individuals are able to report their own experiences. I am confident that through adopting research methods commensurate with a qualitative research paradigm it is possible for me to get close to and report upon my participants' perspective, and experience (Denzin and Lincoln, 2003). Providing that the research is carried out with objectivity, clarity and precision I will therefore be able to describe the social world under investigation.

3.1 Ontological and epistemological considerations

As I embarked upon this research project, it was necessary for me to recognise that there are no objective observations; 'any gaze is always filtered through the lenses of language, gender, social class, race and ethnicity' (Denzin and Lincoln, 2003: p.31). It was therefore critical that I remained mindful of my personal history and how my ontological, epistemological and methodological beliefs shape how I see and interpret the world and in turn guide my actions.

As a senior lecturer at a post-92 university, I recognise the potential value in research as a basis for teaching but I believe that my former self, as a secondary school teacher, would have been cynical and dismissive of the value of research activity as a means to support my professional development. I would have viewed a requirement to engage in and/or with research as merely another layer of bureaucracy, another demand on my time detracting from my primary role of teaching. Furthermore, I would have been dismissive of and resistant to what academics could contribute to my world of work. What do academics know of the challenge of effectively meeting the learning needs of thirty year 9 pupils, outside on a freezing February morning? Understanding and recognising these factors is significant as they are inextricably woven through my personal ontological and epistemological beliefs. At the core of my professional identity lies a physical educationalist, a role in which I battled continually to overcome and overturn the long-held stereotype of the non-academic PE teacher. A recognition that my experiences of life as a PE teacher will have been highly significant in shaping my attitude to and engagement with professional development, is significant in gaining insight into and understanding of my personal ontology.

King and Horrocks (2010: p.8) define epistemology as 'the philosophical theory of knowledge'. Epistemological assumptions are concerned with how knowledge is constructed, how we know what we know. My epistemological position will be reflected through my research questions and so will be a significant factor in shaping the research.

It is through an interpretivist epistemology, positioned within a qualitative paradigm, that I have approached this research. According to an interpretivist epistemology, meanings are open to interpretation depending on who is interpreting them, when and where; they are made or created rather than discovered as absolute according to a scientific tradition. Interpretative research is likely to be inductive and in this way generates theory and contributes to meaning rather than setting out to test and explain theory (Wisker, 2007). Understanding and acknowledging these factors is critical in ensuring that the research I undertake is 'interpretively rigorous' (Denzin and Lincoln, 2003: p.275). Ultimately, the extent to which the knowledge I construct is valid and reliable and whether it can be trusted will depend upon the extent to which I understand and acknowledge my position as a researcher operating within a qualitative paradigm from an interpretivist perspective.

To develop an in-depth understanding of the research activity occurring at the Teaching Schools in my sample I used several data collection methods and sources. My choice of research methods were determined by the qualitative paradigm in which I am positioned as a researcher and by appropriate methods for gathering rich data that would enable me to explore and understand the attitudes and experiences of teachers towards research-based practice. I set out to establish the extent to which participants recognised the scope for research literacy and research activity as part of ongoing professional development. I wanted to gain insight into and understanding of participants' aspirations, concerns and insecurities relating to their engagement in and with research and the challenges they anticipated or had experienced in establishing whole-school, sustainable research based practice. I set out to capture a representative picture of the school-based research practice

occurring within my sample of Teaching Schools in the north west of England and in so doing establish the nature and extent of school-based research activity occurring in the selected schools and the conditions necessary to facilitate a research agenda. I will, through the following sections explain the methods I used in collecting data and provide a rationale for each.

3.2 A case study approach

A case study approach offered a means to interrogate and report upon school-based teacher-research activity in the specific context of Teaching Schools. A case study enables researchers to explore a situation in depth (Chadderton and Torrance, 2005) which allows for an intensive analysis of a specific situation (Kumar, 2005). A recognised strength of the case study is that 'thick description' (Geertz, 1973) of a phenomenon can be achieved though drawing upon a combination of different research methods and data sources as part of the research process. The case study is 'particular, descriptive, inductive and ultimately heuristic' (Chadderton and Torrance, 2005: p.54). It is an approach widely used within the social sciences and is recognised to have generated much of the knowledge of the empirical world (Gerring, 2007). Despite its popularity it is not an approach to be adopted lightly and researchers should not mistake its wide use as an indication of the case study being an easy option, indeed Yin suggests that case study research 'remains one of the most challenging of social science endeavours' (Yin, 2014: p.3).

While all research methods have associated strengths and limitations the case study is a method that 'is viewed by most methodologists with extreme circumspection', and is regarded by some as an 'all-purpose excuse, a license to do whatever a researcher wishes to do with a chosen topic… normal methodological rules do not apply' (Gerring, 2007: p.6). Gerring goes on to say that critics of the case study approach highlight concerns associated with:

> Loosely framed and nongeneralizable theories, biased case selection, informal and undisciplined research designs, weak empirical leverage, subjective conclusions, nonreplicability, and causal determinism (Gerring, 2007: p.6).

Such pejorative comments raise issues of why, if so lacking in credibility, the case study is so widely used and is the method through which much of what is known of the empirical world has been generated. If the methodological status of the case study is so dubious, should it really be used at all?

In offering a defence of the case study approach, it should be acknowledged that a good case study offers valuable insight into a situation or phenomenon (Gerring, 2007). The approach is based upon an assumption that the particular situation or case being studied is representative of cases of a similar type, in this case Teaching Schools, and through detailed analysis, 'generalisations may be made that will be applicable to other cases of the same type' (Kumar, 2005: p.113). Among the benefits of the approach are 'its ability to deal with a full variety of evidence – documents, artefacts, interviews and observations' (Yin, 2014: p.12). Yin does however, stress that good case study research is remarkably hard to achieve and that despite the prevalence of the approach in social science research, 'the skills for

doing good case study research have not yet been formally defined' (Yin, 2014: p.22). It is potentially this lack of definition that results in many people believing themselves capable of conducting case study research but not adequately following the systematic procedures required to ensure a 'rigorous methodological path' is followed (Yin, 2014: p.3).

The acknowledged tensions associated with the approach meant that in order for me to conduct a methodologically sound case study that would generate rich data and reliable, valid findings it was necessary for me to develop a clear understanding of the method. It would also be necessary for me to remain mindful of the issues that might result in a lack of rigour as discussed by Gerring (2007) and Yin (2014). Two central factors central to achieving rigour were identified by Yin (2014) as defining the case and bounding the case. In this research, the 'case' will be an investigation of school-based research activity within a Teaching School and several 'cases' will be included in a multiple-case study. 'Bounding the case' helps the researcher decide upon the scope of data collection or 'where to draw the boundaries - what to include and what to exclude' (Chadderton and Torrance, 2005: p.54). In so doing, the researcher is able to establish clearly the claim to knowledge being made.

My decision to identify the case as 'Teaching Schools' specifically was due to the requirement of all Teaching Schools to engage in research and development as a strand of 'The Big 6'. In conducting my research in Teaching Schools I would be able to capture the extent to which the participating schools were responding to the

research and development requirement. In considering the sample size, Patton (2002) advocates this should be determined by what the researcher wants to know, why s/he wants to find out, how the research findings will be used and what resources are available. An in-depth focus on a small number of carefully selected cases may enable a researcher to gain far greater information than would a large sample. For this reason I approached fourteen schools with a view to them participating in this research study.

The specific selection of Teaching Schools is an example of purposive or purposeful sampling. Purposive sampling seeks to gain in-depth understanding of a phenomenon through a focus on information-rich cases that will prove convincing to the reader (Emmel, 2013; Patton, 2002), the findings of which will allow for generalisations to be drawn relating to the likely landscape of research activity in Teaching Schools across England.

Having selected a qualitative case study methodology, it is necessary for me to provide a justification for the qualitative research methods that I selected to enable me to gather rich data that would enable me to describe my case and answer my research questions. I will discuss my chosen methods through the following sections.

3.3 The Qualitative interview

The qualitative interview is 'a favoured method of data gathering for social scientists' (Greenfield, 2002: p.211). It is a means via which new knowledge can be constructed (Kvale, 2007) and opportunities are created to question and listen to participants 'with the purpose of obtaining thoroughly tested knowledge' (Kvale, 2007: p.11). The method enables researchers to generate large amounts of rich contextual data and to capture the 'native's perspective' (Greenfield, 2002: p.210), in this case the 'native' being the teacher occupying her/his classroom. A successful interview enables a researcher to find out from people things that cannot be directly observed; thus, a researcher is able to gain valuable insight into another's perspective. 'We interview to find out what is in and on someone else's mind and to gather their stories' (Patton, 2002: p.341). 'The qualitative interviewer encourages the subjects to describe as precisely as possible what they experience and feel, and how they act' (Kvale, 2007: p.3) and in so doing it is possible to hear and capture someone's story. It was for this reason I selected the qualitative interview as a tool that would enable me to capture the stories of research active teachers.

While the interview offers the potential to gain valuable insight into participants' experience, it relies on the questions asked. Kvale (2007) warns that the popularity of interviewing within social research may give a false impression of simplicity, which may lead to researchers engaging in the process without adequate preparation. Interviewing may be a popular research method but 'it is not a simple tool with which to mine information' (Schostak, 2006: p.1). It may seem straightforward and easy

but critically, it 'can be done well or poorly' (Patton, 2002: p.340). Key to the success of an interview, as measured by the quality of information that emerges, is the skill and technique of the interviewer who must be rigorous and disciplined in her/his approach (Patton, 2002). With careful planning and preparation, the interview can yield 'strong and valuable research' (Kvale, 2007: p.12).

The qualitative interview encompasses a continuum ranging from the informal conversational interview that evolves freely, through to a tighter, structured, closed quantitative interview (Wisker, 2007; Greenfield, 2002). There are advantages and disadvantages associated with different interview approaches, with one being more appropriate to a specific purpose than another. I decided that the semi-structured interview would enable me to gain the detailed information I was seeking and to allow me to capture the opinions, attitudes, practice and the experience of teachers relating to the research topic. Semi-structured interviews allow for flexibility and a mix of closed and open questions enables the researcher to collect data that relates to both factual and attitudinal perspectives (McNeill and Chapman, 1985). I was able to predetermine topics I wanted to explore and plan questions to guide the interview thus ensuring that the same issues and lines of inquiry were followed with each participant. Semi-structured interviews enable the researcher a degree of freedom meaning that I was able, during the interviews, to build the conversation, probe participants' responses in order to gain a fuller or deeper answer or to seek clarification and respond spontaneously to participants' comments before returning to the structured questions (Wisker, 2007).

The semi-structured interview allows for a degree of comparability to be drawn between responses as the same questions are asked of each interviewee. Comparability would enable me, as the researcher, to interview a number of different teachers in a thorough and systematic way creating the potential to gather rich data offering insight into the research topic. Through using a semi-structured approach I was able to indicate the time commitment that would be required of participants and to make the best use of the time available. As the teachers involved had limited time available to participate in the research these were important factors in creating conditions for successful data collection.

Despite the benefits of this research method acknowledged weaknesses of qualitative interviewing include, the significant investment of time this method requires as the interviews themselves take time and the subsequent transcription may take hours to complete (McNeill and Chapman, 1985). In addition, interviews involve the researcher as the 'outsider looking in' which increases the risk of the researcher's own values and interpretations being imposed on those being studied (McNeill and Chapman, 1985). Kvale (2007: p.4) calls upon the interviewer to be 'curious, sensitive to what is said – as well as to what is not said – and critical of his or her own presuppositions and hypotheses during the interview'. Thus, it was necessary for me to remain aware of my own presuppositions and the potential for me to inject my own thinking into the interviews and to be aware of the language I used, avoiding leading statements or comments, all factors that can influence the outcomes of research (Blaikie, 2000). Working from planned questions helped me to remain neutral but when I probed participants asking them to develop their

answers or explain their thinking, it was critical I did so from an impartial perspective so as not to influence responses (see Appendix 1 for interview questions).

A number of ethical issues permeate interview research and the interviewer must manage the delicate balance between 'pursuing interesting knowledge and ethical respect for the integrity of the interview subject' (Kvale, 2007: p.13). An inequitable power dynamic in the relationship between the interviewer and the interviewee may affect the research findings (Patton, 2002) and it was necessary for me to consider how my role as the researcher, with a multiplicity of interests, may affect the interview process. In order to minimise any power differential I took time at the beginning of each interview to share something of my personal history as a secondary school teacher and identify with the participants. I considered it relevant and significant to position myself less as a university lecturer and more as a teacher, which is how I identify. This enabled me to establish a rapport with participants who indicated that they recognised I understood something of their situation and the pressures and time constraints under which they operate.

While it was significant for me to share something of myself with participants, it was important for me to remain mindful that I was not positioned as an equal partner to the interviewee. A 'clear power asymmetry exists between the researcher and the subject' (Kvale, 2007: p.6) which may unintentionally lead to the subject responding in a way s/he believes the interviewer wants, i.e. telling the interviewer what they believe s/he wants to hear. The potential for the asymmetry of the power relation to be overlooked is significant and to minimise the potential for power asymmetry to

skew the participants' stories it was necessary for me, as the researcher, to remain 'resourceful, systematic and honest to control bias' (Greenfield, 2002: p.210).

Another criticism of the semi-structured interview is that data produced is open to misinterpretation and uncertainty, which presents a significant challenge to the interviewer. S/he must navigate her/his way through the potential multiple meanings and multiple interpretations in attempting to arrive at the 'correct' or 'significant' interpretations (Barbour and Schostak, 2005: p.62). In order to minimise the potential for misinterpretation it was important to construct interview questions with care to avoid any ambiguity that could result in participants not understanding what was being asked of them. A semi-structured approach also offered me the opportunity to limit misinterpretation, as I was able to clarify participants' responses during the interview to check that I understood their comments.

Ultimately, the goal of using the interview as a research method is not to produce a standard, replicable set of results but to generate:

> a coherent and illuminating description of and perspective on a
> situation that is based on and consistent with detailed study of that
> situation (Schofield, 1993: p.202).

There seem to exist similar concerns relating to the use of interviews in social research as there are to the use of the case study approach. A researcher employing either method in a poorly considered, under prepared and ill-informed manner is likely to generate meagre findings lacking in methodological rigour. Through gaining a sound knowledge and understanding of the qualitative interview

method and in recognising the potential weaknesses of the method, if not designed and administered with care and attention, I am confident that the use of semi-structured interviews in this research has enabled me to illuminate the topic interrogated.

3.4 Research methods

I was keen to employ other research methods, in addition to the semi-structured interviews, that would enable me to further interrogate and understand the area of study. It was my intention to gain insight into the perceptions of teachers with regard to research activity and to establish the extent to which they believed there to be potential for research to improve their practice. I considered other research methods that would supplement the data obtained from semi-structured interviews and in so doing offer greater insight into the nature, status and organisation of school-based teacher-research activity. Document scrutiny and non-participant observation offered the opportunity for me to enrich my understanding of how Teaching Schools were responding to the research and development requirement and how teachers were responding to any requirement to become research active. Furthermore, document scrutiny and observation of research activity would enable me to triangulate my research findings.

In qualitative research, more specifically in this case the qualitative case study, triangulation offers a means to achieve reliability and validity of findings, factors that are central in assuring accuracy with the research. Triangulation draws on data from at least three different perspectives on the same issue and then 'involves checking data collected via one method with data collected using another' (Alasuutari et al., 2008: p.222). Different methods 'shed light on one another' (Somekh and Lewin, 2011: p.330) and triangulation makes it possible to check the extent to which each source 'confirms, elaborates, and disconfirms information from other sources' (Mabry, 2008: p.222). Significantly, triangulation can 'illuminate an inquiry question' (Patton, 2002: p.248).

Recognised benefits of triangulation include, 'strengths of one method offsetting weaknesses in another' and through combining methods 'more comprehensive evidence' can be established (Blaikie, 2000: p.219). Furthermore, studies that rely on more than one method are less likely to suffer from errors associated with a single method. Yin (2014: p.241) suggests that triangulation represents 'the convergence of data collected from different sources, to determine the consistency of a finding'. Thus using different methods of data collection would offer the potential to gain a deeper understanding of school-based research activity occurring within the participating schools and through identifying consistency enable some generalisations to be made.

As engagement with research and development was, at the time I conducted my research, a requirement of all Teaching Schools I was interested to review documentation in the form of school policy, improvement plans or material written specifically for teacher-researchers to support their research endeavours. Documents, or excerpts from documents, can provide valuable rich qualitative data relating to the phenomena being investigated and would potentially offer me insight into factors such as the organisation, status and resourcing of research activity and short, medium and longer term plans for the agenda. Furthermore, document scrutiny would provide another viewpoint from which I could validate themes emerging from the data (Goodnough, 2008: p.435). It is noteworthy that the mere existence of documentation and school policy does not automatically translate into action and similarly an absence of documentation or policy does not necessarily indicate an absence of action. Documents may be incomplete or inaccurate but can offer a different perspective an alternative view, 'a behind-the-scenes look' (Patton, 2002: p.307) of what might otherwise not be observable. It is was important for me as a researcher not to over-generalise findings and to consider factors such as, who produced the document, why, when, for whom, as such factors are significant in gaining an understanding of the situation. At the time the research was conducted, the participating Teaching Schools were in the early stages of their development, I had however anticipated that supporting documentation would exist. However, research-leads who had initially indicated that they would be happy for me to review documentation repeatedly failed to produce or provide me with any supporting documentation and despite repeated requests I was only successful in gaining access to documentation from one school, School C. It was not possible for me to determine whether policy and materials relating to research activity did not exist, or

whether the research-leads were reluctant to offer me access to documentation. The research-lead at School C had produced a workbook to support teachers in their research endeavours however, Hope was very reluctant to share the material with me for fear of me acquiring the materials for my own use. Only after repeatedly reassuring Hope that I would not reproduce or disseminate the material did she consent to having access to the research workbook.

The third method through which I planned to gather data was that of non-participant observation of school-based teacher-research activity. This method would offer me the opportunity to adopt an inside position through which I would be able to watch, listen and talk to participants. Patton (2002) suggests that observation of a situation enables a researcher to gain insight that would not be possible through other qualitative methods enabling the researcher to capture 'what people actually do rather than what they say they do' (Wisker, 2007: p.203). The richness of data generated may allow for generalisations based on a judgement about how typical the chosen research site is; in this case enabling generalisability between Teaching Schools. I had hoped that observing school-based research activity would add an interesting and valuable dimension to the data generated offering me greater depth of insight into the nature and organisation of research activity and the attitudes of teachers towards the research agenda.

I had the opportunity to attend and observe an after-school research meeting at Schools B and C and I was invited to attend a school-based research conference hosted by School A. There was no opportunity for me to attend any form of activity at the other participating schools.

My interest in attending and observing research meetings was to gain insight into how such meetings were organised and run. I was particularly interested in the attitude of participants towards the activity and their engagement in the meeting and their commitment to research activity as an element of their practice.

At the after-school meetings, Daniel and Hope, as the respective research-leads at schools B and C, introduced me to the group and I then gave some background information relating to my research and reason for attending the meeting. I was able to observe the activity and discussion as well as speak to participants enabling me to gain some insight into their perspective. I attended the research conference as a delegate and observed the different sessions throughout the day. As at the research meetings, I was able to speak informally to teacher-researchers at break times and lunch-time.

Each opportunity to observe research activity was useful and afforded me some insight into the research agenda but attending only two meetings offered limited opportunity for me to gain any depth of insight into and appreciation of the activity. As I conducted my research during the summer term, the meeting I attended at both

School B and School C were, in each case, the final meeting of the academic year affording me with no further opportunity to attend another meeting. The school conference at School A was a one-off event and there was no further opportunity for me to observe any research activity at the school.

Despite my intention to carry out observations and a document scrutiny, it became apparent that neither method would generate sufficient meaningful data for me to draw valid or reliable conclusions. Consequently, the primary method of data collection I employed was the semi-structured interview. It is the data generated from interviews with research active teachers and school research-leads that has enabled me to answer the research questions underpinning this study. It is noteworthy that despite my decision not to use findings from observations or document scrutiny, the insight I gained through both of these methods was of value in adding to my overall understanding of the nature of and organisation of research activity and teacher attitudes towards the requirement.

3.7 Collecting the data

Through the following section, I will discuss how I employed the primary research method of semi-structured interviews to enable me to collect the data I required to answer my research questions. I will consider how I selected the participating sample of schools, how I gained access to the research activity and secured time to interview teacher-researchers at each of the participating schools. Furthermore, I

will offer insight into some of the challenges that emerged in trying to establish a relationship with schools and some of the logistical issues of conducting research with teachers who were based in different schools across a wide geographical area and who had limited time available to participate in the research. Consideration of ethics will also be discussed through this section of writing.

Telephone interviews

My intention was to conduct face-to-face interviews with research active teachers employed in secondary Teaching Schools in the North West of England. My choice of the North West was determined by practical and logistical reasons, being the area where I lived and worked. In order to establish which schools were designated Teaching Schools I contacted the Head of Initial Teacher Education at an accredited University who was able to provide me with the contact details of the Head of ITT at fourteen secondary Teaching Schools in the North West region with whom I made contact via email.

The initial email outlined in brief my interest in establishing the nature and extent of school-based teacher-research activity that might be occurring at the Teaching School in response to the research and development strand of 'The Big 6'. I explained that I would like to conduct semi-structured interviews with staff to capture the nature of any school-based research activity occurring, ways in which such activity might be influencing teacher practice and the conditions required to support and promote research activity. I suggested in the initial email that a telephone

conversation would enable me to explain my research project further and provide an opportunity for the member of staff to ask questions and clarify any points of concern.

I received a swift response from eight schools of the fourteen and arranged to phone each member of a staff at a time convenient to her/him. The initial telephone conversations were, without exception, positive and each member of staff, who was a member of the school leadership team, was not only willing to be interviewed but expressed interest in my research and was confident that teachers involved in research activity at that time would also be prepared to speak to me. I planned to interview the school research-lead and three other staff who had engaged in or with research, or were currently involved in school-based research activity.

Of the original eight staff I spoke to, two stopped responding to email communication and were 'not available' when I telephoned the school on several different occasions. A third school withdrew their interest upon realising that involvement in the research would not offer any support for developing school research activity. This left five Teaching Schools keen to be involved and to share their experiences of school-based research practice. It is noteworthy and significant that the teachers at the three schools who withdrew from the research all described the research activity at their respective school as, 'only just starting', 'embryonic' or 'in very early stages'. I was very clear that my intention was to capture what, if any research activity was taking place and that, I did not have expectations of the extent or the nature of that activity. However, it may be that the schools withdrew when they

realised I was not offering help to meet the research and development requirement (as in the case of the one school already mentioned) or they may have felt intimidated or at risk of being exposed or criticised for limited, perhaps non-existent research activity. The inclusion of schools less confident in research activity or whose engagement in or with research was underdeveloped or in early stages would have added an interesting dimension to the research. It is perhaps telling that the three of the four schools who remained keen to be involved in the research already had well established research activity existing in the school.

In addition to the five Teaching Schools who agreed to participate, I met a fellow delegate at a school-based research conference. Jane (the names of all participants have been changed to preserve participant anonymity) was the head of a Teaching School Alliance in the North West of England. Her specific interest was in teacher-research activity and she agreed to participate in my research. Thus, I had a sample drawn from a total of six Teaching Schools.

My preliminary contact was with the research-lead in each school. In order to establish contact with other staff at each school it was necessary for me to rely on the research-lead who circulated an email, that I had composed, to all staff asking for anyone willing to share their experience, thoughts and nature of research activity to contact me. A purposive sample was necessary as my intention was to capture examples of research and staff experiences of research activity occurring at Teaching Schools and it was therefore necessary for me to speak to teachers who were actually interested in and perhaps engaged in some form of research activity.

A random sample drawn from the whole teaching staff would potentially include teachers not engaged in any form of research activity which for the purposes of this study would add little to the research story.

Table I. Role, responsibility and experience of participants:

School & Participant	Role in research agenda	Role in school	Years of teaching experience	Level of qualification.
School A:				
Carol	Research-lead (R-L)	Deputy headteacher	30	B.Ed.
Ruth	Teacher-researcher (T-R)	Subject leader	18	B.A. (QTS)
Annie	Teacher-researcher (T-R)	Assistant subject leader	4	PGCE
Susan	Teacher-researcher (T-R)	Acting subject leader	4	PGCE
School B:				
Daniel	Research-lead (R-L)	Deputy headteacher	22	EdD
Heather	Teacher-researcher (T-R)	Assistant subject leader	3	B.A. (QTS)
Lucy	Teacher-researcher (T-R)	Class teacher	5	B.A. (QTS)
School C:				
Hope	Research-lead (R-L)	Assistant headteacher	11	PGCE
Liz	Teacher-researcher (T-R)	Class teacher	3	PGCE
Chris	Teacher-researcher (T-R)	Class teacher	7	PGCE
Ellie	Teacher-researcher (T-R)	Class teacher	5	PGCE
School D:				
Rose	Teacher-researcher (T-R)	Class teacher	3	PGCE
School E:				
Jane	Research-lead (R-L)	Head of teaching school alliance	24	EdD
School F:				
Sharon	Research-lead (R-L)	Assistant headteacher	16	PGCE.

Despite careful planning and consideration the 'messiness' of research is an acknowledged aspect of the research process (Goodnough, 2008). This quickly became apparent in my own experience as several schools withdrew their interest in participating and trying to arrange convenient times to meet and interview staff was proving near impossible. I had specifically designed the interview schedule to take place during the summer term of 2014 as staff often have increased non-contact time at this stage in the academic year due to their exam classes having left. Furthermore, my own teaching commitments had finished giving me greater flexibility to conduct interviews at a time that was convenient for participants. However, it would seem there is no period of the school year that is less busy than another and it quickly became apparent that my intention to conduct face-to-face interviews was unrealistic. Teachers were unable to commit to a specific time to meet and it would not have been possible to conduct all the interviews at one school on the same day, which would have necessitated multiple visits to each school, requiring a significant amount of time and expense.

The practical problems that emerged in trying to arrange face-to-face interviews resulted in me opting to use telephone interviews as an alternative method of data collection. Rubin and Rubin (2005: p.125) advise that 'using the telephone is not a preferred way to conduct depth interviews' but acknowledge that it may make sense if research involves people over a wide area. The advantages of conducting telephone interviews include the ease of arranging and rearranging interviews at a time convenient to the interviewee; times ranged from early morning before school to a Sunday evening. It was easy to rearrange the interview time when an unexpected situation arose meaning the teacher was not available; this happened

several times. Additionally, costs of telephone interviewing are low and as the interviewer is only a voice over the phone, it may be a less intimidating experience for participants. There is evidence that telephone interviews can be 'cathartic' and put the interviewee at ease because there is less threat posed by the 'faceless researcher' (O'Donoghue, 2007: p.89). However, there are recognised limitations associated with the telephone interview primarily the absence of visible cues as the telephone interview relies only on the auditory (Engel and Robbins, 2009; Alasuutari et al., 2008). An absence of visual cues limits the interviewer in their tools for communication. For example, the absence of non-verbal communication means the interviewer must give verbal cues and say explicitly 'thank-you' or 'yes' where in a face-to-face interview a nod or smile would suffice (Alasuutari et al., 2008). Similarly, the absence of visual cues for the interviewer will result in some of the nuances being lost e.g. a shrug of the shoulders or shake of the head; it is not possible to see visual expressions of discomfort, stress or anxiety (Rubin and Rubin, 2005). A further difficulty associated with telephone interviews is the challenge of developing a rapport (Greenfield, 2002). To help put participants at ease and establish a rapport before commencing each interview I took care in email communications to establish a tone that was professional but not overly formal and I stressed that my interest was in capturing examples of research activity regardless of whether small scale, early stage or otherwise. At the beginning of each interview, I took time to introduce myself and clarify the reason for the interview, explaining what they could expect and how long the interview would be likely to last. I reinforced that the participant's anonymity would be preserved and gave participants the opportunity to ask questions. I was mindful of the tone of my voice and pace of my conversation such that I could convey an appropriate, supportive attitude. All such

factors are significant in putting the interviewee at ease the teachers all seemed relaxed and keen to share their research experiences.

Perhaps most significant in telephone interviewing is the issue of the interviewer influencing responses:

> by the way they read the question and emphasize certain parts, by deviating from prescribed wording, by reacting in different ways to questions or problems… and even by the way they sound (Leeuw, 2008: p.319).

I remained aware of these factors throughout the interview process.

Despite the recognised weaknesses and limitations associated with telephone interviews, the access to staff and the opportunity to gather valuable data and gain insight into the experiences and attitudes of teachers towards school-based research that the interviews afforded did not dissuade me from using this research method. All participants were happy to provide me with a phone number and a convenient time for the interview to occur. When on several occasions the arrangement had to be re-scheduled, the teachers were very clear in communicating with me about why they could not keep to the original arrangement and in offering me alternative dates and times.

I used a digital voice recorder to record each interview. An advantage of the telephone interview is the voice recorder is not visible, a factor that can inhibit conversation (Greenfield, 2002). I had included in my ethics application and information to participants that interviews would be voice recorded and I clarified this before each interview began; none of the participants objected to the recording. Every interview but one took place in either the teacher's school or their home and the environment was largely quiet and uninterrupted. One interview took place as the interviewee travelled by train. Signal was lost on several occasions and at times, the interviewee's response was unintelligible. This was disappointing and is a situation I would actively avoid in future.

Each interview lasted approximately twenty-five minutes and I made some supporting notes to accompany the recording both during and straight after each interview. I transcribed each interview as soon as was practicable after the interview. A benefit of self-transcribing is that the researcher is able to immerse her/himself in what the interviewees said and in this way really familiarise themselves with the data (Rubin and Rubin, 2005). In undertaking the process of transcription myself I was able to 'get to know' the data on a deeper level than reading alone would allow.

Research Ethics

The requirement of research ethics is to protect all participants from harm, either physical or psychological and to preserve the confidential nature of an individual's involvement (Wisker, 2007). In agreeing to participate in a research project subjects have a right to know the nature of the research and the consequences of their participation (Denzin and Lincoln, 2003). The research was conducted in accordance with Manchester Metropolitan University ethical regulations. Despite all participants being adult, no physical intervention being necessary and no questions of a sensitive nature being included, it is of paramount importance for the researcher to abide by ethical protocols and to recognise that even seemingly innocent questions could be disturbing to a participant (Blaikie, 2000).

Before I could embark on any research, it was necessary for me to submit a completed ethics checklist to gain ethical consent from the faculty ethics board. The ethics checklist required me to offer a brief outline of the research activity and indicate any aspects of the research or issues within the research that could be regarded as sensitive or had the potential to compromise the welfare of participants. There were no such issues. As part fulfilment of gaining ethical approval, it was necessary for me to submit an information sheet for participants (ISP) (see Appendix 3) and a participant consent form (PCF) (see Appendix 4). Both forms would be sent to all participants who had agreed to be interviewed, prior to the interview occurring. The ISP outlined the purpose and nature of the research, explained participant involvement and indicated any risks to taking part. It contained

information relating to participant anonymity, how and where data would be stored and how long data would be kept after the end of the research project. If the participant was satisfied with the nature of research and their involvement in and fully understood the requirements of participating e.g. telephone interviews would be voice recorded, s/he was required to sign and return the PCF giving their consent to participate.

Prior to each telephone interview, I emailed the ISP and PCF to each participant who was required to sign and return (either by scanning and emailing or by post) the PCF which they had signed indicating that they understood what would be involved in the research process and giving their consent to participate. At the start of each interview, before starting the voice recording, I asked each participant if they had any questions or concerns about the research or their involvement and reminded participants that I would be recording the interview. I also ensured that all participants knew they had the right to withdraw at any point during the data collection period and any data they had provided would be destroyed. Several teachers checked that their identity would remain undisclosed and sought reassurance that it would not be possible to identify them through the research; I was able to reassure them that was indeed the case. No participant objected to the interview being recorded and, to date, no participant has asked to withdraw from the research. Wisker (2007) highlights the considerable problems associated with participants withdrawing from research and thus denying the use of their information and contribution to the research. To reduce the potential of this it is important to make clear, from the outset what their participation will involve.

As I was employing three different research methods, it was necessary for me to consider the ethical implications of each.

Ethical considerations for telephone interviews

The central ethical issues to address with regard to telephone interviews related to gaining participant consent to voice record the interviews and ensuring that participant anonymity would be preserved. I made it clear through the ISP that interviews would be recorded and I reminded each participant prior to the interview commencing that I would like to record the conversation. Anonymity would be preserved through changing the names of all participants and not using the name of any participating schools.

Ethical considerations for the observation of research activity

I gained permission to attend the research activities through the research-lead at each school. In each case, the research-lead was a member of the senior leadership team and s/he acted as a gatekeeper, permitting me access to the activity. I was only able to attend one meeting at School B and School C, both meetings were an hour in duration, and I was concerned that I would be taking valuable time from the activity in explaining my attendance, the nature of my research the ISP and securing signatures on the PCF. For these reasons I decided against obtaining data from the meetings and did not record conversations or capture any of the comments for use as data. Once again, gaining informed consent

at the research conference would have been problematic as there were approximately sixty delegates and again, I did not record any of the comments from staff at the conference and did not use any of the conversations within the data. My attendance at the school meetings and the school based conference served to offer an additional means through which I could gain insight into and understanding of the nature of research activity occurring in participating schools.

Ethical considerations for document scrutiny

As I have discussed, gaining access to documentation was problematic either because either it did not exist, because schools were reluctant for me to see it. The research-lead at School C was very protective of the materials she had produced and concerned that they might find their way into the public domain and she was therefore very reluctant to give me access to documentation. I was able to assure Hope that the materials would be for my use only, enabling me to see examples of the support in place at School C and that the documentation would be stored on a password-protected laptop and would be destroyed at the end of the research period in accordance with the ethical approval for this research project.

In practice, the most problematic aspect of the ethics process was gaining informed consent. Every participant I asked to be interviewed agreed without reservation and consented to the interview being recorded. However, as I did not meet any of the participants in person, I had to rely on them returning the signed paperwork via email or post. In most cases, I had to send repeated reminders and additional copies of

the paperwork before obtaining the required, signed informed consent forms. This was time consuming and uncomfortable as I appreciated their involvement and sending repeated requests for the paperwork was not ideal, I felt that I was pestering the staff and adding another job to their 'to-do' list. Had I met the participants face-to-face I would have been able to explain the paperwork and obtain a signature immediately before the interview but this was not the case.

3.8 Data analysis

Having read extensively, thought about and decided upon my methodology and the methods I was going to use to generate the rich data I required to enable me to answer my research questions, I turned my attention to how I would analyse the potentially significant quantity of qualitative data that my methods would yield. A process that would involve:

> reducing the volume of raw information, sifting trivia from
> significance, identifying significant patterns and constructing a
> framework for communicating the essence of what the data reveal
> (Patton, 2002: p.432).

I recalled from Phase A of the EdD programme sessions on SPSS and NVivo, discussion of coding, themes and patterns. However, I had little idea of how I would analyse my data once collected. The challenge that lies in making sense of qualitative data should not be underestimated and the process 'ultimately depends on the analytical intellect and style of the analyst' (Patton, 2002: p.433). This was of little help or comfort as I struggled to understand how I would make sense of my

data. I was initially overwhelmed by the volume of data and intimidated by the prospect of having to make sense of what seemed to be pages of impenetrable conversation. I feared the hours of work that I had invested in the interviews and the following process of transcription contained little of value or perhaps worse still it might contain much rich, valuable data that I might not be able to extract.

Through my reading, I found material relating to thematic analysis, which offered a relevant and useful approach to organising and understanding my data and perhaps more importantly, a means through which I could interpret the data. Braun and Clarke (2006) suggest that despite thematic analysis being a widely used qualitative analytic method, as a method it is 'poorly demarcated' and 'rarely-acknowledged' but despite this, they argue that 'it offers an accessible and theoretically-flexible approach to analysing qualitative data' (Braun and Clarke, 2006: p.2).

Thematic analysis requires the researcher to identify themes within their data. King and Horrocks (2010: p.140) make clear that 'identifying themes is never simply a matter of finding something lying within the data like a fossil in a rock' but requires the researcher to make choices 'about what to include, what to discard and how to interpret participants' words'. They offer the following definition of a 'theme' within the context of thematic analysis:

> Themes are recurrent and distinctive features of participants'
> accounts, characterising particular perceptions and/or experiences,
> which the researcher sees as relevant to the research question
> (King and Horrocks, 2010: p.150).

It is only through reading and re-reading transcripts and listening to interview recordings in order to become familiar with the data that themes will begin to emerge. They must then be organised in a way that reflects how they relate to each other and will probably lead to a number of sub-themes emerging. It is important that themes are clear and distinct to enable others to understand the researcher's thinking (King and Horrocks, 2010).

Having organised the themes and sub-themes it is then necessary to define codes that develop interpretation of the meanings within the data, in this way moving from the descriptive to the interpretative and ultimately creating 'thick description' (Geertz, 1973). Achieving such thick description is the objective of thematic analysis and will enable a reader to understand how research conclusions are reached.

Both Braun and Clarke (2006) and King and Horrocks (2010) provide a comprehensive guide to conducting thematic analysis and through reading these guides I was able to develop an understanding and an appreciation of how thematic analysis would effectively enable me to make sense of the data I had generated through the interviews I had conducted.

I began by printing off each transcript with a wide margin on either side of the text in which I could make notes and I numbered every line of text to enable me to identify specifically where in the transcript specific events or comments occurred. I then began working through each transcript colour coding different topics that emerged

from the interviews. I did this using highlighter pens and making brief notes in the margins. I worked through every transcript and on completing the process repeated it three further times, each time identifying new points, overlap or a different perspective (see Appendices five and six).

To ensure validity I discussed my use of a thematic analysis approach with my supervisors and gave an example of my coding to a colleague who had used thematic analysis in her own research. She checked my coding against interview transcripts and we discussed my selection of themes and subthemes. She concurred that I had been thorough and systematic in my approach.

Once I was satisfied that I had conducted a thorough and detailed thematic analysis of the data I was able group the different topics that I had identified under three central themes, 'leadership' (see Appendix 7), 'resources' (see Appendix 8) and 'school culture' (see Appendix 9) and related sub-themes. It is noteworthy that significant overlap that exists between the three identified themes and the theme of leadership is inextricably linked with both resources and culture. Arguably, SLT commitment and support is necessary to secure resources to facilitate any school-based project or initiative, teacher-research being no exception and school culture will be strongly influenced by the school leadership team. Despite the overlap between themes, each was sufficiently important in its own right to stand-alone and will therefore occupy a central focus of the discussion.

Summary of methodology

It is through an interpretivist approach that I have approached my research. It is this approach that has determined the research questions central to this study, shaped my choice of research methods and enabled me to make sense of the qualitative data that has emerged.   An interpretivist approach seeks to uncover meaning and make sense of the data and it is in this way, the interpretivist is able to develop a deep understanding of the experience of participants and tell the research story.

The case study approach is widely used in interpretivist research and offered a means to gain insight into the nature and extent of school-based teacher-research activity occurring in the sample of participating Teaching Schools. In order to gather data, the research method selected as most appropriate in generating the rich data required to enable me to answer the research question was semi-structured telephone interviews. I had planned to supplement the data from interviews with data gained through document analysis and observation of a school-based research activity. However, for the reasons discussed through this chapter neither of these methods generated the data that I had anticipated and consequently the primary method of data collection was through interviews. Strict ethical guidelines were adhered to throughout all phases of the research in line with Manchester Metropolitan University ethical regulations. The use of thematic analysis enabled me to make sense of the data generated from the interviews and three clear themes emerged – 'leadership', 'resources' and 'school culture'. Each theme was identified by participants as being highly significant in creating the necessary conditions for

teacher-research activity to occur and to facilitate teachers in their research endeavours. Despite considerable overlap between the three themes, each is significant in its own right and I will discuss each in turn through the following discussion chapters, as I seek to answer my research questions.

Chapter Four: Leadership.

Through this chapter, I will discuss the data relating to the identified theme of leadership. The extent to which leadership involvement is significant in establishing and promoting a whole-school research agenda, the dominance of a 'top-down' organisational approach and the importance of staff feeling that their research endeavours are valued, approved and supported by the school-leadership team will be considered. The implications for achieving sustainable school-based teacher-research activity in the absence of leadership support will also be discussed. I start the chapter with a short-pen portrait introducing the research-lead at each school. The profiles of the research-leads, who were all senior teachers, offers some insight into the status of the research agenda at each Teaching School. Points made in each pen-portrait will be developed further through the three themes discussed in chapters four, five and six.

4.0 Pen-portraits of research-leads

None of the research-leads interviewed had specifically applied for the role of research-lead but as a senior teacher, research and development activity fell within their area of responsibility, which in most cases was teaching and learning.   Daniel and Jane both had doctoral level qualifications but the other research-leads had no formal research qualification beyond their undergraduate degree or PGCE.

Carol, School A:

Carol, was a deputy headteacher at School A with responsibility for raising pupil achievement. She had been teaching for thirty years. Carol had no formal or specific research background or experience beyond her B.Ed. degree. School A was involved in a three year, European Union funded, research project involving eight schools and four universities from four European cities. Carol spoke positively about the benefits she recognised of teacher involvement in research activity but she was also very clear that a balance must be found between teachers fulfilling their 'normal jobs' and engaging in research activity. Carol's role in the research project was in making the necessary arrangements for the research activity to occur, she was not involved in any of the research design, methodology, data collection or analysis. Teachers at School A were invited to participate in the research project and the majority of teacher-researchers were either early career teachers or subject leaders. Carol received guidance from the participating HEIs, no other research support was made available to Carol.

Daniel, School B:

Daniel was a deputy headteacher at School B. He had been teaching for twenty-two years and explained that when he completed his EdD, 'school realised that I had a background that maybe they could employ as part of their Teaching School'. Consequently, Daniel was allocated responsibility for research and development activity as required of all Teaching Schools and he ran the school's Action Research Communities (ARCs). It was evident from Daniel's interview that he recognised the potential for teacher-research to empower teachers and that researching their own

practice enabled teachers to 'look at how they can improve'. However, it was apparent from Daniel's interview and observation of an ARC meeting led by Daniel that he assumed a very dominant and controlling role in driving the research agenda even suggesting that it was necessary to 'force' teacher engagement, as will be discussed in more detail later in this chapter. All teachers at School B were required to attend ARC meetings as part of directed time within the school meeting schedule. Daniel was not drawing upon or receiving support from any other source or research partner.

Hope, School C:

Hope had been teaching for eleven years and was assistant headteacher at School C. Her responsibility was for professional learning, a role in which she was required to oversee the professional development of all teachers, at every stage of their career. In response to being asked about her role in the research agenda Hope responded:

> … essentially my role is involved in staff training and development and I see action research as an important part of that, that's how it fits in (Hope, R-L:C).

Of the research-leads, Hope was the most enthusiastic. She spoke with energy and commitment and really believed in the potential of 'research as a basis for teaching' (Stenhouse, 1979a). However, important as Hope's enthusiasm undoubtedly was, her limited research skills and knowledge were apparent in the design of the Action Research Group (ARG) activity and in the material she had produced to support teachers in their research activity. I will discuss these points in detail under the

theme of 'resources'. Hope was not drawing upon or receiving support from any other source or research partner.

School D:

Despite being a Teaching School, and therefore required to undertake research and development activity as a strand of 'The Big 6', School D did not have an allocated research-lead and there was no whole-school research agenda or activity in place at the time I conducted my research. Despite her initial positivity and enthusiasm for participating in my research, the deputy headteacher at School D withdrew her interest when she realised that involvement would not lead to any research support for the school. However, prior to withdrawing the deputy headteacher did circulate my email to all staff asking if any research interested or research active teachers would be prepared to be interviewed about school-based teacher-research activity; Rose contacted me as a willing participant. Having just completed a master's degree in teaching and learning she had recent experience of undertaking school-based research and her experience is documented in Appendix 10. Rose's story offers valuable insight into the experiences of a teacher engaging in research activity without the support or backing of school leaders or colleagues.

Jane, School E:

I met Jane at a school-based research conference hosted by School A. Through our conversation over lunch it emerged that prior to her appointment as the Head of a Teaching School Alliance (HTSA) she had been a secondary school teacher and

then a university lecturer. She had an EdD qualification and a specific interest in teacher research which she believed had secured her appointment as HTSA:

> The teaching School Alliance had been up and running for almost a
> year when I took over the post and they had made inroads into
> some of the big six… but they really hadn't done very much on the
> research front and I think that was one of the reasons I was
> appointed because of my experience in higher Ed' (Jane, HTSA:E)

The combination of Jane's twenty-four years of teaching experience at both secondary and university level, her role as HTSA and her doctoral level of qualification positioned her as a valuable participant in my research. Jane was the only participant who did not have teaching commitments. She had expert knowledge and experience through her EdD but also understood the challenge of being a busy teacher, all factors that positioned her to be effective in her role as a research-lead.

Sharon, School F:

Sharon had been in post as assistant headteacher at School F for six months when I spoke to her. Her responsibility as AHT was for teaching and learning and a requirement of her role was to lead the research agenda. When I interviewed Sharon there was no research activity in place at School F. She was under-confident in her role as research-lead and by her own admission, she lacked knowledge and understanding of research skills.

> I do a little bit of research on the internet and I use the social media
> for researching. It's an area that I am developing in if I'm totally
> honest, it's not something that I do a lot at the moment (Sharon, R-
> L:F).

Sharon had no research experience or training beyond her PGCE qualification and through her interview she indicated that she had little idea of what might represent teacher research or how it might be established. Sharon lacked enthusiasm and confidence and there was a clear sense that she felt alone and unaware of where she might seek help and support to establish research activity and build research capacity within the school.

She did indicate that she recognised the potential for research activity to be a powerful change agent but all comments and ideas were aspirational:

> We could change the way we teach, we could change potentially the set-up of our curriculum, we could look at changing the structure of our school day based on research, we could look at the use of teaching assistants, mini-plenaries, written feedback, homework, group work, all kinds of things (Sharon, R-L:F).

4.1 Variation in research-lead expertise and experience of research activity

The variation in research expertise between the research-leads was significant. Carol, Hope and Sharon's research training was limited to that undertaken within their undergraduate degree and in Hope and Sharon's case, the additional research requirement of their PGCE, in all cases over a decade earlier. It is reasonable to expect that Daniel and Jane, through having undertaken a professional doctorate, would be research literate and as such have a good knowledge and understanding of research skills but whether that automatically positions them to guide and oversee

teacher-research activity is questionable. None of the research-leads had been offered, had access to or were engaged in any specific activity to support them in their lead role. It would seem that an assumption was made, based on their senior position, that they would be able to lead the research agenda and offer the required support and guidance to teachers embarking on research activity. Such an assumption may be due to a general lack of understanding surrounding research or could potentially indicate that research and development activity is not regarded as sufficiently important to warrant buying in specific research expertise. These factors will be discussed in Chapter 5.

That each research-lead was a senior teacher offers some insight into the status of the research agenda at the participating Teaching Schools. It could be argued that in appointing a senior teacher to the position of research-lead, the headteacher is positioning research activity as a school priority. Conversely, in appointing a senior teacher to the role of research-lead, the head may have merely passed on the responsibility for research and as such is potentially 'box-ticking' to satisfy the research and development requirement of 'The Big 6' but with little regard and perhaps little interest in how this might effectively be achieved.

Despite the common context, i.e. each research-lead was located within a Teaching School and therefore required to meet the research and development strand of 'The 'Big 6', the approach towards school-based teacher-research activity varied significantly between the participating schools. An assumption that being a member of the school-leadership team was warrant enough to establish conditions that

would promote meaningful, whole-school teacher-research activity seems to underestimate the significant challenge in establishing and supporting a whole-school research agenda. A challenge made all the more difficult for research-leads who find themselves with the potentially daunting task of establishing, supporting and developing teacher-research activity despite having little knowledge or understanding of practitioner research themselves.

4.2 The significance of leadership support in establishing teacher-research activity

The involvement and support of school leaders in creating conditions for teacher-research activity to occur emerged as a highly significant factor throughout the data. All participants, irrespective of their years of teaching experience, role or level of responsibility identified leadership involvement and support as central to the success of a research agenda and integral to creating conditions for a sustainable model of research to be achieved. Furthermore, if school leaders are committed to a research agenda, they have a responsibility to create a 'safe' climate in which teachers feel able to take risks in their teaching, trialling new and experimental approaches and engaging in professional conversations with colleagues without fear of the consequences. Only if teachers feel safe and supported in being experimental in their practice and in sharing their weaknesses and concerns is it likely that professional conversations and research practice will develop from a superficial level to a deeper more meaningful level that can effectively promote reflective practice and critical inquiry. An absence of SLT support for research

activity emerged as problematic as it is likely to lead to feelings of isolation and vulnerability as evidenced by Rose's story (see Appendix 10). Consequently teachers may be less willing, perhaps even unable, to engage in research activity as indicated by Jane's comment:

> if the school leadership aren't behind it you know, teachers get nervous… teachers need to feel confident that they've got their headteacher's support to try something different and if they don't feel confident in that, it won't happen (Jane, HTSA:E).

SLT support was stated by participants as significant in reducing their feelings of uncertainly and vulnerability when trialling new, alternative methods and approaches to practice (Szczesiul and Huizenga, 2014).

An inevitable consequence of school leaders not valuing school-based teacher-research activity is that other priorities will dominate teachers' directed time in which case research activity is likely to be an inadequately resourced marginalised activity, it may be tolerated but not actively encouraged or promoted, as was Rose's experience (see Appendix 10). Without SLT support, any activity perceived to be different or a departure from the standard curriculum diet that teachers are required to deliver may be regarded as an unacceptable risk that could compromise progress towards all important targets, test results and grades. The pressures of performativity have eroded teacher autonomy, called into question teachers' professional judgment and increased teacher accountability (Ball, 2003), all factors which will potentially inhibit teachers from trying different approaches or new strategies in their teaching. Annie made reference to the 'pressures of results and

league tables and things like that' presenting barriers to teacher-research activity and Ruth shared her experience of finding that all SLT want to know is how results will improve:

> it sounds awful but every time you bring in a project the first thing
> that anyone from senior leadership asks is, is this going to make
> our results any better? (Ruth, T-R:A).

The fear of not achieving expected outcomes or of not hitting targets is likely to perpetuate teachers reliance on the same tried and tested methods, which may be safe, and reliable but may not be the most effective.   A departure from recognised, reliable methods may indicate a level of teacher autonomy, even non-compliance that would stand in opposition to the teacher-technician and in stark contrast to Ball's (2003) model of the performative teacher and consequently the potential for building meaningful, sustainable research capacity under such conditions seems unlikely.

All the data indicates that without leadership approval, support and encouragement, research activity is highly unlikely to occur, or if it does occur, to be sustained:

> it [research activity] has to be approved by senior management and
> it has to be encouraged, otherwise it falls apart (Carol, R-L:A).

> If your senior leadership team is not convinced I think it's really hard to get
> something on a meaningful scale in school, it just won't happen (Jane,
> HTSA:E).

Leithwood et al., (2008) highlighted the significant role of school leaders in influencing staff behaviour and Fleming and Kleinhenz (2007) identified the key role of school leaders in energising staff and establishing conditions that facilitate and promote teacher engagement, both factors supported by the data. All participants

identified the central role of school leaders in positioning research at the heart of school policy (Godfrey, 2014) and in promoting the notion of schools as learning communities (Day, 2004). Regardless of how willing or committed staff may be to engage in research, such activity is unlikely to progress beyond an aspiration unless SLT are actively involved in conveying a research vision to all staff and in creating a research-rich, research-led culture that values, promotes and resources research activity. This discussion will be developed further through chapter six within the theme of culture but it is significant to acknowledge here the key role of school leaders in determining the school culture (Fullan, 2001; Prosser, 1999). In situations where school leaders are not committed to the research agenda, it is highly unlikely that the school culture will be supportive of teacher-research activity and the potential for 'bottom-up' momentum to gather is doubtful.

While direct, 'hands-on' involvement of a headteacher in driving the research agenda was not evident in any of the participating schools, the extent to which a headteacher values the activity will almost certainly determine whether a research agenda will flourish. Only when the headteacher endorses, encourages and celebrates practitioner research and the creative, innovative practice that may emerge is it likely that a research-rich, research-led culture will develop. Jane (Head of Teaching School Alliance, HTSA) reiterated the specific importance of headteacher support several times throughout her interview stating that headteachers are, 'Really, really significant…' in establishing and promoting research activity and 'without the headteacher's support it's [research] never going to be sustainable.' Jane, spoke of the challenge of winning the 'hearts and minds

of leadership' and in her opinion unless this challenge is overcome the difficulty of building research capacity or maintaining research activity is insurmountable.

Jane used the example of a headteacher who successfully established research activity as a whole school endeavour through which teachers' previously untapped potential for research activity (Leithwood et al., 2008) is nurtured and supported:

> So where you see a school where the leadership is fully on board with what research can offer, so the school in Yorkshire, the head is clearly supporting action research sets in his school, lesson study type approaches which are starting points for getting teachers to engage, and he hosts events, I know Robert Coe's been to his school for example, and you can see if it's 'top-down' supported it becomes embedded in the school approach (Jane, HTSA:E)

Robert Coe is a professor of education. His research interests include the involvement of practitioners in research and his involvement in a school-based research event or activity indicates the school's commitment to developing teacher-research activity in securing a high profile academic to support their school-based research agenda.

Participants indicated that both headteacher and senior teacher backing sends a clear message that research activity is valued at a leadership level:

> having someone senior who believes in the project gives it a bit more kudos and it's easier then for other people to buy in. Had it been me on my own trying to push this project through it might not have been as accepted as having a senior leader involved (Ruth, Teacher-researcher,T-R:A).

Ruth's comment suggests that she alone, as a teacher-researcher, would not have the status, influence or the authority to convince or require colleagues to engage in the project. The endorsement of a senior leader gave value and status to the research activity leading to, in Ruth's experience, wider staff acceptance and interest; if SLT value it then it must be worthwhile. This strongly supports the findings of Orphanos and Orr (2014) and Szcezsiul and Huizenga (2014) who positioned leadership as pivotal in securing meaningful teacher engagement and commitment to research activity.

There exists a clear challenge for some research-leads who find themselves with the responsibility and potentially daunting task of establishing, supporting and developing teacher-research activity despite having little knowledge or understanding of how to make such an aspiration a reality. Sharon, in her role as assistant-head of teaching and learning, had responsibility for developing teacher research at School F but had no specific research skills or experience and no training or support to prepare her for her role. Despite Sharon's limited understanding of practitioner research the task of establishing and developing teacher-research activity rested entirely with her. At the time I interviewed Sharon she had not set in place or made plans to introduce research activity or explored any opportunities to build research capacity at School F. Sharon's situation indicates that merely appointing a senior teacher to the role of research-lead is no guarantee of establishing research activity and the research-lead her/himself may need support is s/he is to be effective in role.

4.3 An enforced research agenda

Research-leads made clear their belief that without a leadership led, formal, enforced research agenda teachers are unlikely to engage in research based practice or reflection. With the exception of Rose and Sharon, participants explained that research activity was organised as a continuing professional development activity (CPD) scheduled within teachers' directed time. Research as a CPD activity either was a requirement for all staff or was organised as one of several different CPD activities that staff had to select. Meetings occurred at the end of the school day as scheduled within the school meeting cycle.

All teachers are required to attend meetings and INSET scheduled within directed time however, locating research activity as an after-school activity may be unhelpful in embedding practitioner research into practice and in securing the status of research activity as an integral part of teachers' everyday practice. It sends a message that research is an activity 'bolted-on' to teachers' practice. The following three comments from participants reinforce a view that research meetings were enforced, time-limited and in addition to teachers' day-to-day workload:

> The way it's been run this year is that we've had certain sessions
> throughout the year that we've had to attend on the school calendar
> (Ellie, T-R:C).

> We meet after school for about an hour and a half. We meet at
> three and I think we normally finish about half four, something like
> that   (Liz, T-R:C).

I know sort of one of the criticisms of the ARC [Action Research Communities] was that they were after school which was fine but they came around really quickly and people felt that their day-to-day teaching life sort of took over in between those sessions so they didn't really focus as much as maybe they'd want to or should have on the actual thing they should be researching (Heather, T-R:B).

Heather's comment indicates that teachers may feel frustrated that they are not able to focus on and develop their research ideas as the demands of their teaching are too great and ultimately detract from research activity.

Teacher engagement during the school meeting schedule is not a reliable indicator of teachers' commitment to undertaking research activity as their participation may be entirely due to the enforced requirement. Hope explained that teacher research existed as an option within the school's professional learning framework:

As part of our professional learning at school there's a lot of different options that people can do. There's middle leadership, senior leadership programmes that are our own programmes. Err, and then there's obviously things like action research, lesson study, coaching and basically people select the one that is of interest to them but also they are sort of guided by their sort of, line manager really to the one they feel is appropriate for them and then obviously that is the one they do for the year so in the action research group so we have around errrm up to around sixteen members of staff in that group this year and basically they have been this year completing an action research project (Hope, R-L.34:C).

Several interesting factors emerge from Hope's comment. While the options may remain the same for several years, they are undoubtedly subject to change;

changes in staffing, in policy or changes in school leadership and consequently school priorities. A shift in priorities is likely to result in changed emphasis, a renewed focus on a different area of practice, and the life expectancy of any particular group may be short. Butler et al. (2004) found that emphasis must focus upon creating meaningful shifts in practice that will be sustained even if conditions change, this in turn will require leaders to trust in teachers to themselves identify areas for change and improvement. However, the model of practice at School C did not acknowledge this and if the action research group ceases to be a priority, it is unlikely to remain a focus of the school's professional learning programme. Hope's suggestion that line managers may guide staff to particular groups has implications for how willing and positive group members feel towards the activity. If they feel coerced into a particular group, they are less likely to be engaged and receptive (Pickton, 2016; Edwards and Nicoll, 2004; Fullan, 1997). These issues have implications for the sustainability of research activity. A long-term strategy to build sustainable capacity that empowers teachers to take ownership of their own research journey may engage greater teacher enthusiasm (Pickton, 2016).

The hierarchically enforced nature of research activity illustrates what Patrick et al. (2003: p.238) described as 'competing discourses of professional autonomy and accountability'. Teachers are offered the illusion of autonomy through being encouraged to engage in research activity but in reality, they are tightly regulated and monitored having to comply with an enforced research agenda and controlled by the research-lead according to a specific meeting schedule.

The tension between professional autonomy and accountability is evident in comments made by Daniel the research-lead at School B. Daniel made it clear that at his school 'all teachers have to be a member of an action research community', participation was not an option but a requirement. Daniel articulated that the function of the ARCs was to 'force' teacher engagement:

> the ARCs are more about getting people to be involved in their practice and essentially it's a way of forcing them to reflect on what they do (Daniel, R-L:B).

The use of language is interesting, Daniel's reference to 'forcing' teacher engagement suggests that unless teachers are made to reflect through compulsory, scheduled sessions such behaviour will not occur. He returns to the notion of 'forcing' engagement later in his interview:

> The purpose behind the ARC isn't really about dissemination, it's more about teachers focussing on their own practice and forcing that engagement with teachers at the chalk face (Daniel, R-L:B).

The notion of 'force' is also referred to by Ruth, 'it forces you to reflect on your own performance, on your own teaching etcetera' (Ruth, T-R:A). This language indicates a lack, perhaps even an absence, of trust in teachers to act as professionals. Hope commented that as research-lead she has the skills to, 'get the actual staff to engage in it', a further indication that research-leads need, or feel that they need, to apply pressure or a degree of force in order to secure staff involvement. This may suggest that research-leads regard staff as unwilling to participate perhaps due to being stagnant in their practice and unreceptive to change and for these reasons they must be made to engage.

I attended an ARC meeting at School B and was struck by how dominant Daniel was in his role as research-lead in directing the meeting and driving the discussion. I was interested in Daniel's response when a member of staff failed to arrive. Daniel's annoyance at the teacher's absence was apparent and he made it clear to the group that he was going to use his position as both research-lead and deputy head to reinforce the compulsory engagement and attendance required of all staff at all ARC meetings.

Such seemingly heavy-handed tactics could arguably generate feelings of resentment whereby staff feel undervalued and regard the research meetings as yet another pressure, another demand on their time. Daniel's approach is unlikely to gain teachers' commitment as Fullan (1997) found that initiatives that demand compliance are less likely to be successful than those that encourage engagement through a less formal more collaborative approach. Szczesiul and Huizenga (2014) indicate that a combination of formal and informal controls are likely to be most effective in creating positive conditions that will encourage co-operation and a willingness to participate in practitioner research activity. Achieving the delicate balance of requiring teacher engagement but avoiding an overly authoritative approach that could undermine the agenda is a clear challenge for research-leads.

Daniel's approach represented a strongly 'top-down' approach, he was positioned as an expert and teachers deferred to his knowledge and expertise. Interestingly Daniel's use of language was very academic in style and quite different from that used by the teachers. Not only did Daniel position himself as the 'expert', he gave

the impression of being superior to the 'average teacher' and the 'jobbing teacher' comments he made in his interview. Had Daniel stepped outside of the room it is questionable that the research-based conversations would have continued, thus if Daniel were to leave the school, or move to a different role, the potential for the work of ARCs to be maintained in their current form seems unlikely.

Daniel's attitude and agenda is likely to be influenced by his role as deputy headteacher. As a senior teacher it is likely that he will expect compliance, even obedience, from staff which raises a tension between the importance of SLT backing but the potential for the inequality in status between a senior research-lead and class teachers to be damaging to any long-term potential for research activity. None of the research-leads acknowledged that a tension might exist between their position as a senior teacher and as research-lead. Teachers might feel under-confident or insecure working closely with a senior teacher and this could influence teachers' attitude, engagement and willingness to undertake research activity. It is interesting that staff are being asked to model reflectiveness that the research-leads themselves are not demonstrating. This tension points to a lack of understanding about the need for all to take ownership of their own research journey. Pickton (2016), Szczesiul and Huizenga (2014) and Earley (2004) stressed practitioner ownership as highly significant in achieving a sustainable agenda. The potential for teacher research to be driven by teacher-research champions who, with leadership backing shape, drive and direct the research agenda seems to offer significant potential for building research capacity and momentum and so securing conditions in which research activity will thrive.

A lack of trust undermines the professional status and competence of the teaching profession and further reinforces the notion of the teacher-technician who is told what to do and responds without recourse.

4.4 The predominance of a 'top-down' approach

A clear research agenda was evident at four of the six schools involved in this research and in each, a 'top-down' approach was adopted by the research-lead. Participants indicated that the reason research activity was occurring was due to strong leadership driving the agenda:

> It's [research] working because an SLT lead is driving it (Heather, T-R:B).

> They've got me as an SLT person pulling it all together, that's why it's working (Hope, Research-lead, R-L:C).

> [The research] worked well because it was well led from the top…it's something that's got to come from 'top-down'. If any initiative has the backing of the SLT, and in particular the head, you know they've got the power to make sure these things become embedded (Ruth, T-R:A).

> if it's 'top down' supported it becomes embedded in the school approach (Jane, HTSA:E).

The evidence indicates that only if school leaders drive the research activity will it become established. However, a strongly 'top-down' approach, as evident in the participating schools, raises issues relating to the long-term sustainability of research activity if the research-lead dominates the agenda. If s/he organises, leads, shapes and directs the activity it is unlikely that teachers will develop the

research literacy, knowledge, skills and commitment to continue in their research endeavours alone. Factors such as a change of headteacher, the departure of a research-lead, budget changes or a shift in priorities could all lead to research activity collapsing. Ruth acknowledged the risk of an alternative activity emerging that could jeopardise ongoing research activity:

> Any project like this that involves staff commitment, in terms of time
> well there's always that risk that something else will come along
> and something else will prevent you from being allowed that time
> and then it probably just won't happen (Ruth, T-R:A).

Carol, the research-lead at School A, identified that her continued role as research-lead had been central to the success of research activity at her school and highlighted that a change of research-lead could compromise a research agenda. She used the example of the lack of continuity in the research-lead at several schools participating in the same, school-based research project as School A, having led to the breakdown of research activity and ultimately the withdrawal of those schools from the project:

> I think it's because I've been involved in it from the beginning and in
> the other schools involved there have been changes of SLT, budget
> implications that have led to SLT members involved being taken off
> the project and doing other things and so other schools have not
> really been able to embed the project in every day school life. So
> it's the consistency of SLT support that I think makes it different
> (Carol, R-L:A).

A strongly 'top-down' model meant that sustainable conditions had not been established and the staff alone were not able to drive the activity in the absence of the research-lead. Achieving a balance between a 'top-down' model and a self-sustaining model that promotes teacher research literacy and confidence seems to

be a challenge. Godfrey (2014) called for 'top-down' initiatives that support change from the 'bottom-up' and Fullan (1997) advocated a blend of 'top-down'/'bottom-up' practice. I was therefore interested and surprised that none of the participants, either research-leads or teacher researchers acknowledged that establishing a 'top-down'/'bottom-up' blend may be desirable or was a longer-term ambition. There were repeated references to 'top-down' organisation and the importance of 'top-down' facilitation but no acknowledgement of the potential for 'bottom-up' practice to generate momentum or indeed to be significant in securing the future of school-based research activity. This may point to a lack of deep understanding of research agendas and suggests that research-leads underestimate the important contribution of 'bottom-up' momentum in building research capacity such that it will become an embedded expectation of teacher practice within a research-led school culture. Unless meaningful shifts in teacher practice are achieved any change in leadership or school priorities could compromise a research agenda. The importance of research-leads having a clear, long-term vision of what they want to achieve and how they might achieve it seems central to sustained research activity and yet, the research-leads interviewed were not thinking beyond the current academic year.

An alternative approach could see staff involved as valued stakeholders working with the research-lead to establish a model of school-based teacher-research activity. Here the research-lead would work in partnership facilitating the research work of teachers. Together they could negotiate, establish and communicate a shared research vision, create and facilitate opportunities for staff to develop research literacy and build research capacity. It is notable that there was no

evidence of this approach existing in any of the participating schools or of an acknowledgement that such an approach was an aspiration. Failure to recognise the importance of up-skilling teachers to enable them to become self-supporting and self-sustaining in their research endeavours seems potentially limiting and may be due to research-leads lacking understanding in the transformational potential of research. This is interesting as the teacher researchers themselves referred to the transformational potential and clear benefits to practice of their research activity as evidenced by the following comments:

> I think engaging with research does kind of errrm, reignite your enthusiasm… It makes you more aware of things and keeps things more interesting because you're actually trying to analyse something and research to get better, to be a better teacher (Liz, T-R:C).

> The aim of all the research is to try and spot where staff can make those little marginal gains… If staff can spot or know there are problems within a group or within how something's taught but can't put their finger on it, on what the biggest issue is, research gives them a chance to try different things and see what impact it has (Chris, T-R:C).

The 'top-down' approach adopted by the research-leads in participating schools reinforces a hierarchical system through which school leaders tell teachers what to do and teachers act accordingly linking to Ball's model of teacher performativity (2003). The handing down of requirements through the hierarchy was highlighted by Lucy's comment relating to the research agenda filtering down from the top:

> I think it really does filter down from leadership…It comes from the top, it definitely comes from the top and it filters all the way down (Lucy, T-R:B).

Lucy's reference to 'filtering' is interesting and may suggest that messages weaken as they filter down. The implications of a diluted message could result in a lack of teacher understanding of the benefits of involvement and consequently reduced commitment and motivation. The potential for a lack of appreciation for research activity highlights the importance of clear, effective communication (Coleman and Glover, 2010). Carol (R-L) was the only participant who acknowledged the importance of communication, 'communication's extremely important that people know what's going on and know what's expected of them'. Interestingly, even in this acknowledgement Carol is reinforcing a 'top-down', hierarchical flow of information and instructions in setting expectations.

If teachers do not appreciate the rationale or value of research activity, potentially research will be regarded as little more than a requirement imposed upon them and as a consequence teachers are less likely to commit to the agenda (Pickton, 2016). Stenhouse stressed that teachers must want change 'rather than others wanting to change them' (Stenhouse, 1980d: p.110) and unless the benefits of professional development are made clear, there exists the potential for teachers to resist enforced requirements or to engage on a superficial level, 'going through the motions', rather than committing to research activity. Moreover, partial or half-hearted engagement, enforced by SLT, is likely to result in limited benefits being realised that may be damaging to achieving sustained activity. If teachers do not appreciate or recognise the potential for research-based practice, they are unlikely to engage in it.

There exists a clear tension between a research agenda and a 'top-down' model of delivery. the underlying rationale for teacher research to function as a mechanism to develop teachers as autonomous reflexive practitioners and a 'top-down' approach, which directs teachers to specific practice, limits teachers' capacity and opportunity to think for themselves or to develop their own practice (Swann et al., 2010; Alexander, 2008). The absence of any indication that research-leads aspired to involve teachers in planning the research agenda or in making decisions about how the agenda might be structured or what the desired goals might be is problematic. It may demonstrate that research-leads are too immersed in a technical view of teaching to see the advantages of research as a form of empowerment and enlivenment. This indicates a paradox between the teacher technician and current moves towards the teacher researcher, thoughtful, questioning and reflexive in her/his practice and who is trusted to base her/his practice on effective, informed professional judgement.

4.5 Membership of research groups

I was interested in how teachers had come to be involved in school-based research activity, particularly in the schools where participation was not compulsory. The recruitment of members to any group is likely to be strategic and may be highly significant in determining the success of an activity. Membership is likely to be determined by a belief that individuals share similar assumptions, beliefs, and values enabling them to fit in (Schein, 2010). The research-lead, according to Schein, is positioned as the 'founder' and s/he will select staff according to those

considered most likely to be interested in, open or willing to undertake research activity. In this way, the research-lead is able to create a group who are likely to be receptive to, enthusiastic about and advocate for research activity, thus creating conditions for success. The sample of Teaching Schools comprised a school at which all staff were required to engage in research activity (School B), a school where engagement was voluntary (School C) and a school where staff were invited to join the activity (School A). This indicates something of the complexity in establishing a group that is positive about the potential for research activity, which in turn is likely to influence the success of the agenda. A group made up from research interested volunteers is arguably likely to be more receptive to engage in and with research than a group whose engagement is an enforced requirement of directed time and who may feel coerced and consequently resistant to contributing (Edwards and Nicoll, 2004).

Several participants spoke of having been approached by a member of SLT and asked to participate in the research group or of having been 'guided' towards involvement by their line manager. As a member of SLT the research-lead in each school was positioned to use her/his influence, arguably through exerting a form of soft control, to make participation in research activity compulsory and so reinforcing the significance of the research-lead being a member of the SLT. While there was no indication that staff felt coerced by the research-lead into participating, there was also no suggestion that staff felt they could decline the 'invitation' to join.

It is potentially significant that the groups to which teacher participation was 'optional' were predominantly made up from younger, early career staff. A possible explanation for this may be that younger staff had more recent research experience as a requirement of initial teacher training and so felt more confident or more aware of the requirements. Another explanation may be that early career staff are likely to be ambitious and want to undertake additional activity as part of their professional development and they are also are likely to have fewer personal commitments. In agreeing to participate in a research group, they indicated both their compliance and aspiration to progress. Teachers' performance, in this case indicated by their willingness to participate in a research group, may be regarded as a measure of their competence and as such an indication of their value (Ball, 2013). However, an alternative explanation for the high number of younger staff involved in school research groups may be that research-leads felt they had a greater chance of successfully promoting the research agenda and achieving the required change in practice by forming a group of younger staff who may be more compliant than experienced teachers. There are potentially clear advantages in forming a small but enthusiastic group of teachers to model research activity and practice, demonstrate their success, and share their experiences with other staff as a means to disseminate good practice and generate interest and engagement in research activity. In this way the potential may be created to generate 'bottom-up' momentum creating an argument for research-leads carefully considering the make-up of their research group as membership may play a significant role in successfully promoting a school-based research agenda or indeed undermining the activity. Alternatively, due to the hierarchical organisation of schools a young teacher's lack of status may make it difficult, perhaps impossible, to refuse to participate in an activity when

asked or required to do so by a member of SLT.   Klein (2017) suggests that early career teachers are likely to be less critical of school leadership:

> their efforts are channelled towards establishing and ensuring their position in the school, which will not be enhanced by criticising actions taken by the institution or its head (Klein, 2017: p.406).

While it may be easier for more experienced staff to say 'no', perhaps because they have less to fear about their jobs and feel secure in their well-established status (Klein, 2017), the reasons for their reluctance to participate were not possible to determine from the data. Potentially, exposure to the repeated change and reform imposed in education since the 1970s has led to some veteran teachers feeling reform-weary. The 'flow of changing demands, expectations and indicators' (Ball, 2013: p.58) to which teachers have been exposed may mean that a research agenda will be perceived by some staff as yet another reform in a long list that has damaged teacher morale and motivation (Leithwood et al., 1999).   Too often, CPD programmes fail to value and consequently fail to involve veteran teachers (Day and Gu, 2009; Rudduck, 1992a). Such an approach fails to acknowledge the wealth of pedagogical knowledge and experience amassed by veteran teachers that could significantly benefit other teachers. Regardless of the reasons that may underlie teachers' reluctance to engage in research activity such reluctance, and resistance to change, presents a challenge to developing whole-school research capacity and activity. Leithwood et al. (1999) identified building teachers' commitment to change as a focus of attention for leadership and securing teacher commitment is a key to a school's capacity for change. The role and impact of leadership in generating teachers' willingness to alter practice is critical if meaningful, whole-school, sustainable change is to occur (Orphanos and Orr, 2014). None of the research-

leads acknowledged an unwillingness of some staff to participate, which may be due to the 'hand-picked' make-up of research groups, or a reluctance to admit that the agenda had been met with resistance from some staff. It is not possible to establish this from the data but some of the teacher researcher participants did acknowledge the challenge of trying to convince colleagues of the benefits of undertaking research based practice which I will now discuss.

4.6 Teacher reluctance to engage in research activity

The positive attitudes expressed by participants relating to the recognised benefits of research activity on their practice arguably strengthens the position of 'research as a basis for teaching' (Stenhouse, 1979a). Among the many comments indicating how participants valued their research activity were the following:

> It [research activity] certainly made me feel empowered, you know
> it makes it interesting, it keeps you know the job definitely
> interesting... you know I think it just keeps staff motivated and
> challenged and things like that... it's helping you come up with fresh
> ideas and understanding you know of the classroom, the classes
> that you teach (Annie, T-R:A).

> I think it's good really because you've got to keep things fresh in
> teaching. It can be easy to fall into a complacent attitude where
> you think, you know, I'll turn up and teach the same old lessons all
> the time but I think engaging with research does kind of reignite
> your enthusiasm a little bit... it makes you more aware of things and
> keeps things a bit more interesting because you're actually trying to
> analyse something and do constant research (Liz, T-R:C).

I feel it's [research activity] made me more reflective. I think I'm more self-criticise and I examine lessons more, trying to think of new ideas and strategies with groups... you cannot become complacent, you always have to look at how you can better things and change ideas, it helps you do that (Ellie, T-R:C).

These comments resonate with the thinking of Stenhouse (1975b) who argued that self-study and reflective practice are central to teachers' professional development, enhancing professional judgement and enabling teachers to respond to the ever changing demands of their classes (Elliott, 2001). Kincheloe (2003) recognised that in researching their own practice teachers moved from being consumers, or technicians, to empowered agents of their own practice.

A reluctance to engage in research activity may be as a direct consequence of increasing levels of teacher accountability and the commensurate workload and the constant pressure to meet targets and deliver results (Ball, 2013). All participants in this research indicated pressures associated with marking, planning, assessment, inputting data, monitoring pupil progress and achieving targets as potential barriers to teacher engagement as indicated by the following comments:

I think people are under so much pressure you know, to put assessment data in, there's so much pressure to meet deadlines, to teach lots and lots of things (Rose, T-R:D).

We're quite overwhelmed with things like marking assessments and continuous assessments and stuff like that so I think that's always something that crops up when anything new is introduced when staff tend to think, when am I going to do that on top of everything else? (Liz, T-R:C).

Liz's comment indicates that for some teachers research activity may be regarded as yet another draw on their already overstretched time and limited energy. In establishing the conditions required to promote teacher-research activity it is relevant to consider the high workload of teachers, a factor regularly cited by teachers and teaching unions, as one of the main reasons for teacher stress and the high numbers of staff leaving the profession (Precey, 2015). If school leaders really are committed to establishing a research-led culture, it seems critical that they avoid presenting research activity as an addition to teachers' existing workload and make clear the potential for embedding research activity as a means to improve the daily practice of all teachers. The task of clearly articulating a shared vision of practitioner research is likely to rest with the research-lead and may be critical to establishing whole-school research activity. Once again this reinforces the importance of school leaders and the research-lead fully understanding the potential of the research agenda if they are to create conditions in which research activity will develop.

Summary of the theme 'leadership'

Leadership emerged throughout the data as central to creating conditions that would enable school-based teacher-research activity to develop. All participants reinforced the importance of leadership backing and the clear message that it conveys in positioning teacher research as a valued activity, and an expectation of teacher practice. However, the predominance of a 'top-down' model of organisation seems problematic. While leadership backing and support may be critical to the success of a research agenda, the dominant role of SLT in driving the agenda raises

concerns relating to the sustainability of the activity. Where a strongly 'top-down' model exists, research activity is vulnerable to leadership change or shifting school priorities, which could lead to collapse. The failure of research-leads to acknowledge this as a limitation is interesting. There was no indication that a 'bottom-up' model may be an aspiration or that research-leads were working towards a 'top-down'/'bottom-up' blend through up-skilling teachers to enable them to take a lead role in driving and facilitating research. There was an absence of any long-term view and each research-lead seemed confident that the model at their school was effective and would bring about the desired whole-school change in teacher practice that would see research as an embedded aspect of teaching. The absence of criticality demonstrated by the research-leads seems rather ironic, particularly when considering that the rationale behind teacher research is to promote critical thinking and so calls teachers to consider how they can be more effective by looking at different approaches and different methods.

Each research-lead was a member of the school leadership team and it would seem that by virtue of their senior role it was assumed they would have the skills required to organise and drive research activity. There was no training or support available for the research-leads, who in some cases had no more research knowledge or experience than the teachers they were supporting. If teacher research is to become embedded as a meaningful aspect of practice, teachers will almost certainly need support and guidance to develop their research literacy. However, it is doubtful that research-leads are well positioned to offer such support. This was not acknowledged by any of the research-leads or participants and may indicate a lack of appreciation and understanding of the research skills required to conduct valid,

reliable research the outcomes of which have wider relevance than one teacher and one class.

A sustainable model of teacher-research activity is arguably the primary goal of the agenda. A model that once established will be self-supporting, self-sustaining and has the potential to empower teachers as professionals. The role of school leaders in creating the conditions to make this aspiration a reality is clear. However, it is doubtful that research-leads recognise or appreciate the scale and complexity of their role and this will almost certainly have significant implications for the success and long-term future of school-based teacher-research activity.

Through the next section of writing, I will consider the theme of resources. I will consider the extent to which resources are required to support teachers in their research endeavours, the nature of resources available and the access to both in-house and external expertise and material offered to teachers that will promote their research literacy and facilitate their research endeavours.

Chapter Five: Resources.

The nature of resources and the extent to which resources were available to support teachers in their research endeavours emerged as highly significant in creating conditions to promote a research agenda. Drawing on the data I will, through the following chapter, consider the nature and availability of resources that were available to participants and the extent to which resources were facilitating the research agenda.

Resources in the context of this research encompass the following topics:

- Access to research expertise, either from colleagues within school or from external strategic partners

- Access to academic materials such as texts or journals

- Time secured to promote teacher-research activity

- Financial backing of the research agenda

I have already acknowledged the significant overlap between the three identified themes and the inextricable link between the themes of 'leadership' and 'resources' emerged clearly from the interviews. SLT commitment and support is likely to be necessary in securing the resources for any school-based project or initiative, teacher-research being no exception. The greater value given to an initiative, the more backing and resources it is likely to be allocated thus the resources allocated to the research agenda offers some insight into the status of school-based teacher-research activity.

5.0 Availability of and access to research expertise

The limited research literacy of participants emerged as a significant and limiting factor in establishing school-based research activity and indicated that teachers would need access to research expertise, guidance and material to support their research endeavours. Every participant who contributed to this research was a qualified teacher and as such can be expected to have undertaken research as an undergraduate, irrespective of the route they took into teaching. However, their research experience is likely to have been small-scale and potentially conducted many years earlier. It cannot therefore be assumed that participants would have the research knowledge, skills or confidence to embark on independent research activity. Participants indicated a lack of confidence, experience or understanding of how to go about undertaking research activity, as evidenced by the following comments:

> I wasn't really sure where to start, where to get the ideas or even how to begin (Ellie, T-R:C).

> I didn't know anything about action-research when Carol asked me to join the project, I hadn't done any, you know, research or anything like this before (Susan, T-R:A).

A lack of confidence and limited knowledge of research skills were identified by Pickton (2016) as barriers to practitioner research. It was clear from the data that the teacher researchers interviewed needed support in developing their research literacy and they were reliant on the research-lead to provide the necessary support to develop their research knowledge and skills.

Arguably, all teachers need to know about the basics of good research. The ability to critically analyse research findings and draw informed conclusions to support professional judgement is central to teachers' professional practice and development (Campbell et al., 2003). Indeed, it is recognition of the importance of these skills in underpinning effective teaching that secured the position of research and development activity as a strand of 'The Big 6'.

Building research capacity in novice researchers requires that they learn about different aspects of the research process (Gray et al., 2011; Burton and Bartlett, 2005). If teacher research is to be valid and reliable with the potential for findings to be 'made public' (Stenhouse, 1980b: p.3) an understanding of factors relating to the scale and scope of the research, ethics, time as well as issues of method, methodology, reliability and validity and making sense of data will be required. Teachers will almost certainly need expert guidance and support in developing their research literacy and in order to establish the extent to which such support and expertise was available, participants were asked questions relating to access and availability of in-house support and opportunities to access support that was external to the school.

Participants were vague and unsure about the in-house, school-based resources or support available to them. Sharon (R-L:F) identified 'INSET on things like moving lessons from good to outstanding' as an example of internal CPD support to help teachers become more research literate. This seems to indicate a limited view of what qualifies as research literacy. Several other participants suggested that they

were confident the school would be willing to support them in their research but internal support did not exist and they would have to resource their research endeavours independently. Working independently presents issues relating to how and where support may be located and has implications for the time and commitment required e.g. travel to a library, restricted/no borrowing rights, limited to evenings/weekends or holidays, all of which present significant challenges to achieving successful, sustained research activity particularly when added to an already demanding job. Furthermore, teachers working without research expertise and guidance may find it difficult to come up with their own ideas, may lack understanding of how to turn ideas into research or they may fail to understand the validity of what they are doing, all of which could be overcome with access to research expertise.

Participants spoke of the support that was available to them through talking to their colleagues, particularly colleagues involved in the research group activity:

> you can go to them [colleagues] and they'll help you, they'll have a resource or they'll know where to look or they'll know what to do or who to speak to, who's good at that particular problem (Lucy, T-R:B).

> There's about 20 of us in the action research group, we all know from the email group who was in that session so we could go and share ideas and everyone was always very much open for interpretation and talking about the research they were following and what type of research they've done so it was useful talking to other people about the action research group (Ellie, T-R:C).

I think just speaking to staff is quite a good way of just gaining information and finding out more about things they might have trialled (Heather, T-R:B).

The willingness of participants to talk to colleagues and support each other was clear. Without exception the teachers who were involved in research groups spoke positively about the support they received from colleagues and how willing teachers were to share ideas, discuss their research and work together to find answers to their research questions and problems. These accounts contrast with Rose's experience of working along (see Appendix 10). While collaborative practice is widely recognised as an effective way for teachers to develop and improve (Szczesiul and Huizenga, 2014; Shakir-Costa and Haddad, 2009) there are troubling aspects in an over-reliance on colleagues for support. If for example, colleagues do not have an adequate grounding in research skills, the value of their advice is likely to be limited and opportunities to develop ideas and thinking could well be overlooked resulting in research activity that fails to develop beyond a superficial level.

Lucy explained that she would ask different colleagues until she found the guidance she needed:

I think from a personal level you'd start with you know, your departmental colleagues and then work your way up if you still weren't getting the right guidance or were struggling in, with some aspect of research that you were conducting... I went to my head of department and ummm we had a few discussions and he suggested I looked at this, I look at that and perhaps read this and he sent me information and that was enough for that particular task (Lucy, T-R:B).

Lucy's reference to 'getting the right guidance' raises issues around what constitutes the 'right' guidance and how it might be recognised. If, as the data shows, teachers are lacking in knowledge of research methods it is therefore questionable who amongst Lucy's colleagues could offer the 'right guidance' and advice.

Guidance will encompass an understanding of practitioner research and what such activity might represent. It was interesting that participants spoke of the limited understanding amongst colleagues of what research is and their limited understanding led to a reluctance to be involved. Research activity was not regarded as common practice, 'it's [research] not something that people are really used to doing' (Liz:T-R:C) and teachers did not know what would be expected of them or what their involvement would entail.

The importance of communicating a clear agenda and setting realistic, manageable expectations of what will be involved in undertaking research were identified as significant factors in creating conditions for success:

> Research sometimes has connotations errrm of epic, you know,
> epic work where you have to put in massive bids you know and
> spend 5,000 hours in the library and actually that isn't the case
> (Hope, R-L:C).

> I think that people have the stigma that you tell them you're doing
> research, action research, they just automatically presume that it's
> hard work, you know it'll take up a lot of your time and it's actually
> been pretty straight forward... it is, it is attainable (Ellie, T-R:C).

Hope's use of the word 'epic' and Ellie's reference to 'stigma' indicates that a lack of understanding of what research is and what it will involve is likely to result in research activity being perceived in negative terms and as an onerous commitment.

If research activity is to develop as a whole-school activity, research-leads need to understand that teachers' limited understanding of research may leave them feeling daunted or intimidated at the prospect of undertaking research. This highlights the importance of articulating a clear rationale for the research agenda and of making adequate resources available to support teachers in their research endeavours. Furthermore, to encourage engagement projects need to be realistic and practicable, particularly in the early stages of development. A number of participants spoke of starting with small-scale activity that could then be developed:

> We had a little model of something that worked really well and again we didn't jump straight ahead, we expanded that to a slightly bigger model and again that worked well so we could then roll it out full school and show people, look this really does benefit (Ruth, T-R:A).

> For now I really just want to focus on the use of this resource that I have and see if I can get as much out of it as possible before I try too much or if I load too much on I might just fail completely (Chris, T-R:C).

The importance of not being overly ambitious was acknowledged by Hope who recognised that onerous demands placed on staff would be doomed to fail:

> It has been kept on quite a manageable level this year to be honest cos what I didn't want to do is, is, is to go too heavy with it cos it would maybe put staff off in terms of time commitments errm, but if we keep it relatively manageable it means it gets done and it's effective rather than making the projects so wide and so huge that they just become so cumbersome that people can't complete them… Staff need to understand that it's manageable (Hope, R-L:C).

These quotes demonstrate the importance of research-leads not adding to the workload of colleagues and the need to make research appear as accessible as possible. However, this may underplay the significance of research as a tool for delivering a change in thinking. If teachers are constantly told research is easy, then their understandings of it are likely to remain superficial and their projects lacking in depth. This highlights the importance of research-leads working to achieve a balance between building research capacity in a manageable and progressive way to achieve meaningful outcomes while at the same time not dumbing down research activity to such an extent that it has little value and limited impact, if indeed any impact at all. Interestingly, research-leads' assurance that research need not be demanding or time consuming may indicate a lack of understanding on the part of research-leads as to what research involves and the commitment it will require.

5.1 Reliance on in-house research expertise

The lack of research skills amongst the teacher researchers raised issues relating to the nature and extent of research support that was available to teachers. I had anticipated that the data would show that participating schools were supplementing in-house research expertise by working in partnership with and drawing upon expertise from a range of external sources, in particular working in partnership with higher education institutions (HEIs). It emerged from the data that this was not the case. The Teaching Schools involved in this research were predominantly relying

on in-house, existing knowledge and resources to build research capacity. With the exception of Carol, the research-lead in each school was wholly responsible for designing, supporting and resourcing the research agenda. This is interesting as it may indicate that while headteachers are supportive of the research agenda and willing to assign a senior teacher to the role of research-lead, there exists a lack of appreciation at senior level of what is involved in building research capacity. If schools are to be successful in building research capacity, commitment to the agenda will be required at all levels of teaching responsibility. Research involves thinking more deeply, questioning assumptions, careful planning and reflection and in order to conduct meaningful research, additional work will be required. Failure on the part of school leaders to appreciate this will almost certainly result in a failure to adequately resource the agenda. Inadequate resourcing may indicate a failure at leadership level to appreciate the nature and extent of support required to establish school-based teacher-research activity. A lack of understanding of what research is, and a failure to understand or see the worth of teacher-research activity, is likely to result in superficial handling and consequently outcomes are likely to lack impact, ultimately preventing teacher-research activity from reaching its potential and becoming established as a valuable form of teacher CPD. If teachers feel confident and secure in their practice, as I did in mine, they are unlikely to appreciate the potential for research activity, questioning and critical reflection unless they are guided through the process by an individual with research expertise, expertise which in most cases will not pre-exist in schools. The data indicates that this responsibility rests with the research-lead who, as discussed within the theme of leadership (Chapter 4), is assumed by virtue of their SLT position will be able to drive the research agenda. Such an assumption is arguably naïve and fails to appreciate the

depth and breadth of research knowledge that will be required to establish teacher-research activity or the complexity of conducting valid, reliable and meaningful research activity.

It is concerning that there was no acknowledgement from either research-leads or teacher researchers that limited research literacy might be a significant and limiting factor in establishing school-based research activity. A failure to acknowledge this potentially highly significant weakness may indicate that neither the research-leads nor the teachers recognised the issue, which in itself reinforces the limited research literacy existing in schools. Limited research literacy is not in itself problematic as with adequate resources and support teachers can develop and learn together (Gray et al., 2011). However, what does seem problematic is the lack of acknowledgement or appreciation of the limited research skills and expertise that exists in schools. The data indicate that research-leads seemed unaware of the need for teachers to be up-skilled in how to plan and conduct research and how to analyse and interpret data, possibly because they do not understand these elements themselves. Consequently teachers may be engaged in little more than, 'dabbling in a rather amateurish way at issues which are too big to be tackled by lone researchers' (Bassey, 1999: p.10). None of the six research-leads interviewed indicated that they recognised the responsibility that lay with them in developing teacher research literacy as a means to improve standards of teaching. This resonates with Stenhouse (1980d) who called for schools to develop and invest in teachers as a good repertory theatre develops and invests in actors.

Research-leads indicated that their personal interest in and experience of research positioned them to support staff in their endeavours. This may have been the case for Jane and Daniel who both had a professional doctorate however, even a professional doctorate does not automatically translate into an ability to support teachers in developing research literacy. Daniel by virtue of his EdD had proven research knowledge and expertise but his approach towards developing teacher research literacy and promoting a research agenda was one of controlled, enforced engagement directed by him and arguably demanding passive compliance from participants. This approach may not be effective in securing staff interest and engagement in research activity (Pickton, 2016). The other research- leads (Carol, Sharon and Hope) had no formal research training or experience beyond their degree and were therefore no more qualified in research methods than the staff they were supporting.

Hope was enthusiastic and keen to develop research activity at School C. However, her research knowledge, skills and expertise were limited to those gained through her degree and PGCE eleven years earlier. Hope admitted she was not an expert but believed her interest in research and her ability to facilitate teachers in planning and conducting a research project would enable her to effectively promote teacher-research activity:

> I'm not suggesting at the moment that I am an expert in, in, in school-based research. What I do have is, is I do have an interest in it and I have the facilitator, the skills of a facilitator to be able to get the actual staff to engage in it and discuss it and, and actually bring up the ideas and create and generate the ideas (Hope, R-L:C).

Hope's acknowledgement that she is not an expert in practitioner research 'at the moment' suggests that in time she may become an expert, although how that transition might occur is not evident. She indicates that where her research expertise may be lacking, her interest in research, coupled with her skills as a facilitator will be sufficient to support teacher- research activity. While both of these characteristics will undoubtedly be important attributes it is questionable that they will alone be sufficient to develop teacher research literacy or to establish whole-school research activity. There exists a clear tension between Hope's position as research-lead and her self-acknowledged lack of research expertise.

In response to questions about the support available to teachers in the Action Research Group (ARG) at School C, Hope referred to materials that she had written to support teachers in their research journey and to the scheduled meeting time:

> So they've got the booklets that essentially are our expectations for
> them with regards their errm action research project but equally
> they're a guide, they help them, they guide them through the project
> and then they've got the sessions where we meet and discuss as a
> group and that facilitated conversation so that's the support network
> we would put in (Hope, R-L:C).

The 'support network' set up by Hope focussed specifically on facilitating teachers' research projects and guiding their research activity. There was no indication that the support network would continue for members of the current ARG beyond July when the cohort would conclude their research projects. It was clearly Hope's intention that once teachers had engaged in the ARG for an academic year they would have both the skills and the desire to maintain their research activity; while this seems a worthy aspiration it may be rather idealistic and unrealistic. According

to the professional development model at School C, a new ARG would start in September and would become the focus of support and guidance benefitting from resources to make their action research ideas a reality. From September, the current year's cohort would move on to a different professional learning group requiring their time and commitment and the resources currently in place to facilitate their research activity would no longer be available to them. Maintaining research interest and activity is likely to be considerably more challenging and take significant commitment from the teachers once resources are re-allocated to a different group and they, in turn, have to focus on a new theme. Thus, while the 'support network' referred to by Hope may be effective and instrumental in guiding teachers in their research practice while they have access to it, a more permanent offering is likely to be required to sustain teacher-research activity. Furthermore regardless of how much Hope may be committed to promoting research activity only if teachers are open to change is it likely that change will occur (Stenhouse, 1980d).

Each teacher-researcher I interviewed from School C explained that that the support available to them was through Hope in the form of the ARG meetings, discussion with members of the ARG and from the booklet that Hope had produced:

> …it's all come from Hope really, she is obviously leading on the action research element of the CPD and she's produced this booklet and it's got various sections in and it's quite easy to work through as a beginner, errm and she's always available to talk to and ask advice. So for example she reviewed the questionnaire before I gave it to the kids and she looked at all the other materials I've come up with and all the data and she was able to advise me on what was relevant and what wasn't (Liz, T-R:C).

Liz indicated that Hope had reviewed her questionnaire and offered advice on the relevance of data. While such discussion may be helpful, Hope is arguably no better positioned to offer research advice or guidance than any of the group members. Hope and the teacher-researchers referred to the booklet produced by Hope and designed to guide teachers through their research journey. The booklet is divided into five sections: 'Loving the literature', 'Planning the Method', 'Collating the evidence', 'Reflecting on Findings' and 'Next Steps' and brief points offering suggestions follow each heading.

Hope explained that she had written the booklet and designed the tasks. It is easy to follow, unthreatening in its design and the requirements are manageable and achievable. While the booklet may act as an effective stimulus to offer teachers some research ideas and guidance in getting started, the handling of research topics is largely superficial. Had the booklet been written with support from a strategic partner with research expertise or underpinned by theory it may have been a valuable resource to support teachers in their research activity. However, it could be argued that the booklet lacks academic rigour; it does not draw from, or refer to research or literature and makes no reference to theory and so reinforces the earlier discussion suggesting that the agenda is being handled superficially which consequently is likely to limit research development. The booklet does not push teachers to think critically or challenge them to identify or question their assumptions. Neither Hope, nor any of the teacher-researchers, recognised the limitations of the booklet and Hope expressed an aspiration to have the booklet published. This may further indicate Hope's lack of appreciation of her limited research knowledge. While any activity that requires teachers to think, question,

reflect, collaborate or seek new approaches holds the potential for the improvement of practice, the potential for the workbook to facilitate teachers in undertaking valid and reliable research activity seems unlikely.

The action research approach evident in the participating schools can be an effective method through which teachers can engage in reflective practice bespoke professional development opportunities can be created enabling teachers to make the most of individual interests or the interests of a group working together (Mertler, 2014). However, if action research projects are to be conducted successfully some knowledge and understanding of the method will be required and as this is likely to fall outside of many teachers' experiences thus calling for teachers to be mentored in the approach (Hall, 2010). Inadequate guidance may result in a 'best guess' interpretation of the method and a potentially weakened approach with questionable efficacy. Furthermore, limited teacher research literacy means that teachers are unlikely to recognise the shortcomings of their endeavours or the limited resources available to them. Consequently, any results generated are likely to be small-scale and highly individual to the teacher and so offer limited scope for wider dissemination. It is however noteworthy that even small-scale research encounters offer teachers the opportunity to learn and develop and can therefore be of value.

In schools where the internal research expertise was limited or did not exist, I had anticipated that the research-lead would look to strategic partners, external to the school, to support and advance the school research agenda. External expertise could be significant in guiding staff through their research journey from initial ideas,

research design, methods and methodology to interpreting data and offering access to relevant literature to support their inquiry (Burton and Bartlett, 2005). Moreover, teachers may feel less vulnerable and less likely to be judged when sharing their research concerns and questions with an external support as opposed to a member of the school leadership team or other colleagues. Even in schools where research expertise did exist, as with Jane and Daniel, the involvement of a strategic partner could still offer valuable access to additional resources and opportunities so widening the scope and potential for teacher-research activity. The lack of involvement from strategic partners offering research expertise was therefore surprising. A possible explanation for this may be due to the costs associated with buying in expertise that in itself offers some insight into the status of teacher-research activity. Leadership teams may value school-based teacher-research activity but only to a point and when supporting the research agenda has financial implications beyond the allocation of a senior teacher, headteachers may be reluctant to apportion funds.

Teacher-researchers had been vague about the availability of internal support but when asked about availability or access to external support located outside of the school, participants were unaware of any such support or resources available to them. External support or resources may include research training, courses or workshops delivered by a research expert either off-site or brought/bought in to school. Partnerships with HEIs or links with another school that may have research expertise would also represent examples of external support, as would access to

research materials, or academic texts such as journals. Participants repeated that they were unaware of any external support available to them:

> I'm not aware of any external support (Ellie. T-R:C).
>
> We've not been offered any or shown how to find any other sources (Chris, T-R:C).
>
> Not that I've come across to be honest no. I wouldn't know where to go for that (Liz, T-R:C).
>
> Not really no (Susan,T-R:A).
>
> No, not really (Sharon, R-L:F).
>
> Errr, not, not that I'm aware of (Heather, T-R:B).

Participants did identify continuing professional development (CPD) programmes such as the Improving Teacher Programme (ITP), Outstanding Teacher Programme (OTP) and the Aspiring Middle Leader course as sources of research information and guidance. However, such programmes do not require teachers to undertake research, neither do they contain any specific content relating to research methods. Teachers' reference to such programmes as a means to develop their research literacy further reinforces the limited understanding and appreciation of what research is and what form support may take. Ellie suggested that in order for research to become embedded in teacher practice, training sessions would be necessary to support staff:

> More training and possibly more workshops and maybe some presentations to members of staff just to show them exactly what research is and what it involved (Ellie, T-R:C).

It is questionable that a research-lead with limited research knowledge could alone adequately provide the necessary training to support novice teacher researchers in

developing their research literacy. A level of research expertise to cover a wide range of approaches, methodologies and methods is usually located in more specifically research active and orientated organisations such as universities and would not necessarily be expected to exist within schools and so the involvement of external partners could significantly enrich and benefit the research agenda. It is particularly interesting that Ellie had recognised this but Hope, as Ellie's research-lead, seemingly had not as the support Ellie indicates would be beneficial does not yet exist at School C and was not identified by Hope as either necessary or an aspiration.

Teachers' limited access to research expertise, as indicated through the data, was further compounded as an issue by limited teacher access to academic materials in the form of research findings, academic texts and journals. The prohibitively high cost of journal subscriptions means that only those with privileged access rights, predominantly individuals with HEI affiliation, can benefit from such material. Consequently, academic material of this type does not usually exist in schools, a point raised by Jane:

> Most schools do not have a library for teachers so they'll have a
> school library and you'll go in and there's nothing on teaching and
> learning, there's nothing on practitioner inquiry (Jane, HTSA:E).

Few schools have the budget allocation to purchase journals and without access to HEI resources, teachers' access to academic material is likely to be limited. Moves to 'open access' will go some way towards removing many of the permission or price barriers that have traditionally limited access to academic materials but access to such material remains restricted. Jane suggests that unless OFSTED want to see

evidence of a professional learning section in schools and require schools to subscribe to journals it is highly unlikely that schools will provide these materials, as despite them being a rich and valuable source of information the cost is prohibitive:

> journals are ridiculously expensive and … most journal articles aren't read by anybody which is a shame cos there's some very rich things in research and education journals that teachers simply never get to read (Jane, HTSLA:E).

Bassey (1999) argued that of the high volume of research material published annually, too little of it is read and too few of the findings are used to inform practice or policy. All too often educational research does not reach the groups who would most benefit from the findings and consequently, teachers are denied access to the very material that is most relevant to their practice and professional development.

Links with a HEI is one way that a gap in research knowledge and material could be filled (BERA-RSA, 2014). Access to a university library or online materials as well as workshops or training sessions led by university staff would all be valuable forms of support to develop teacher research literacy. This strengthens the argument for HEI involvement in supporting and guiding school-based research activity and in this way creating the potential for 'bottom-up' momentum (Fullan, 1997) such that teacher-research can become an embedded and sustained element of teacher practice.

5.2 Social media as a stimulus and source of information

The lack of resources in terms of guidance, expertise and academic material being made available to teachers, prompts questions relating to the nature of resources teachers could access. Participants repeatedly cited social media as a useful external support, specifically identifying Twitter, teacher blogs, Wikipedia, online research forums and 'TES online' as well as internet searches.

> If I was gonna want to look and do wider reading to be honest places like Twitter errrm have been, I recently sort of joined it this year, and that's just full of errrm you know, people trialling things, journals, you know that have just been published. Different thinking that's going on. Errm I found that to be quite, sort of, full of current educational thoughts and what's currently going on in education. I find that really useful as a starting point which then I can develop further. Right so yeah, Twitter and the internet really and maybe like other teachers' blogs so through Twitter obviously they'll tweet things. Their blogs are working at a specific angle for example so it leads you through to different blogs that I would then follow which might sort of change my thinking or offer something different (Heather, T-R:B).

> I'm not really a social media fan but there's quite a lot of good blogs on Twitter with teachers sharing between other teachers (Sharon, R-L:F).

> Things like the TES online, they're always good… you do get a lot of people talking about social media. A lot of the teachers talk about what they've been discussing and research that's been posted and things (Lucy, T-R:B).

The comments offer interesting insight into the potential for social media to provide stimulus material, generate ideas and enable the sharing of material, thinking and research findings. The ease of access to social media and regular postings offer teachers useful, accessible and up-to-date information that can guide and shape their ideas and their research. Heather's comment indicates that she values the

different thinking that she can access through Twitter and how sites can lead the reader to other related material all of which can offer something of value to the teacher researcher. The comments indicate that social media offers a platform for teachers to communicate, interact and collaborate all of which may be significant in supporting teacher-researchers in their endeavours.

Daniel suggested that most teachers would find academic research 'impenetrable' and social media broke down the inaccessible language making it understandable to 'the average teacher' (Daniel:R-L:B).

> I think your thickest academic research is almost impenetrable for the average teacher. It's written in language which is so highfalutin that a busy teacher has no time or business accessing… I think the most successful way that teachers are engaging with research now is through social media. The number of bloggers out there who will take a thick piece of research and put it in lay-man's terms and then it'll be critiqued, erm peer reviewed may be a grand way of looking at it, but you know the education bloggers out there will start to rip it to pieces and contrast it with what other research is out there and it, it's real time and it's in a language that teachers understand (Daniel, R-L:B).

Daniel's reference to 'thick' academic research is an indication of the often dense nature of qualitative educational research that can be inaccessible, even for academics. This resonates with a view expressed by Stenhouse (1978a: p.9) who called for 'much more accessible research and theory'. Stenhouse argued that the responsibility to make academic material more accessible lay with the researchers themselves even suggesting that 'theory would actually be improved by being made more accessible' (Stenhouse, 1978a: p.9). While Stenhouse may have been calling for research to be made more accessible at source, Twitter may offer an effective

means to ensure research findings reach teachers in a way that is relevant and useful to them.

It is noteworthy that Daniel referred to, 'the average teacher', 'the jobbing teacher' and he commented that busy teachers have neither the 'time or business' accessing academic research. These value-laden comments are troubling and reinforce the notion of the teacher as a technician rather than a well-qualified professional, capable of independent inquiry and critical thinking (Butler et al., 2004). It is disconcerting that through his comments Daniel may be positioning himself as superior, even distancing himself from 'the average teacher'. Undoubtedly, Daniel's doctoral qualification does position him as well qualified and experienced in reading academic material and undertaking research but as such, it seems reasonable to expect him to demonstrate insight into the challenges faced by staff, rather than indicating that teachers lack the capacity to engage in and with research.

While online sources, such as Twitter and Wikipedia, may be useful in providing stimulus material, summarising research findings and in helping teachers to generate ideas and find answers to research problems and questions, the potential lack of credibility and validity with such sources is problematic. Arguably social media, the internet and Wikipedia are useful supplementary sources of information but they should be used in conjunction with academic texts and journals and research expertise.   Interestingly, none of the participants acknowledged their reliance on social media, Wikipedia etc. as problematic, perhaps a further indication of the limited research literacy existing amongst the participants.

5.3 The challenge of establishing an equal partnership between HEIs and schools

Of the five Teaching Schools participating in this research, only School A had involvement and support from external providers. The school was one of eight working in partnership with five universities across three countries involving teams of teachers and university researchers conducting a three-year, school-based research project. HEIs designed and led the project and the research was carried out in the participating schools. It is noteworthy that when questioned about the external support available to them, teacher researchers at School A did not refer to either the HEIs or the other schools involved in the project. This may indicate that they were unaware of the role of the HEIs in the research project or they did not recognise the HEI role as significant. However, the support offered by the university researchers was acknowledged by Carol, the school research-lead, as a significant factor in the success of the project. She used the example of university staff working with pupils as an example of the successful support offered by an HEI:

> I think one of the things that was really useful was when staff from the university came in and conducted pupil voice interviews with the pupils and that was really helpful because they knew what we wanted, they knew what we were looking for and they were able to errr, collate the information for us, errm get it in a really useful form for us to use but most importantly they were speaking to the children as strangers so children didn't feel, kind of intimidated by being asked questions about their learning by teachers who taught them so that was really extremely useful (Carol, R-L:A).

Carol's perception of help and support offered by the university may be interpreted as the university directing and controlling the research project. Carol made it clear through her interview that the HEIs designed the project gathered and interpreted

the data and disseminated the findings. Rather than the school and university working in partnership there is a strong sense that the university had led and directed all aspects of the project and the participating schools merely provided the context and the participants. Carol's comment that the university staff 'know what we wanted' is interesting, it is not clear how this understanding was reached or whether any negotiation and discussion occurred. It suggests the potential for tension and an imbalance of status.

Carol explained that the academics conducted the research and teachers were participants and as such were arguably positioned as consumers of research rather than active agents in the research process Kincheloe (2003). This interpretation was reinforced by the dominant role of academics at the end of project conference. The conference represented the culmination of the three-year project and was attended by teachers and academics most of whom had participated in the project; I was invited by Carol to attend the conference. Throughout the day academics were clearly positioned as 'experts' and the teachers were participants. A series of presentations and workshops were led by academics and teachers who had been involved in the project made cameo appearances. The central message was clear, HEIs had driven the project from inception to conclusion. It was interesting that School A hosted the conference but only two teachers from School A attended, both of whom had been involved in the research project. Despite Carol reinforcing throughout her interview how significant and valued research practice was across the school, the opportunity for other staff to attend the conference had either not been made available or staff had not taken advantage of the opportunity to attend.

This seemed a missed opportunity to promote the benefits of practitioner research and share the research findings with a wider audience of teachers from School A. It may also indicate that the school leadership were supportive of research providing it did not disrupt the timetable or interfere with lessons.

The relationship between School A and the HEI in this example suggests that achieving an equal partnership when working with external agencies may be problematic; indeed Rudduck refers to the university-school partnership as 'Les Liaisons Dangereuses' (Rudduck, 1992b: p.194). While there exists a tradition of universities working in partnership with schools to break down a theory/practice divide (McGilchrist et al., 2004) there exists clear potential for the HEI to assume a dominant role in leading the research, telling the school and the teachers what to do according to their own agenda that offers reward for publication of results. In turn, teachers may be forced into a role of passive compliance, deferring to and relying on the guidance of academic staff cast in the role of experts (Bassey, 2009). The potential for HEIs to adopt a dominant position was highlighted by Stenhouse (1979b) who warned academic staff against assuming a dominant role and calling instead for them to reason with and liberate teachers in the pursuit of knowledge. School-university partnerships need to be defined and negotiated, and the status and contribution of all participants respected if a shared vision is to be successfully achieved (Cooper and McIntyre, 1996). Failure to achieve an equal partnership is likely to result in a 'top-down' model, dominated by the HEI. Rather than teachers and academics working in equal partnership to negotiate research questions, determine appropriate methods and methodologies, analysing data and drawing conclusions there is a danger that HEIs will make the decisions. Consequently, the

potential for teachers to develop research skills will be limited and a failure to up-skill teachers in research methods means that withdrawal of the HEI would almost certainly jeopardise research activity and potentially lead to its collapse. This situation replicates the earlier discussion relating to a 'top-down' model in schools that is likely to collapse if the research-lead steps away and further reinforces the importance of a blend of 'bottom-up/'top-down' organisation (Fullan, 1997).

Daniel exemplified the potentially difficult relationship between a school and an HEI. School B, had independently established a partnership with an HEI to support their research activity but dissatisfaction with the arrangement led to the school terminating the agreement. Daniel was negative in his comments and attitude relating to the experience:

> We did make links with HEIs to work with us. Unfortunately HEIs want some sort of recompense for their work, they're not going to provide services for free. We approached one very large research institution who wanted thirty-six thousand pounds to support us and it wasn't worth it. They did nothing for us. I'm sure it did a lot for them, certainly their bank balance, it did nothing for us and there was an element of mistrust of errrm working in partnership with HEIs. There was 'what's in it for us now?' rather than partnership because we've been a victim in that sense and that's a shame (Daniel, R-L:B).

In trying to understand Daniel's comments relating to what he recounts as a very expensive, negative and seemingly one-sided relationship it would be necessary to interrogate the terms of the arrangement. Gaining understanding of what both parties believed the other would offer and the expected outcomes of the arrangement might offer insight into Daniel's dissatisfaction in the arrangement.

However, £36,000 remains a high price and indicates the power of market forces existing within education. Competition between HEI providers to maximise their income and so secure their future is fierce; failure to do so may threaten their future and consequently a culture of self-interest emerges (Ball, 2013). This supports a view that education is regarded from an almost entirely economic perspective and that 'the rethinking of education in economic terms bites deep into institutional practice and values' (Ball, 2013: p.53) which in Daniel's example left one party, School B, feeling a victim. In this case, the cost was more than just financial as the mistrust and lack of benefit to the school, whether that be real or perceived, cost both parties the opportunity to work together in a mutually beneficial way and in so doing establish a worthwhile partnership.

5.4 Financial backing of the research agenda

The importance of financial backing emerged as critical in securing teacher-research activity. Daniel suggested that inadequate funding would act as a 'major barrier' in establishing school-based teacher-research activity. Once again, the relationship between leadership and resources is evident as only with full leadership backing is it likely that resources will be allocated to the research agenda but even leadership support might not be enough to secure financial backing. Squeezed school budgets and the culture of performativity (Ball, 2003) and accountability (Elliott, 2007) that exist within education mean that even headteachers who are committed to a research agenda will almost certainly want to see evidence of progress directly linked to research activity. Evidence of progress will justify the

allocation of funds to support a research agenda but if progress is not demonstrated, the agenda may be compromised as funds are reallocated to an alternative activity or priority area.

Jane identified the importance of research activity yielding positive results in order to justify its worth to headteachers:

> We've just done the first set of number crunching and it has had a statistically significant impact and if I tell you the headteacher's first reaction was 'can this go to the governing body, can this go to parents?' You know that's, that's really when you go, ok, this will start to build some momentum now. If headteachers immediately want to show results at the forefront of pedagogy. It would have been really interesting had it had no impact or negative impact and I think that's the next hurdle (Jane, HTSA:E).

Jane's comment reinforces the importance of the measurable outcomes. The headteacher referred to by Jane regarded a statistically significant outcome as meaningful; a valuable measure of progress thus reinforcing that research activity was worthwhile and therefore justifying financial support, offering the activity prolonged a lifespan. However, as Jane indicates, securing ongoing headteacher support when outcomes are not statistically significant is likely to present a challenge. Even when research does not generate measurable outcomes, it offers new knowledge and understanding from which the researcher can learn. Thus, even when outcomes are not as anticipated or hoped for, the activity should not be considered worthless. This point was made by Ruth who indicates that results should not be the main driver or primary concern:

> It shouldn't always be about results, it shouldn't always be about 'if this doesn't have a positive impact on our results then we're not

interested'. It should be about improving teaching without having to prove that it, you know if it improves teaching, if it improves learning then the results follow but it shouldn't be the only thing that concerns people (Ruth, T-R:A)

The importance of research activity impacting positively on results and so securing the future of a school-based research agenda, albeit for as long as a correlation between research activity and improvement in results exits, is a further example of the 'dual ambiguity of autonomy-performativity' (Patrick et al., 2003: p.239). In supporting research activity, school leaders are seemingly offering teachers the autonomy to interrogate practice and adopt alternative methods but ostensibly, only on the condition that teachers at least maintain standards but preferably improve upon them. Teacher practice remains tightly regulated and monitored; 'the double-edged sword of autonomy and accountability must be balanced' (Goodwin, 2012: p.45). If school leaders are dissatisfied with results this will almost certainly mean that leaders will be less convinced of the benefits of research activity, which ultimately may result in the withdrawal of resources.

Interestingly while financial backing for research activity could be seen as a limiting factor, particularly as school spending falls (Adams, 2016), Jane suggested that squeezed school budgets may act as an opportunity to develop research activity in schools:

> …the funding crisis feels it's looming ever closer and that could be a positive or a negative cos if money becomes tight, schools have to think very, very carefully about the impact of the money that they spend so it could be a benefit to the research agenda (Jane, HTSA:E).

Tight budgets may require schools and teachers to be more creative in finding solutions to their professional problems. While teachers may once have attended one-off, off-site CPD courses at significant cost to the school, the decontextualized nature of such courses meant that reliable changes to classroom teaching were unlikely (Seferoglu, 2010). Learning through and from practice offers teachers meaningful and valuable opportunities to seek solutions to specific problems through interrogating their own practice, in their own classrooms and through collaboration with colleagues. Furthermore, the cost to schools of supporting in-house teacher learning is likely to be a fraction of the cost associated with external CPD courses. However, there is a risk that schools could become insular if they do not draw upon or access any support, guidance or expertise from external providers thus further reinforcing the value of HEI involvement.

Through building capacity for school-based research activity with the support and guidance of an HEI, the potential for teacher quality to improve with commensurate improvement in pupil progress is a real and achievable aspiration. While the long-term goal may be for HEI involvement to be light-touch as a self-sustaining model develops, it is likely that HEI involvement will, in the early stages at least, be significant and potentially costly. Again, the attitude of school leaders towards the research agenda is likely to be critical in securing the necessary allocation of funding. Only if school leaders fully understand the potential of research activity to

strengthen teacher judgement and underpin teacher practice is it likely that the agenda will receive the financial backing required to establish meaningful whole-school research activity. Herein lies the problem as inadequate financial backing is unlikely to generate meaningful research, which in turn will lead to limited impact. Consequently headteachers are likely to remain unconvinced of the worthwhile nature of the agenda. Where headteachers remain unconvinced it seems unlikely they will invest which will limit, if not prevent, the agenda developing or of ever reaching its potential.

5.5 'Time is the key'

Funding and time are inextricably linked resources and it is difficult to determine the extent to which one may be more significant than another in influencing the development of teacher-research activity. Over thirty years ago, Stenhouse (1980b; 1979a) called for teachers to be given time to engage in research and the requirement for dedicated research time seems just as necessary today. It is unlikely that teachers will ever consider themselves in a position where they have surplus time, or indeed sufficient time, to undertake activities they perceive as additional to their core role, an example of which may be research activity. Lack of time is frequently reported by teachers as a significant obstacle to their engagement in research activity, even where they might be positively disposed to the notion of research (Pickton, 2016; Kirkwood and Christie, 2006; McNicol, 2004). Every participant, regardless of their level of engagement or role in the school-based research agenda, reinforced that in order for research to become embedded and

sustainable, time for staff was a critical factor as evidenced by the following comments:

> Time is the key (Jane, HTSA:E).

> Providing them [teachers] with the resources needed which was the cover and time (Carol, R-L:A).

> It [research activity] needs to be kept, you know, time managed, you know a time frame on it for them and also there needs to be some key time given over for it (Hope, R-L:C).

> Time. It's time... I think that doing research, they just don't have time to do it (Sharon, R-L:F).

> … it's just a case of making sure that there is time allocated… and perhaps also guidance because some people might feel that 'I don't have time to think about it', 'I don't know what I want to research and there would be no time for me to do it anyway (Liz, T-R:C).

Repeated reference to the importance of giving time to research activity is made throughout the data. While staff may be interested in research activity and willing to try new or different approaches, such interest tends to remain an aspiration rather than a reality as indicated by Sharon's comment, 'A lot of the time people read research and think 'Oh I'll try that' and then time-wise they just never get round to doing it' (Sharon, R-L:F).

Arguably, teachers find time, or make time, to undertake activities they prioritise or value even when such activities go beyond those recognised as central to their role.

If inadequate time is offered as a reason for not engaging in research activity this may indicate a lack of value attributed to the research agenda. This further reinforces the importance of adequate resources being allocated to support not only research activity itself but also in raising the profile of practitioner research and its potential to improve teaching and learning (Stenhouse, 1979b). Through clearly communicating expectations, demystifying the process and offering teachers the practical support and resources necessary to develop research literacy, it is possible that the teachers themselves will recognise the value of research as a basis for teaching (Stenhouse, 1979a). It is only through recognising the benefits of research activity to themselves, and to their learners, that teachers will make time to embed research within their practice and in this way generate 'bottom-up' momentum.

Simply giving teachers time to engage in research activity is no guarantee of improvement in practice (Szczesiul and Huizenga, 2014). Other factors including teacher motivation and school culture are likely to determine the extent to which time and opportunity is used to best effect; factors that will be considered further under the theme of 'culture' (Chapter 6). Despite repeated reference to a requirement for funding being necessary to create conditions for research activity to occur, e.g. funding frees up time for teachers to engage in research activity, if research activity occurs only because of funding this creates a tension between an organic, self-building, self-sustaining activity and one that occurs because funding makes it possible. Kirkwood and Christie (2010) suggest that if funding is provided to release staff from their class teaching to promote research activity, a particular model of research activity will be created, one that is likely to be sustained only for

as long as funding is available. If teacher research is to become embedded in classroom practice it will depend upon teachers being motivated to create their own spaces and opportunities to undertake research activity, not having those spaces and opportunities created for them. Ultimately a goal of practitioner research is to create conditions in which teachers are independently, self-motivated to interrogate their practice and trial alternative methods in their teaching. If this only occurs because funding creates time for teachers to undertake research, artificial, potentially unsustainable conditions may be created. The challenge to a research-lead is to maximise opportunities to develop research based practice while funding is available so that if, at a later date financial backing is withdrawn, conditions will have been created to sustain research activity in the longer-term.

The notion of dedicated time being made available to support research activity recurred throughout the data. What emerged as particularly interesting was that teachers advocated for time to be dedicated to research as opposed to arguing that there is insufficient time for the research activity to occur; there is a small but significant difference between these two positions. Participants called for research to become an integral element of teachers' timetables in order to ensure that it occurs:

> I think it definitely is time really and the opportunity for staff to be given time within the day (Annie, T-R:A).

> I think it's really something that should be built into the teacher's timetable and that's the problem, there's so much work to do involved in teaching that it's something that is often sacrificed and it's a shame because if there was actually some time when we could just sit and read a journal about something that we're interested in it could help our planning and teaching and we'd be better teachers (Liz, T-R:C).

Building research time into teachers' timetables may serve a dual purpose in raising the profile of research while at the same time encouraging teacher engagement. If staff know they will be given time to support their activity they may be more willing to become involved. Furthermore, the provision of dedicated research time inbuilt to teachers' timetables conveys a clear message that school leaders value research activity. Every research-lead stressed that the success of the research activity at their school was due, in part, to dedicated time having been secured for the teachers who were involved. A specific example of this was given by Hope:

> What we've done really is give some time to it. Now I don't necessarily think it needs to be humongous amounts of time but it needs to be some key reflective points in the year where staff get together and discuss and share and learn and coach one another… That's why it's working because people have dedicated time to think and reflect because schools are very busy places and the fact that they've got time… that's why it's working (Hope, R-L:C).

Hope's reference to staff getting together to 'discuss, share, learn and coach' each other indicates a possible shift in practice, a movement away from teachers working in isolation (Hargreaves and Evans, 1997). If collegiality is desirable, time and opportunity must be created to make it possible. Collaboration, no matter how desirable it might be, will not just happen of its own accord (Prosser, 1999); school leaders have to find ways to make it happen as a meaningful, valued and integral aspect of teachers' practice. If meeting time only occurs at the end of the school day this may indicate that collaboration and research are additional elements, rather than integral to teachers' practice. In locating opportunities for professional development within a teacher's regular workday, the activities undertaken are more likely to be associated with routine practice as opposed to being extra or different

and are consequently more likely to become embedded in daily practice and sustainable over time (Seferoglu, 2010).

5.6 Research time may be 'time saving' as opposed to 'time taking'

A well-resourced research agenda offers teachers opportunities to interrogate their practice and offers the support necessary for them to devise and trial alternative, imaginative, collaborative approaches intent upon achieving improved outcomes. One possible outcome being that teachers will themselves, find more effective, efficient, time saving approaches to their practice. In so doing, resource rich situations will be created that stand to perpetuate research activity and promote good practice. I was really interested to hear participants speak of how research activity had been instrumental in making them more efficient, more effective and re-motivated in their teaching. Despite initial concerns that research activity would be yet another demand on their time, they had come to recognise that their concerns were unfounded and they were benefitting from their endeavours. Susan was surprised to find that despite early reservations, what she had anticipated would be a time-consuming activity was ultimately timesaving and had helped her improve her time management around lesson planning and preparation, consequently improving her efficiency. Lucy recognised that time spent on research activity was 'time well spent' (Lucy, T-R), a view shared by Chris. Chris was keen to develop strategies to make his life, and the lives of those in his faculty, 'a bit easier' through finding alternative and improved means of organising and collecting data. This had led him to devise and trial innovative, interactive approaches to assess learners,

that were proving so successful and efficient other departments were trialling them. These comments highlight an important role for research-leads in raising staff awareness that research activity need not be burdensome and a demand on teachers' time but may be quite the opposite.

Summary of the theme 'resources'

The overall picture regarding the resources available to support teachers in their research endeavours indicated that the participating schools were relying on existing, largely limited in-house research knowledge. This knowledge was predominantly provided by the designated research-lead who did not necessarily have any formal research training or experience that would prepare her/him for the role of research-lead or the expertise required to effectively build research capacity. The absence of involvement from strategic partners, particularly HEIs, was surprising. Such partnerships could offer valuable support to the school-based research agenda and effectively supplement in-house research knowledge and expertise. There were indications that school/HEI partnerships may be problematic due largely to the cost of buying in support, as in the case of School C. Furthermore, the potential for research activity to be compromised due to the differing agendas of those involved and the potentially dominant role of a HEI partner suggests that careful negation between stakeholders is required to ensure the needs of all parties are clearly identified, provided for and met.

The benefits to teacher practice, pupil progress and school improvement of research literate teachers who work collaboratively in a research-rich learning environment and who routinely embed research activity into their practice creates a strong argument in favour of placing a school-based research agenda high on a list of school priorities. However, only in schools where the research agenda is valued by the headteacher is it likely that resources, predominantly in the form of time, access to expertise and financial backing, are likely to be allocated. Building dedicated research time into teachers' timetables offers the potential not only to ensure research activity occurs, but also conveys a strong message that research activity is valued, supported and worthwhile. If school leaders are committed to and value research activity it seems likely that the research agenda will be adequately resourced enabling research capacity to build and become routinely embedded in teacher practice such that it becomes sustainable. Timetabled research time would enable teachers to read, reflect, collaborate with colleagues, and try new, different approaches to seek creative solutions to their classroom problems. However, the significance of establishing 'bottom-up', self-sustaining research activity is, once again, likely to be important if research activity is to become a whole school, sustained expectation of teachers' practice with the potential to continue should ring-fenced resources be withdrawn at a later date.

The absence of academic material or access to academic material emerged as a significant issue and teachers referred to their use of social media to support their research endeavours. A recognised benefit of social media is the accessible nature of much of the content, which overcomes permission and price barriers associated with much academic material and the often impenetrable academic style that is so

prevalent in much academic material. However, an overreliance on social media may limit the scope for research to develop and may raise issues relating to the reliability and validity of material. However, moves towards the open-access of some academic material stands to offer teachers improved access to a wider range of academic literature.

While there are cost implications for schools, particularly in the early stages of establishing research activity, the cost of not supporting practitioner research may be considerably greater that the cost of resourcing the agenda. It is unlikely that schools will ever have a surplus of time or money but in not recognising the potential for research to effect positive change in teachers' practice, the research agenda is likely to remain under-resourced. An under-resourced agenda is unlikely to drive improvement or to lead to whole school practice and consequently research activity is likely to remain small-scale and any findings of limited value. This raises an interesting issue relating to whether schools can afford not to invest in the agenda when the potential for research to improve practice is so great.

Chapter Six: School Culture

It is my intention, to establish the conditions required to promote school-based teacher-research activity as a meaningful and sustained aspect of teacher practice. Through interrogation of the data gathered from interviews with research active teachers working in Teaching Schools, the theme of school culture emerged as a central factor in promoting conditions for school-based research activity to occur and in shaping teachers' attitudes to research as part of a whole school drive for improvement. Participants indicated that school culture determined the extent to which research activity was valued, facilitated, resourced, and promoted. Through the following chapter, I will discuss the key findings that emerged from the data with regard to the relationship between school culture and teacher research.

6.0 A culture of collaboration

In the schools where a research agenda existed, I was struck by the common desire and commitment of teachers to work collaboratively to support each other's professional development with the specific intention of becoming more effective in their practice. Participants spoke of a culture in which there was a shared desire to improve, a willingness amongst staff to learn and work together and to explore different methods and approaches to create the best possible learning opportunities for pupils. Participants attributed this attitude to a whole school culture of

improvement that encouraged collaboration as an expected part of teachers' practice:

> Right from the off there's this very strong culture of, it's ok to talk about your practice and to discuss and so that, it nine times out of ten, it leads on to some kind of research and so the research, and again you don't think you're going away and researching but you are sharing errrm ideas and research within your practice and you know with other errm people in school so that's why it works. It works because it's natural, it's just part of everyday (Lucy, T-R:B).

> … the school is actively errrm promoting this idea of errr, you can get better… teachers all want to get better together. They want to improve their practice as much as they can and they know where they can go and find people to talk to who might have experience in different areas as well (Heather, T-R:B).

Participants spoke of the school culture encouraging collaboration and professional conversations and of a culture in which teacher-research activity was regarded as 'the norm'. This is interesting as the positive and enthusiastic attitude of research active teachers contradicts the resistance or reluctance of some staff to undertaking research activity, as discussed in Chapter 5. This contradiction further reinforces the importance of clearly communicating the rationale for the research agenda to all teachers, not just an interested or engaged minority (Orphanos and Orr, 2014; Leithwood et al., 1999). A lack of research literacy and limited understanding of how to incorporate research into practice is likely to result in unwillingness to try which makes the potential to build a self-sustaining model of teacher-research activity driven by 'bottom-up' momentum unlikely. The positive attitude of teacher researchers working within a research-rich culture is particularly interesting when contrasted against the absence of a research culture and lack of collaboration as was evident at School D. While it is not possible to draw firm conclusions based on

the account of only one teacher, Rose's account (see Appendix 10) captures something of the challenge she faced in undertaking research without support, in the absence of collaboration and within a culture that did not value or promote research activity. Rose's story exists in stark contrast to the positive experience of teachers working in schools where the culture promoted collaboration and innovative practice as evidenced by the following quotes:

> There's much more support for each other. There's much more, you know, a culture of sharing practice. There's much more acknowledgement that other people have skills maybe we lack and we should use them and support each other (Ruth, T-R:A)

> Teachers are much more open to it and I think teachers want to discuss, you know, how they can get better, what they can be doing to get better, what they can be doing to make their pupils progress more and obviously research is sort of fundamental to that and I, I do think teachers are really, really open to it (Heather, T-R:B).

Ruth and Heather's comments contrast with Rose's experience and serve to reinforce the central importance of school culture in either promoting, or indeed undermining, a research agenda.

6.1 The central role of the research-lead in establishing a research-rich, research-led culture

As with the inextricable link between leadership and resources, culture and leadership are similarly interwoven. This relationship was reinforced throughout the data and is captured by the following comment from Ruth:

> To make it sustainable across the school it has to be something where there's a commitment from SLT that this is something we take really seriously and this is something we want to do and it's something that is going to benefit you therefore it, it should become part of your everyday behaviours and it should become part of your culture (Ruth, T-R:A)

Schein (2010: p.3) described culture and leadership as 'two sides of the same coin' thus capturing something of the complexity of the relationship. School leaders, specifically research-leads, are striving to establish a positive, research-led, research-rich culture, while at the same time the prevailing school culture will shape and determine the decisions and behaviour of the research-lead and the staff. It is significant to note that the schools participating in this research were all Teaching Schools and as such recognised to be 'outstanding' by Ofsted. It is possible that due to proven high standards existing within designated Teaching Schools, the culture will be more receptive to new initiatives and different approaches and such schools are less risk averse. Leaders and teachers at Teaching Schools may be more willing to be creative and experimental, to test new ideas and therefore more open to adopting a research-led and research-focused approach. Indeed it could be argued that the high standards of teaching and learning in Teaching Schools (Department for Education, 2010: p.23) is due to the existence of a culture of creativity, experimentation and innovation.

Stoll et al. (2006) identified that the nature and the quality of leadership plays a significant role in influencing school culture and in facilitating change, the challenge of which should not be underestimated. School culture is likely to strongly influence a school's readiness and ability to change and consequently

teachers' willingness to engage in new or different approaches to practice. Any attempts to change teacher behaviour that neglect school culture are likely to be little more than tinkering (Fullan, 1992) and consequentially unlikely to influence teachers' attitudes or practice. In neglecting the powerful influence of school culture on teacher attitudes and behaviour, the potential for practitioner research is unlikely to be recognised. This would almost certainly result in half-hearted engagement and other priorities being privileged over research.

Every participant in this research, regardless of their level of responsibility or years of experience, spoke of the significance and benefits to their practice that they enjoyed from working collaboratively. Interestingly, Rose who did not have the opportunity to work collaboratively (see Appendix 10) indicated that she believed working with colleagues would have enriched her experience of research activity:

> Maybe if, if somebody else had trialled it at the same time as me and I could have gone in to observe them rather than just me focussing on my classroom, a bit more triangulation if you like. Seeing somebody else do it in the lesson and then work with somebody else and even share my findings… You know what worked and what didn't work and then practice can be improved... I think more opportunities to share it would have been good (Rose, T-R:D).

Participants spoke of a whole school culture of collaboration in which teachers were encouraged by the research-lead and their colleagues to engage in professional conversations and that they felt able and comfortable in doing so. Campbell et al. (2003) highlighted the importance of collaborative groups and networks in helping to sustain and embed school-based research, and how collaboration can provide a

useful means for addressing problems of practice. Participants spoke positively of opportunities to work with colleagues from other departments and of the benefits they recognised from working in this way:

> We are looking for new ideas and collectively working, not just as a faculty, not just as I say a small group but as a school, embedding some of these ideas and sort of making sure that if you do start off the research you follow it through, you trial it across school with different departments (Ellie, T-R:C).

Carol (R-L:A) spoke of teachers 'valuing' collaborative opportunities and of having found such opportunities 'to be of great benefit' to their professional development. Through developing a shared interest in each other's research, participants acknowledged the valuable opportunities to gain insight into different approaches towards teaching and learning. This in turn encouraged teachers to adopt a critical perspective towards their own work and provided opportunities to identify and share models of good practice (Butler et al., 2004). Susan spoke of a culture that encouraged teachers to observe and be observed, and of the benefits she recognised when teachers from different departments were able to learn and develop together (Burton and Bartlett, 2005).

Participants recognised that collaboration enabled them to exchange ideas, share good practice and discuss research findings in a taken-for-granted culture of improvement. These findings support those of Shakir-Costa and Haddad (2009) and Campbell et al. (2003) and are evidenced by the following comment made by Liz:

> I know that everybody I speak to is very willing in this school to talk
> about research and development and bettering yourself.
> Everybody wants to help each other. So if you find something that
> isn't relevant to you, you'll probably pass it on and if it's not used it
> doesn't matter but errm as a culture, as a teaching culture it's just a
> given really that's what you do (Liz, T-R:C).

The only participant who indicated that collaboration was not a valued or recognised aspect of teacher practice at her school was Rose (see Appendix 10). It seems highly significant that the absence of a culture of collaboration or research practice at School D left Rose feeling uncomfortable with the idea of discussing her research and consequently left her feeling isolated and reluctant to share her ideas:

> because no-one else was doing it and I didn't want to be this, I
> don't know, I didn't want people to think 'oh gosh here she is again
> with you know this new idea'… I suppose I wanted to do it, get it
> done and that kind of be the end of it… probably because nobody
> else was doing something similar maybe I didn't share it (Rose, T-
> R:D).

Collaborative practice being regarded as 'the norm' indicates a shift in school culture away from past practices of teachers working in isolation (Widjaja et al., 2015) towards a culture that promotes and facilitates professional conversations as valuable, positive and useful exchanges between teachers. However, such conditions do not just happen of their own accord (Prosser, 1999). Conditions must pre-exist, or be created, to facilitate and encourage teachers to talk, share, cooperate and support each other and only if the school culture supports and encourages collaboration and inquiry is teacher research likely to flourish. If professional learning is to become an expectation of teacher practice (Eisner, 2002) research-leads will almost certainly have to find ways to influence and shape the school culture. Only if the school culture promotes and encourages collaboration

and school-based teacher-research activity, is it likely to become an embedded, valued and meaningful aspect of what teachers do.

Participants indicated that embarking on research activity had led to a shift in behaviour and there existed a greater willingness, even desire, to work in partnership with colleagues. Teachers spoke of recognising that they can learn from their colleagues in a culture of mutual support that was regarded as positive and constructive:

> We share ideas much more than we ever have, we're more open to errrm, that old phrase 'constructive criticism'… we are more open to that sort of, another pair of eyes if you like, looking at what we're doing. And I think that's becoming more of a norm across the school that people don't necessarily see these things as a criticism, it's more a way of helping each other and supporting each other (Ruth, T-R:A).

Susan also acknowledged this:

> I think it's improved relationships with the department and strengthened that so we feel like we can errrm, sort of observe and give constructive feedback very openly to each other (Susan, T-R:A).

The growing culture of an 'open-door approach', not just within departments but across the whole school, was identified as a mechanism for sharing good practice. Susan highlighted the positive attitudes demonstrated by teachers working collaboratively in an emerging culture of openness that was welcomed and countered isolated practice:

> …we have sort of tried to adopt a more collaborative approach to planning… and so it's kind of made it more, more open door within our department so if we know someone's trying something new then we feel free to go in and observe and to feedback openly and honestly about it errrm so I think that's nice. Sometimes as teachers you can feel quite isolated in your classroom all day, having that idea that oh well we can just go and observe other people is a really, a nice environment to work in really (Susan, T-R:A).

Susan was not alone in recognising the value of observing colleagues. Participants spoke of collaborative practice creating opportunities for teachers to support each other and learn from each other in a mutually beneficial and unthreatening way:

> we're very much about sharing knowledge, sharing experience and sharing expertise and also about developing staff as well... You know rather than it being something that's separate from the normal, daily running of the school I know that I can go and talk to people about things. I know that we've got a very open door policy that we're very willing to share our ideas, we're very willing to share our experiences and things like that (Ruth, T-R:A).

Interestingly, participants who referred to observing, or being observed, were wholly positive about their experiences. No reference was made to the negative associations often drawn between lesson observations and Ofsted or performance management whereby observation is used as a mechanism to gather evidence on classroom practice and to grade professional competence (Ball, 2013; O'Leary, 2012; Evans, 2011) and as such may be regarded as a punitive measure. Recognition that observation offered valuable learning opportunities mirrors the work of Stoll et al. (2006) who found that, despite initial anxiety about classroom observation, teacher researchers reported the experience of being observed to be a positive and valuable learning and development experience.

Far from being perceived as threatening or intimidating, opportunities for collaborative planning, observing colleagues and receiving constructive feedback were identified by participants as supportive mechanisms offering the potential to improve professional working relationships. Teachers were recognising and appreciating each other's strengths, which in turn fostered mutual respect. This networking is an important aspect of practitioner research (Burton and Bartlett, 2005). However, if teachers are to be encouraged to acknowledge both their strengths and weaknesses and be open and receptive to suggestions and advice from colleagues they will arguably need to feel 'safe' to do so.

The notion of 'safety' is interesting and suggests that engaging in collaborative practice could be perceived as dangerous or threatening. Rather than teachers working in the privacy of their own classrooms separated from one another and protected from interference (Perryman et al., 2011), collaborative practice will require teachers to share ideas, exchange knowledge, observe and be observed and to offer and receive feedback. If collaborative practice is to be effective in facilitating teachers' professional development, it needs to be a positive and supportive experience. The research-lead will almost certainly play a pivotal role in establishing a culture of support (Szczesiul and Huizenga, 2014) in which teachers feel safe to share their concerns, admit their weaknesses and seek advice from colleagues without fear of being exposed, criticised or judged.

The significance of creating 'safe' conditions in which teachers feel able to share their professional concerns, weaknesses and vulnerabilities without fear of being judged or exposed as struggling or underperforming was not acknowledged by any of the research-leads or participants. This may indicate that the significance of assuring safety, or adhering to ethical protocols, has not been fully identified or appreciated. Potentially, only when a member of staff finds her/himself the victim of staffroom gossip, will the importance of establishing clear guidelines to support teacher collaboration be recognised. If steps are not taken to protect teachers the potential exists for collaboration to become destructive rather than constructive, which would almost certainly compromise the research agenda, driving teachers back into isolation (Widjaja et al., 2015; Perryman et al., 2011; Fleming and Kleinhenz, 2007), reluctant to share their ideas or practice at the expense of their professional development (Rudduck, 1992a).

Participants identified collaboration as a positive way to break out of isolated practice. This rejects a long held view that involvement from a colleague, or colleagues, may be regarded as interference, something from which teachers needed protecting (Hargreaves, 2003). Reluctance or even resistance to collaborative practice is blamed by Hargreaves (2003) for years of missed opportunities for educational change and classroom improvement. Admittedly Hargreaves reference refers to a different time and practice may have changed since 2003 but in my experience teachers remain reluctant to work closely with colleagues particularly in being observed. The overwhelmingly positive attitude of participants in this research towards the benefits they recognised of a culture of collaborative practice points to an exciting shift that could herald a new era of open,

whole school collaboration. This could see teachers not only breaking out of their isolated classrooms, but moving beyond their departments to work in cross-department interest groups to interrogate, trial and develop new approaches to teaching and learning and in so doing drive whole-school improvement in ways that have not been evident in the teaching profession since the rise of accountability agendas.

The practice of teachers working together in small teams to plan and deliver lessons was a common form of collaborative activity occurring across the participating schools and acknowledged as 'powerful' (Annie, T-R:A) for all involved. The lesson-study model was being used at Schools A and B and involved trainee teachers and newly qualified teachers (NQTs) working alongside experienced teachers in fostering a culture of thinking, learning and sharing together with all contributions being valued. Daniel talked enthusiastically about the success of a collaborative planning model, implemented at School B within the maths department:

> … they [teachers in Shanghai] adopt a very collaborative planning model using gradients of experience from the master teacher down to the trainee teacher and everything in between and so we've implemented that within our maths department this year and it's worked incredibly well… it's just fabulous (Daniel, R-L:B).

Daniel gave as an example of the success of the collaborative planning model, 'NQTs delivering lessons as if they have been teaching for five years' and the exercise was regarded as so successful there were plans to implement the model across all departments.

Participants were unanimously positive about their experiences of working collaboratively and regarded such endeavours as a move towards improving teacher practice. While achieving a culture of effective, meaningful collaborative practice may present a challenge to school leaders, the data from this study indicates that it is a worthwhile enterprise, welcomed by teachers and it could potentially offer schools and teachers the means to improve professional relationships and drive effective professional development.

6.2 The challenge of countering a culture of performativity

There exists a clear tension between a culture that promotes and facilitates teacher-research activity, and encourages teachers to be experimental and creative in their teaching, and a culture of performativity (Ball, 2003). Arguably the culture of performativity that prevails within an 'accountability movement' (Elliott, 2007: p.4) and that positions teachers as technicians, exists in direct opposition to a culture of collaboration. Participants working at schools where teacher research was valued talked of feeling safe and supported, able to share, learn and develop together. Conversely, a performative culture is recognised to stifle creativity, promote competition between teachers and departments and suppress professional relationships and conversations (Ball, 2013; Earley et al., 2004). The performative culture positions teachers in the role of technicians (Butler et al., 2004) and reinforces teaching as an isolated practice (Widjaja et al., 2015). A performative culture is no place for deviation or risk taking; indeed such practice would potentially

be regarded as maverick and potentially damaging to pupil progress and school improvement. Consequently, school leaders need to clearly identify which model of teacher they want to develop and then develop their school culture accordingly.

Ruth gave examples of teachers at School A being more open and receptive to alternative approaches of teaching and moving away from traditional approaches of classrooms arranged in rows and pupils working from textbooks. However, such changes in practice, new approaches and innovations are not without risk. Schools and teachers are under pressure to perform, and performance is measured by results. The risk, either real or perceived, of trying something new that may risk falling short of expected standards is unlikely to encourage teachers beyond habituated practice. The fear of being judged inadequate, of not meeting expected standards, will almost certainly act as powerful deterrents and so suppress creativity and discourage teacher initiative and self-reflection (Burton and Bartlett, 2005).

Carol, a research-lead, deputy head and advocate of teacher research, offered an example of the anxiety associated with teachers deviating from their regular practice. Carol spoke of teacher involvement in research activity as 'taking people away from their normal jobs'. Reference to 'normal jobs' indicates that even as an advocate of teacher research, Carol considered research activity to be outside of the day-to-day practice of teachers, an additional undertaking as opposed to an intrinsic part of daily practice and the pursuit of targets. If research activity is regarded as additional to or a distraction from the core work of teachers and school

priorities, as opposed to central to practice, it is unlikely to be encouraged or supported.

Carol indicates something of the tension that exists between encouraging teachers to be creative and experimental in their practice while at the same time consistent and reliable:

> so it's a tricky situation because yes we do need the research but
> do those pupils need their errr individual lessons more than we
> need the research? (Carol, R-L:A).

Through this comment Carol demonstrates her recognition of the importance of practitioner research to improve teacher practice but she is not convinced that the need for such activity is greater than pupils' need to be taught presumably by teachers who are risk averse and who employ conventional, reliable methods. It may also suggest that teachers find comfort in tried and tested practice, accepting the role of a technician for the familiarity and certainty it may offer. It would seem the fear, even 'terror', to reference Ball (2003), of deviating from established practice may be perceived as too great a risk to pupil progress and possibly too great a challenge to teachers. If experimental teaching methods are perceived to pose a risk to pupil progress, research activity, albeit a nice idea, is unlikely to develop except perhaps in situations that are considered to be low risk. For example, with lower school classes and at times of the academic year that are less pressured as highlighted by Annie:

It's tricky to be, you know experimenting and try new things just before exams. For example … when the year 10s and 11 exams are sort of nearly finished you can do more of the sort of research now, try new things out kind of stuff with the younger pupils (Annie, T-R:A).

However, it may be argued that relying on tired, dated methods and repeating the 'same old, same old' (Ruth, T-R:A) approaches is more likely to damage pupil progress than trying new, creative ideas. A research-rich culture offers the potential to re-motivate, re-enthuse and re-energise teacher attitudes and practice. The subsequent benefits to teaching and learning could outweigh the risk of short-term alterations to the timetable or a different teacher covering a colleague's class. The perceived risk of implementing change, as indicated by Carol's comment, may be too great for some school leaders, even regarded as an irresponsible gamble. In order for teachers to implement alternative pedagogical approaches, school leaders are required to trust in their teachers' pedagogy and trust them to act as autonomous professionals drawing upon their experience, expertise and judgement in a continued endeavour to improve practice. Stenhouse (1979a) called upon teachers to undertake research specifically to develop their skills of judgement. If teachers are not given the freedom to develop and exercise their judgement, it is unlikely that meaningful research practice will occur.

The pressure of managing the issues of 'day-to-day teaching life' was suggested as a barrier detracting from the research (Hope, R-L:C). Factors such as preparing lessons, marking, inputting data, providing feedback as well as the pressure of results and league tables were all specified as obstacles to research activity. It was

not a lack of interest or willingness that were raised as limiting factors but rather the demands of the job and the pressure to deliver results. This suggests that while school leaders may in principle be advocates of teacher research and supportive of teacher-research activity, the support is not without conditions. Assuming that teaching is not compromised, exam classes are not affected, lessons are not disrupted and ideally, research activity occurs in lower school lessons during the summer term, then school leaders are supportive of teacher-research activity. As headteachers need to trust teachers to use their pedagogical expertise to implement alternative strategies in the best interests of their pupils, teachers need to be able to trust in their headteacher; trust that they have the support and backing of the leadership team to take risks, trial new ideas and implement change with the goal of improvement. A strong argument is forming that the risk of not establishing a whole school research-rich culture of activity outweighs the percieved risks associated with teachers engaging in research intent on improving their practice.

It is difficult to determine whether the willingness of participants to collaborate, share ideas and practice, and test different approaches develops because of an existing culture that promotes such activity or whether the willingness to engage in collaboration promotes a culture of such activity. However, it is likely that the research-lead will play a pivotal role in creating conditions that promote a 'collaborative culture' (Hargreaves, 2003: p.164), in which sharing is seen as a valuable form of professional development.

Despite the underlying rationale for research activity being the driver for teacher improvement there was very little reference within any of the interviews to the impact of research activity on pupils and pupils' learning. I was therefore interested to hear Ruth, Lucy and Annie extend the importance of collaborative practice to discussion of collaboration between staff and pupils. In acknowledging the active part that pupils play in the learning process, they highlighted the significance of gathering pupil feedback on and involving them in the planning and delivery of lessons:

> We're listening to their [pupils'] opinions on things, we're responding to what they tell us, you know even in changes in our planning (Ruth, T-R:A).

> … building the culture with the students so that it's natural for them to be in charge. They're not always expecting the teacher to be in charge and just teach, they have to have some responsibility for it, for their own learning (Lucy, T-R:B).

> I've become more aware of always asking the pupils you know, how they're learning? (Annie, T-R:A).

Involving students in and requiring them to take responsibility for their own learning indicates a shift from traditional, didactic teaching approaches, towards a more democratic process of teaching and learning. This represents a departure from the teacher being positioned as an all-knowing expert who transmits knowledge to passive and unquestioningly accepting learners, an approach fiercely rejected by Stenhouse (1979a), who called for teachers and students to learn together. Daniel and Susan talked about the powerful dynamic created when teachers and students are both positioned as and recognised to be learners:

students have been talking about how their teachers are still learners and how inspirational that's been, which I think is just wonderful (Daniel, R-L:B).

you know, you should be the model to the students, you know we're willing to try new, to keep learning and to try new things as well as they are really (Susan, T-R:A).

However, the extent to which teachers listen to and value the contribution of pupils and teachers accept their own position as learners will be determined by the school culture. Only if the culture encourages pupils to take a role in shaping and directing their own learning and places teachers in a position other than all-knowing expert is it likely that such conditions will develop.

The scope to extend collaboration beyond departments, across the whole school and potentially beyond the Teaching School to work collaboratively with alliance partners was acknowledged by all participants who were open to, and optimistic about, the potential for research practice to spread. Among participant responses were the following comments - 'the opportunities are tremendous' (Carol, R-L:A), 'I think it's a big area, big potential' (Sharon, R-L:F) and 'Definitely. Yeah, I would say so' (Lucy, T-R:B). Heather talked about the potential she saw for creating an on-line pool of resources that could be added to and accessed by teachers from across a Teaching School Alliance and Hope spoke of her plans for cross-alliance collaboration.

Research-leads indicated they were keen to explore and develop cross alliance research partnerships and links but at the time interviews were conducted there were no examples of such collaboration having been established. It is reasonable to suggest that an absence of links may have been due to research activity being in its early stages and the Teaching Schools needed to establish and embed teacher-research activity before looking more widely. However, it is interesting there were no plans in place to rollout or share research activity with partner schools in the following academic year. This raises some doubt that the aspiration will become a reality.

6.3 Teachers themselves are a potentially valuable resource in promoting a research agenda

An indication of the growing interest in teacher-research activity can be seen in the growth of the researchED movement, a teacher-led movement united by a desire to improve teacher research literacy and promote teacher-research activity (researchED, 2016). researchED conferences see teachers gather at a weekend in their hundreds, to listen to keynote speakers, attend workshops and talk about research. Speakers include high-profile academics, politicians, school leaders and class teachers, all spreading a message of the potential for research-engaged practice to improve teaching.

I have attended three researchED conferences and been struck each time by the enthusiasm of the teachers who attend largely at their own expense and in their own time. The desire to share ideas, listen to and learn about research activity and innovative practice is powerful and motivating. However, the challenge for teachers who spend their Saturday immersed in research-focused conversations to sustain that interest and enthusiasm beyond the conference is almost certainly limited if the interest is not shared by colleagues. Too many teachers find themselves as a lone voice back at school, a point acknowledged by Jane:

> So you might get teachers in the school who are interested and they'll be the ones who turn up to researchED in London on a Saturday… but they are alone and they are ploughing quite a lonely furrow in their school, which is hard. You know they go on that on Saturdays and they get such a buzz from being with other teachers who feel like them but you can see, if they don't come with four or five colleagues you can see how challenging it is to go back into the school on Monday and sustain that (Jane, HTSA:E).

Jane's comments point to a valuable resource in promoting a research-led culture, the teachers themselves.

Interestingly Daniel also referred to researchED but his comment indicates a somewhat negative view of the capacity for it to have influence or build research capacity:

> There's the whole researchED movement which seems to be gathering speed, hit the ground at quite a pace. I'm not sure how applicable that is to a lot of secondary schools. It's an optional buy in if you like. You choose to attend on a Saturday and those schools that, most perhaps might not be engaging there because normally they draw teachers rather than at a strategic level (Daniel:R-L:B).

His comment is rather ambiguous but seems to suggest that the participants tend to be classroom teachers rather than teachers 'at a strategic level' and therefore the potential for impact is doubtful. This comment by a research-lead and deputy headteacher strongly reinforces a 'top-down' approach and indicates that teachers, in his opinion, lack the capacity to establish or drive research activity. It may also be interpreted that Daniel, in his strategic position considers himself to possess superior skills and expertise beyond that of the 'jobbing teachers' that he referred to in his interview. What Daniel seems to be saying is that teachers alone have neither the influence, the knowledge nor understanding to drive a culture of school-based research activity. I suggest this is not the case but for teachers to be successful, a culture that is receptive to and supportive of research, innovation and inquiry will be significant. An absence of such a culture does not mean research activity is doomed to failure but it is likely to make the challenge of establishing and embedding research activity significantly more challenging for all involved. The potential for establishing a research-rich culture through 'bottom-up' change where an absence of leadership support is evident is almost certainly limited, as discussed within the theme of leadership (Chapter 4) and illustrated by Rose's story (Appendix 10).

Zeichner (2003) suggested that the teacher researcher is ideally positioned to improve in her/his practice and that undertaking research will lead to 'positive changes in the culture and productivity of schools' (Zeichner, 2003: p.302). The data suggests that a forward looking, outward facing culture was significant in encouraging all teachers to keep their practice current, to promote a shared goal of improved standards of teaching and learning and in turn improve students' experiences of teaching and learning. Susan referred to a whole school culture of

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striving to 'do the best by the students' through looking for and finding new and different ways of working more effectively:

> …knowing what sort of new practice, what new approaches there are and seeing if that works for you… I think you can sort of think, well I've done it that way in the past so why would I change it?... I really see the importance of keeping it up to date and making it sort of relevant to what's going on in the world round the students at the moment (Susan, T-R:A).

This point was reinforced by Carol, the research-lead at Susan's school:

> … it's that saying isn't it, if you do things the way you've always done them then you'll get what you've always got and we're always searching for improvement (Carol, R-L:A).

Lucy makes a similar point reinforcing the need to be outward facing and continually looking for ways to develop and improve in a quest for excellence:

> I know that everybody I speak to is very willing in this school to talk about research and development and bettering yourself … as a teaching culture it's just a given really that that's what you do… errrm you know excellence is just a given and is just expected and so to become excellent then you have to research and you have to develop and you have to keep up with the latest information directives (Lucy, T-R:B).

Annie commented that she believed engaging with research was 'powerful' and offered teachers the opportunity to think for themselves. In response to being asked whether teachers need to engage with research throughout their career, she responded:

> I think so, yeah because otherwise… you'd just be getting told by other people who've done the research, you know this is what works, this doesn't kind of thing (Annie, T-R:A).

Annie's comment indicates that rather than teachers being positioned as consumers (Kincheloe, 2003), implementing the educational ideas of others and unquestioningly and unthinkingly following instructions without recourse (Alexander, 2008) research offers teachers the means to think about matters for themselves. Research enables teachers to reject the notion of the teacher-technician an interpretation fiercely rejected by Stenhouse (1980b). Arguably, the research literate, research active teacher has greater agency and is empowered in both their teaching and in their status as a professional, a point made by Daniel:

> And so when you're faced with a decision you don't agree with or a
> decision you don't understand, having a recourse to evidence,
> having a recourse to research, I think it's powerful in terms of
> agency (Daniel, R-L:B).

Daniel's comment relating to the research literate teacher having increased agency has significant implications for future change within education. Agency offers teachers the confidence and the means to challenge assumptions and be more self-directed and proactive in their responses and their practice (Zeichner, 2003). Rather than unquestioningly implementing the policy directives handed to them, research literate teachers are positioned to be questioning and critical of new policy and may, as never before, require greater justification and a clear rationale before putting policy into practice.

Career-long learning and professional development were cited as valuable outcomes of a research-rich culture. Susan spoke of a research-rich culture offering teachers the opportunity to keep their love of learning alive, a comment that

resonates with Dalin et al. (2003) who suggested that teachers' love of their subject was the reason for them entering the profession.

> I think all the people I know who have gone into teaching it's because they loved their subject and they loved learning and so I don't think that should stop just because you've become a teacher (Susan, T-R:A).

Ruth was convinced of the need for career-long engagement with research. When asked if she thought teachers need to be research literate and research active through their careers Ruth replied:

> Well if they want to be effective teachers and if they want to be reflective teachers and they want to learn then yes, they need to research their practice or else you become stale. Teachers need to realise that. Teaching is changing all the time. The culture around us is changing all the time. Research is changing all the time and you need to be part of that or else you can't become a reflective practitioner. There's always that danger then of same old same old and then how can that benefit the pupils? Also, it's not just that, I think as a professional you would then become quite stale and maybe a little sort of jaded as well in your position (Ruth, T-R:A).

The comments made by Ruth indicate that she takes her professional development seriously and is committed to personal improvement through continued learning and reflective practice. It would seem from her response that Ruth's experience of research has been positive and she recognises the value and potential of outward facing, research based practice in combatting complacency and a move away from habituated practice. To Ruth, research offers the means to be more self-directed and proactive enabling her to evolve in her practice (Kincheloe, 2003; Zeichner, 2003), and be more effective in her position.

The importance of a school culture that supports teachers' ongoing learning reoccurred throughout the data. Jane, as research-lead indicated that through her continued learning she was leading by example, practicing what she preached:

> For a start off as a teacher, being research literate means that I still acknowledge formally that my own learning matters so I'm not standing up in front of people saying it's really important that you learn and you read and you write but I'm not going to do it because it's no longer important to me. So I feel like I'm living what I'm preaching (Jane, HTSA:E).

Liz acknowledged teachers' desire and capacity to continue learning but for this desire to become a reality requires the school culture to be supportive of the teacher-learner. It is interesting that Liz indicated such opportunities had not occurred previously in her experience:

> … teachers do want to continue to learn as professionals it's just that it seems like we've never been given this opportunity before so in a way it does actually make you think again as an academic really, you know like when we were all training to be teachers. I guess, probably the nature of being a teacher you do want to learn and think and this [action research group] gives you an opportunity to do that (Liz, T-R:C).

A research-rich, research-led school culture offers the potential to nurture and sustain teachers' love of learning that may otherwise be lost. Participants spoke of their research being 'empowering' (Annie, T-R:A), and of 'reigniting enthusiasm' (Liz, T-R:C). Ruth said that research into practice is a way to 'spark the interest of teachers in their profession and that's something you can't measure' (Ruth, T-R:A).

6.4 Research activity as a mechanism to combat stagnation

I was interested that discussion of the benefits teachers recognised of undertaking research activity led to comments relating to the potentially detrimental effect of not engaging in research. Participants suggested that an absence of reflection, research and inquiry increased the likelihood of teachers settling into a 'comfort zone' (Ruth, T-R:A) and becoming 'complacent' (Ellie, T-R:C) in their practice. This resonates with Stenhouse who believed that hard work alone is unlikely to be sufficient in driving improvement and the teacher who does not reflect on her/his work with a view to improvement will become 'stereotyped or derelict' (Stenhouse, 1980a: p.42). The potential for teachers to stagnate in their practice by repeating the same tried and tested methods and approaches was identified by participants as a risk to quality and a barrier to improvement.

> There's always a lot of research as part of qualifying as a teacher and then it's almost as if in a lot of schools you get your job as a teacher and then that all stops whereas actually I think it's important to carry that all on otherwise your knowledge could all be stuck back three years ago when you last read anything … about academic theory or whatever, research, action and that kind of thing (Liz, T-R:C).

> In all intents and purposes you're pretty much on your own and it's very easy to hide away and think something that you learned, were told, assumed five years ago is still relevant, is still the same, is the best way. And so unless you engage in research, unless you are responsible for research, unless you are asked to partake in research then you're never going to adapt and change (Lucy, T-R:B).

> I think you can sort of think, well I've done it that way in the past so why would I change it? (Susan, T-R:A).

Research literacy was recognised by participants to be a powerful tool in developing confidence, countering complacency and in keeping teachers' practice current. Striving for ongoing improvement requires teachers to be open and receptive to new and different ideas, to be intellectually curious in their practice. Burton and Bartlett (2005) suggested that intellectual curiosity encourages reflection and inquiry, and promotes teachers' continued learning and development, offering the potential to keep teachers' practice fresh, dynamic and current. It is likely that only if the school culture values and encourages intellectually curiosity will teachers feel supported and able to take risks and try different, experimental approaches in their teaching. An example of this was provided by Ruth:

> … you know, engaging with pupils pushed a lot of people out of their comfort zones but you know once you've been pushed out and you've got through it and you realise actually that was a really good thing and I've got through it you're more open to trying other things as well (Ruth, T-R:A).

Ruth's comment does point to an anxiety that may be associated with a departure from what is comfortable and familiar. Her reference to being 'pushed out' suggests an element of force and the reference that 'once you've got through it' suggests the experience was not pleasant or comfortable. However, Ruth does point to the positive outcomes of her experience and that having worked through the experience she would be more inclined to try other approaches.

6.5 A constant requirement for change may be undesirable

Repeated reference to teachers' ability to change and evolve occurred throughout the data. Ellie made several references to change in her interview:

> you're constantly learning, constantly changing and adapting things
> as a teacher… you always have to look at how you can better
> things and change ideas... We do have to constantly strive for the
> best and make sure we are constantly learning ourselves and
> looking at new ways to change and adapt teaching (Ellie,T-R:C).

Ellie's comments are characteristic of a view that change is good and the antidote to complacency. A constant push for change reflects successive governments' push for policy change and educational reform intent on achieving the desired educational outcomes at any given time. However, a culture of constant change may prevent an approach from becoming embedded, from running through a full cycle at the end of which it can be appraised. Rather than continual change being beneficial, it may be detrimental to progress, inhibiting stability and consolidation. If change is to be successfully managed and implemented there is an argument that school leaders need to take a long-term strategic view rather than trying to force through rapid change. The challenge to a research-lead is likely to lie in promoting a culture of inquiry and experimentation and a quest for new and innovative forms of practice while at the same time ensuring that new initiatives and methods are given time to become established and evaluated before being rejected and superseded with a supposedly newer and better approach.

In the same way that 'stagnant' was used in relation to teachers who do not engage in research activity, Annie and Sharon both used the word 'plod' to describe teacher practice not underpinned by research engagement or activity. In the same way that the teacher who resists change in order to embed her/his practice is not automatically stagnating, 'plodding' does not automatically indicate poor, slow or

uninspiring teaching as the word may suggest. A 'plodding' teacher may be making steady, forward progress towards an end goal; they know what they are doing and how to do it. In 'plodding' they are able to remain in control, avoid constant change, challenge and potential conflict and in so doing, resist fatigue commensurate with change. Plodding may offer teachers a form of defence enabling them to protect themselves from the real or perceived stress and tension of continual change so desired by governments and policy makers in the relentless pursuit of improved grades and higher academic standards (Ball, 2013). An absence of research activity does not necessarily equate to poor practice but it may limit the potential for teachers to develop. A research-rich culture offers teachers both the opportunities and the resources to engage in career-long professional development and as such become more effective in their practice.

Even at a school where the dominant culture is outward facing and embraces innovation, it is likely that change will be required to establish a research culture that encourages and celebrates intellectual curiosity and experimental practice. The cultural change in values and beliefs that may be required is unlikely to be well received by all staff and may be perceived by some teachers as challenging and unsettling (Schön, 1983). Change is likely to push teachers out of their comfort zones and may require them to reject established, tried and tested methods, and as such will potentially be met with resistance from some factions. This highlights the importance of school leaders in making clear the potential of research to lead to professional development, enhancement and satisfaction (Stenhouse, 1980d) if they are to convince teachers of the value of research based practice.

To accept and embrace change, the change must be accepted as offering something better than what it will replace (Evans, 2011) and this responsibility will rest with the research-lead who is likely to be central in countering teacher resistance to change and in winning-over sceptics. Prosser (1999) suggests that one way to counter a resistance group is to persuade individuals to adopt new ways of working that can lead to teachers adjusting their beliefs, attitudes and values and ultimately behaviour. This may, in time, enable a new culture to emerge. Arguably, Hope, Carol, Jane and Daniel were, through promoting and encouraging research activity, offering teachers new and potentially better ways of working that over time could lead to a whole-school research-led culture to emerge.

Christenson et al. (2002) found that practitioners identified the task of convincing colleagues to participate in action research projects as problematic, a finding reinforced through this data. Participants needed strong evidence, or proof, of the benefits and positive outcomes of activity that had been conducted before they would really commit:

> Sometimes, it sounds awful but sometimes in education you need to show people something works before they'll willingly buy into it… people buy into something if in the end it will benefit them and it will make improvements (Ruth, T-R:A).

> I think generally they would be open to the research if they could see the outcomes clearly from many different sources (Sharon, R-L:F).

> They've seen it run through the trial this year and you know they can see the benefits and want to be part of it… everyone wants to see it through a year first and now they've seen what we've got, errm a year's worth of evidence, a year's worth of practice, it's no

longer blazing a trail… it's solidified and they want to engage with it (Daniel, R-L:B).

What emerges from these comments is that teachers who are involved in and undertaking their own research are recognising the benefits and amassing evidence to support their practice. However, convincing teachers of the value of school-based research practice and establishing a whole school culture of research activity will take substantial time and effort, requiring energy and commitment from those teachers who are already research active - energy and commitment they may not be able or willing to give.

Summary of the theme 'culture'

The data provide strong evidence that school culture is highly significant in creating conditions for teacher-research activity to occur. Only when the school climate is supportive of the research agenda is it likely a research-rich culture will evolve; a culture in which teacher research literacy is valued, encouraged and celebrated. Where a research-rich culture exists, commitment to teacher-research activity will be demonstrated across the whole school, at all levels from the headteacher to the student teacher. Teachers will feel confident that they have leadership backing to engage in and with research and to explore alternative teaching methods and styles, to be creative and experimental in their practice as they strive for continual professional development and improvement.

A research-rich culture encourages collaborative practice; teachers recognise and value the support of their colleagues in sharing good practice, engaging in professional conversations and having opportunities to learn from each other, observe each other's practice, and both offer and receive constructive feedback. Central to establishing a culture of research is the role of the research-lead with whom the responsibility lies to resource, drive, guide and shape research activity. The research-lead as an advocate of teacher research must manage the delicate balance between promoting and encouraging staff involvement and requiring, even enforcing engagement, at least in the early stages. A culture of research activity will celebrate and value teachers' ongoing commitment to improving practice and will support, encourage, even demand teachers to be experimental, brave and innovative in their teaching. Teachers will recognise the benefits of working collaboratively and gain confidence as they conduct research work in their 'laboratories' where they test, revise and improve educational theory (Stenhouse, 1980b).

A whole school, research-rich culture will be recognised by the value given to practitioner research and will demonstrate commitment to developing teacher research literacy. In valuing and celebrating the work of teachers, the teachers themselves will arguably feel valued and their work celebrated which may extend the benefits of teacher-research activity beyond improving teaching and learning, raising standards of achievement and driving school improvement to empowering teachers, positioning them as confident agentic professionals (Kincheloe, 2003).

A whole school culture through which research activity is encouraged and facilitated has potentially emerged as central to developing teacher research literacy in schools. A culture in which professional conversations are the norm and in which opportunities exist for staff to work in a safe, supported collaborative way. Sharing knowledge, experience and resources to promote teacher learning and understanding about research is critical in establishing and developing research practice. Such practice has the potential to improve and enrich teaching and learning but putting relevant systems and support in place is not likely in itself to ensure research activity occurs; teacher willingness, commitment and the desire to improve were also identified as key factors in successfully establishing a culture of practitioner research. While it may be the case that the majority of teachers want to improve their practice, unless that desire is nurtured and conditions are put in place to support staff development, it is likely that research will remain an aspiration rather than a reality. The extent to which improvement through research becomes a reality is likely to be determined by the research-lead and how s/he promotes, supports and facilitates opportunities to create a research-rich school culture.

Chapter Seven: Conclusion

This thesis is concerned with the potential for school-based teacher-research activity to improve teachers' practice. Quality teaching is located as central to educational improvement (Department for Education, 2016; Department for Education, 2010; Barber and Mourshed, 2007; OECD, 2005) and the significant reforms of the education system unveiled in the 2010 White Paper were designed specifically to raise the quality of teachers and teaching in English schools. The requirement of all Teaching Schools to engage in research and development activity created the potential for teachers to become research active, research engaged and ultimately more effective in their practice. This potential has long been acknowledged (Godfrey, 2014; McDonagh et al., 2012; Elliott, 2007; Kincheloe, 2003; Stenhouse, 1979a; Stenhouse, 1979b) but arguably underdeveloped. My research interest lies in gaining insight into the potential for school-based teacher-research activity to improve the quality of teaching and in ascertaining the conditions necessary to develop teacher research literacy and promote research activity as a central element of teachers' career-long professional development and practice.

Stenhouse (1979a) argued that teachers should be the researchers, not the researched. He called upon teachers to recognise the rich research opportunities provided to them every day in their 'laboratories' and argued that through interrogating their own practice teachers would strengthen their professional judgement in this way enabling them to improve. My research indicates clearly that research active teachers were seeking answers to their professional problems and

looking for new, different and innovative approaches that would help them to evolve in their practice, develop their teaching and become more effective in their role. The teachers interviewed in this study recognised the value of testing theory and how both they and their pupils were benefitting from learning and developing together.

This research took the form of a qualitative investigation into school-based teacher-research activity taking place within a sample of Teaching Schools. I adopted an interpretive methodology and used semi-structured telephone interviews to enable me to interrogate the field and gather data as I sought to answer my research questions.

This thesis posed three research questions:

1. What is the potential for teacher-research activity to support teachers' professional development and improve their practice?
2. What conditions are necessary to embed teacher-research activity as an expectation of teachers' practice?
3. What support do teachers require to develop their skills of research literacy?

I will now examine each of these questions in relation to the ways in which I have addressed each of them.

7.0 The potential for teacher-research activity to support teachers' professional development and improve practice

This research indicates that there exists real and exciting potential for teacher-research activity to support teachers in a career-long journey of professional development. The evidence from my research strongly suggests that school-based teacher-research activity can be a powerful means through which teachers are enabled to engage critically in their work and evolve in their practice. Research offers teachers the opportunity to embark on a career-long journey of professional development in which they continue to question, think and learn about their practice. The critical and reflexive teacher has the skills, opportunity and support to interrogate her/his practice in a quest for teaching methods, approaches and strategies that will best support pupils in their learning and progress. It is through strengthened professional judgement that s/he is enabled and encouraged to reject habituated practices and to cast-off the identity of a compliant and unquestioning technician and instead be regarded as an empowered, agentic professional able to make informed decisions relating to effective professional practice.

In Chapter Four, I discussed benefits to teachers' practice of undertaking research that participants recognised, including staff being 'motivated and challenged' through their research endeavours and coming up with 'fresh ideas and understanding of the classroom' (Annie, T-R:A). Research was attributed with 're igniting enthusiasm' as it 'keeps things a bit more interesting' (Liz, T-R:C) and of making teachers more reflective, more self-critical requiring teachers to 'think of new ideas and strategies with groups... you always have to look at how you can better

things and change ideas, it [research] helps you do that' (Ellie, T-R:C). Participants regarded research activity as a powerful tool in developing confidence, countering complacency and in keeping teachers' practice current. Lucy (T-R:B) spoke of how it is 'very easy to hide away' and not develop but research offered the opportunity to 'adapt and change'. Ruth (T-R:A) discussed the value of teachers being pushed out of their comfort zones and recognising that to be 'a really good thing' and as a result being 'more open to trying other things as well'. Repeated reference was made to the value participants recognised in working collaboratively with colleagues (Daniel, R-L:B), sharing ideas (Lucy, T-R:B), engaging in professional conversations and benefitting from 'constructive criticism' (Ruth, T-R:A) all of which were regarded as positive and powerful in supporting teacher professional development (Szczesiul and Huizenga, 2014; Shakir-Costa and Haddad, 2009; Burton and Bartlett, 2005).

7.1 What conditions are necessary to promote teacher-research activity?

The data indicates strongly that leadership support of teacher-research activity is a critical factor in creating a research-rich culture in which whole-school research activity is valued and will flourish. The literature is clear in positioning leadership as central to the activity of any school and Leithwood et al., (2008: p.28) argue that leadership is 'second only to classroom teaching as an influence on pupil learning'. Bush and Glover (2003) make clear the important role of school leaders in influencing the behaviour and actions of staff towards achieving desired purposes

and in organising staff to meet a common goal (Garnett, 2012). School leaders play a pivotal role in determining improved teacher engagement with, and commitment to, any activity or initiative (Orphanos and Orr, 2014). If teachers are to engage in and with research in a meaningful and sustained way this will only realistically occur if the research agenda has the full backing and support of the headteacher and school leadership team.

In Chapter Four, I discuss the significance of leadership backing for the research agenda in conveying a clear message that research activity is worthwhile, desirable and an expectation of what teachers do as an integral element of their practice. Opportunities for teachers to engage in professional conversations and work in collaboration, learning with and from colleagues, were identified as central to developing a research-rich culture but only with leadership backing to facilitate such opportunities is it likely that such opportunities will occur. An absence of leadership support is likely to leave teachers feeling vulnerable in adopting experimental methods and they are therefore unlikely to trial different approaches in their practice for fear of pupils not achieving expected targets and levels. They rely instead on tried and tested, habituated methods which may not be the most effective or efficient means to achieve improved outcomes but offer safety through their familiarity. It is through adopting a research stance towards their practice, that teachers are positioned to identify areas for improvement and become more effective. However, despite the real potential for research activity to improve teaching quality, raise pupil achievement and underpin school improvement, without leadership backing teacher-research, as a sustained whole-school activity is unlikely. School leaders

must be convinced of and committed to the notion of research as a basis for teaching if the agenda is to have any long-term future.

In the schools where research activity was occurring it was organised according to a strongly 'top-down' model. The research-lead in each case determined, shaped and drove the research agenda and the success of research activity was attributed by participants to a strong research-lead as discussed in Chapter Four. Rose's story (see Appendix 10) exemplifies the challenges faced by a teacher undertaking research in the absence of leadership support, where a research culture did not exist and without the interest of her colleagues. For an individual teacher or even a group of teachers interested in the potential for 'research as a basis for teaching' (Stenhouse, 1979a) building research capacity from the 'bottom-up' in the absence of leadership support and commitment seems near impossible. A strongly 'top-down' model of organisation is likely to create a culture of research activity that is vulnerable to changes in staff, policy change and shifting priorities. A 'bottom-up' model of organisation offers the potential for long-term, sustainable research activity led, driven and shaped by research active teachers themselves.   However establishing research activity in its early stages will almost certainly rely on leadership involvement and investment to secure the necessary resources for research to flourish and evolve (Stenhouse, 1980d). Access to academic materials, expertise and time, funding and opportunity were identified by participants as central to establishing research activity as a valued whole-school endeavour as discussed in Chapter Five. Arguably it is only school leaders who have the influence and authority to sanction funding, arrange support and make time available for teachers

to engage in collaboration as without such support establishing a whole-school culture of research activity that is positioned to gain momentum and evolve seems highly unlikely. If the research agenda is to be adequately resourced such that it can effect change, drive improvement and improve the quality of teaching, the depth of understanding of what research is and what research can offer will be necessary, particularly at leadership level. Only if school leaders fully understand and appreciate what research-engaged practice can offer teachers is it likely that they will fully commit to the notion of 'research as a basis for teaching' (Stenhouse, 1979a) and create the conditions necessary to embed teacher-research activity as an expectation of practice.

No acknowledgement was made by any of the participants in this study to the potential limitations of a 'top-down' approach and no reference was made to 'bottom-up' momentum being desirable or an aspiration. None of the research-leads talked about a long-term strategy or how provision was being made to embed teacher-research activity as a long-term, sustainable practice. All data indicated that schools were focussing on research activity occurring within the academic year during which this study was conducted. There was no mid/long term planning in place relating to how the research agenda would be developed or its future assured. The failure of research-leads and research active teachers to acknowledge that the research agenda was susceptible to policy change, shifts in school priorities or changes to school leadership, any of which could undermine the agenda, was interesting. Ultimately, the absence of a long-term strategic approach to create a self-sustaining model of teacher-research activity seems a real threat to the continuation of the

research agenda and arguably represents the limited understanding of the research agenda by school-leaders.

7.2 What support do teachers require to develop their skills of research literacy?

It was evident that, with the exception of Jane and Daniel who both had doctoral level qualifications, teachers had limited knowledge and understanding of research activity and lacked both the research skills and the confidence to undertake research activity. The limited research literacy of my participants creates a strong argument that teachers need clear guidance and support to enable them to conduct meaningful research activity. The data indicate that support and research expertise is required to build research capacity and teachers need opportunities and 'spaces' to engage in professional conversations with colleagues, access to academic resources in the form of journals and texts and guidance in planning, undertaking and understanding their research endeavours. The breadth of research expertise required to establish and facilitate school-based teacher-research activity would not normally be expected to be found in schools but located in organisations recognised for their research expertise, a specific example being a higher education institution. It was therefore anticipated that Teaching Schools would be drawing on research expertise sourced from a provider external to the school, e.g. working in partnership with a university, to support, guide and help establish a school-based research agenda (BERA-RSA, 2014). However, the data revealed that with the exception of School A, this was not the case and schools were reliant on the school research-

lead, in each case a member of the senior leadership team, to design, organise, shape, support and lead the research agenda. In schools where the research-lead had no more knowledge, understanding or experience of research than that gained during their degree or PGCE, they were potentially no better positioned or qualified to lead the research agenda than the teachers they were leading; it is noteworthy that none of the research-leads interviewed indicated that they recognised this limitation.

An absence of specific research expertise and limited access to academic material or resources raises issues relating to the potential scale and scope of teacher-research activity. There exists a strong argument in favour of schools working in partnership with an external provider (BERA-RSA, 2014), e.g. an HEI, that will offer research expertise and access to academic material that generally does not exist within schools and to which schools have limited or no access. It is significant to note that while establishing a partnership arrangement with an HEI may offer valuable research expertise to facilitate school-based teacher-research activity, careful negotiation between the school and the research expert is necessary. Failure to negotiate the terms of a partnership arrangement may lead to the needs of one or both parties being only partially met or not met at all giving rise to a conflict of interests and dissatisfaction as I discussed in chapter five.

7.3 Change in the policy landscape

The change of government in May 2016 saw no reduction in government commitment to raising educational standards in England or of the central role of Teaching Schools in leading school improvement and offering high quality CPD for all teachers. The 2016 White Paper, 'Educational Excellence Everywhere' (Department for Education, 2016) made clear the newly elected conservative government's commitment. The government pledged to 'significantly expand the number of teaching schools' (Department for Education, 2016: p.73) and to 'ensure full coverage of teaching schools' across the country as a means to 'train and develop current and future teachers and leaders using excellent evidence based practice' (Department for Education, 2016: p.74). It is the current government's ambition that Teaching Schools will be centres of excellence and as such will assume a focused role that prioritises:

1. Co-ordinating and delivering high quality school-based ITT

2. Providing high quality school-to-school support to spread excellent practice, particularly to schools that need it most

3. Providing evidence-based professional development for teachers and leaders across their network (Department for Education, 2016: p.79).

It is noteworthy that there is no reference to the 'Big 6' in the 2016 White Paper and the three priorities seem to represent a slimmed down version of the original six strands. A commitment to 'evidence-based professional development for teachers and leaders' does indicate that a research focus remains. However, 'evidence-based professional development' suggests a shift from teacher-research activity

requiring teachers to be research literate and research active, to positioning teachers as consumers of research, using outcomes generated by the research of others. The difference between these two positions is significant as consuming the research of others is unlikely to bring about significant changes in teachers' practice. The 2016 White Paper lays out government plans for the next five years, building on previous reforms. As such, it is reasonable to assume that there is an inherent expectation that Teaching Schools will continue to build on the research and development requirement of the 'Big Six' as initiated by the coalition government (2010). However, the findings from this research indicate that the picture of research and development activity varies significantly in design, delivery and efficacy suggesting that Teaching Schools are yet to fully understand or establish research activity within a research-rich school culture. An absence of research expertise within schools, as I have discussed, will almost certainly limit the potential for school-based teacher-research activity to become a meaningful, embedded, self-sustaining expectation of teachers' practice. A failure to recognise this limitation at policy level has significant implications for the research agenda and it is questionable whether in Teaching Schools where a research agenda is yet to be established it will now, under the 'slimmed six' become established at all.

I have suggested that school-based teacher-research activity is potentially vulnerable to policy change and shifting priorities and consequently, may be little more than a laudable aspiration of the coalition government in England (2010 – 2015). The evidence gathered from this research indicates that school-based teacher-research activity can be a powerful mechanism for supporting teachers' career-long professional development as I discussed through Chapter Five.

Through reflection and critical inquiry into their own practice, teachers stand to gain insight into and understanding of their own pedagogy while at the same time becoming empowered in their practice. However, if teachers are to be liberated from the constraints that have come to dictate their practice – what they do and how they do it - trust on many levels seems a central factor. Teachers trusting in their own ability to use their informed professional judgement to best meet the needs of their learners, school leaders trusting that teachers have the skills, knowledge and ability to act in the best interest of their learners and government trust in the teaching profession.

The implications for practice of these findings point to the potential for building a sustainable model of teacher-research activity that rests on generating interest and momentum for teacher-research activity from within the teaching staff. While significant SLT support would be necessary, even essential, in the early stages, potential could be created for the model to be teacher-initiated and teacher-led and in this way the momentum driven from bottom-up. Support from a strategic partner would offer access to research expertise and material to support teachers in becoming research literate. Support from both SLT and the involvement of a strategic partner would remain significant but could become 'light-touch' as teachers themselves gained the research skills and confidence to support colleagues and build capacity for a whole-school research-rich culture through which a self-sustaining model of school-based teacher-research activity could be established.

Rather than the role of research-lead being occupied by a senior teacher, I suggest that the role could effectively be fulfilled by middle-leaders or even early career teachers and the creation of a 'research-champion' within each department or faculty could offer a valuable means through which research and development activity could be promoted and encouraged. Arguably, the ultimate goal will be to achieve a research-rich culture in which teachers are confident that they have leadership backing for their independent or collaborative research and inquiry; a culture in which school-based teacher-research activity is recognised as the norm, an expectation of what teachers do as an aspect of their daily practice.

7.4 My research journey

My personal research journey has been long and challenging. As I met with my EdD peers at the beginning of the programme, we were told to expect our world to change and for everything we knew to be questioned. I naively dismissed such claims as improbable and exaggerated; after all, I was approaching forty, successful, confident in my professional identity and with a very large group of friends, what was going to change? I could not have anticipated the extent of the change or the impact of developing a more critical, questioning stance on either my professional or my personal life. I have experienced a personal paradigm shift in the way I view, engage with, interpret and understand the world. The very essence of my being has altered as I have become academically and emotionally more

developed and more knowledgeable; no aspect or area of my life has been untouched by the changes resulting from my doctoral journey.

As a teacher and lecturer, I am more open to the views, opinions and perspectives of my students. Where once I would have closed down lines of inquiry and shaped students views and behaviours according to what I believed to be 'right', I now regard myself to be a learner, learning and developing alongside my students. I encourage students to question, require them to think and value their contribution to discussion and debate. I do not pretend to know the answers to all their questions, as once I might, but seek answers and solutions together with my students. Stenhouse called for teachers to regard themselves as learners and encouraged them to be 'tentative, sceptical and experimental' in their practice (Rudduck and Hopkins, 1985: p.1). It is having adopted this approach towards my practice that I have come to better understand what I do and why I do it.

My personal journey of research and development has been all the more powerful due to the combination of embarking on a course of doctoral study requiring me to engage in and with previously untapped skills of criticality, inquiry and reflexive practice, coupled with my specific research interest of 'research as a basis for teaching'. The inextricable link between my own lived experience as a teacher and as a university lecturer entwined with my reading and research effectively dismantled everything I knew about my practice as a teacher and about which I had felt confident, prior to embarking on the EdD.

A growing recognition of the limited opportunities for many teachers to engage in meaningful, valuable professional development became a source of frustration as did a growing awareness of how many colleagues, former and current, habitually repeat the same teaching methods and approaches. Over-reliance on the same power-point presentations year on year and missed opportunities to ignite the interest and enthusiasm of learners are common characteristics of many colleagues whose practice is tired, often something they are quick to acknowledge themselves. My growing awareness and understanding of the potential for renewal and rejuvenation offered by critical reflection, interrogation and collaboration continues to excite me. However, it is necessary for me to recognise the privileged position in which I find myself. I have the support, both practical and financial, and encouragement of my department to engage in doctoral study. I work in an environment in which research activity is, for many colleagues, the norm and I have the space and support in my personal life to immerse myself in thinking, reading and writing, arguably a self-indulgent pursuit afforded to only a fortunate few. It is important to acknowledge that in occupying such a privileged position I am detached from the daily pressure and workload of many teachers. As such, I must recognise the potentially seismic shift in school culture, teacher attitudes and teacher behaviours that may be required to realise the ambition of positioning research at the heart of teaching, underpinning teachers' practice and informing their professional judgement.

It is only as I have come towards the end of my research that I have recognised the potential significance of power in shaping teacher behaviour and practice. Leadership is undeniably a determining factor in the extent to which a research-

culture will develop and school-based teacher-research activity will occur. The relationship between school leaders and power, and how that relationship may influence the research agenda is an area for future interrogation. Michael Foucault's work on power could offer valuable insight into this narrative and add an interesting dimension to the area of study. As a result of my study, further research might well be conducted on 'bottom-up', teacher led initiatives to develop research activity. Such research would offer the opportunity to better understand the potential for and problems inherent within 'bottom-up' strategies. Furthermore, a longitudinal study following research active teachers over a period of time would provide access to and assessment of the impact of research-engaged practice and what this may contribute to teachers' professional development adding valuable knowledge and understanding to the topic.

7.5 Limitations of the research

It is important to acknowledge the limitations of this study. The sample size is small, involving only six Teaching Schools all of which were secondary schools. A larger sample including primary schools would offer greater insight into the development of teacher-research activity and the extent to which the research agenda is, or is not developing. It would also be of interest to involve alliance partner schools to explore the extent to which a research agenda may be spreading beyond the central hub Teaching School to involve a wider cohort of teachers and in this way building research capacity.

The participants self-selected, responding to my request, conveyed by the research-lead, to interview research active teachers who would be willing to share their experiences of or interest in research activity. As I discussed in Chapter Three, a purposive sample enabled me to capture examples of teachers' experiences of research activity occurring at Teaching Schools. This research decision can be justified as it was preferable for me to gain restricted knowledge of the topic, because of the type of sample I employed, than it would be 'to have no knowledge of the topic at all' (Blaikie, 2000: p.176) which could be the case had I used random sampling. However, random sampling would offer valuable insight into the extent that the research agenda was evident across staff and would have enabled me to interview a larger sample of teachers than those that volunteered.

The research was conducted in Teaching Schools located in the North West of England for logistical reasons, as discussed in Chapter Three. While it is possible that the findings from one geographical area may have wider relevance or value than the specific area in which the research was conducted, basing the research in Teaching Schools from a wider geographical area would have offered insight into how the research and development strand of 'The Big Six' was being addressed across the country.

7.6 Final reflection

The findings of this research support the work of, among others, Elliott (2007), Kincheloe (2003), Rudduck (1995) and Stenhouse (1980, 1979a, 1979b). Findings reinforce the long held view that the research literate, research active teacher is equipped with the tools and the knowledge to understand her/his practice, seek solutions to professional problems, engage in collaborative research and inquiry to improve practice. However, while the literature acknowledges some of the challenges that teachers may face in undertaking research into their own practice there is little consideration of what support may be necessary to enable teachers to overcome the barriers they face. My work reinforces the value and real potential of school-based teacher-research activity to improve the quality of teaching and learning and in so doing improve the outcomes of pupils. Significantly, the findings offer clear insight into the conditions required to promote a research-rich school culture and advance a school-based research agenda. These findings could be of interest to school-leaders and any parties involved in or interested in raising the quality of teaching and learning in schools as the findings indicate conditions required to successfully establish, promote and embed teacher-research activity as a self-sustaining expectation of teacher practice.

Appendix 1: Interview Questions.

- Start by telling me a little about your role at school and how you came to be involved in research?

-

1. Can you give me examples of any school-based research activity that you have been involved in / Can you tell me about any research activity that is currently taking place at school?

1.1 Whole school research projects/research focus groups/individual projects/peer observations/collaboration…

1.2 What has been required/will be required to embed r&d in such a way that it will be sustainable?

1.3 What does being a 'research-rich' school mean to you?

1.4 What do you consider the main barrier/s to achieving a research-rich culture at school.

1.5 Are you familiar with the Big Six?

1.6 To what extent is the research & development requirement of the Big Six driving the research activity?

-

2. 'What is being put in place to support teachers in becoming research literate?

2.1 Internal support - funding/time/peer work/research focus groups/INSET/support for research degrees/accessing the literature?

2.2 External support – HEI/consultants/research 'experts'/collaboration with other schools/ links with NCTL…

2.3 What support have you made use of to date and how has that helped you to engage with research?

2.4 What is the potential for research to spread across the alliance?

-

3. How are the outcomes of the research being used/going to be used at school?

3.1 Can you tell me about any specific changes you have seen in the school? – are teachers changing their practice?

3.2 What kind of changes has it led to in your own practice?

3.3 How does the research influence/link with teaching and learning?

3.4 In what ways can research impact on school improvement?

\-

4. What do you think are the benefits of teachers being research literate?

4.1 What is helping research practice to work at school?

4.2 In your opinion do teachers *need* to engage with research throughout their career - why? (pros & cons)

Appendix 2: Teacher-research activity resource from School B.

ARC preparation form

ARC

What are the main points from the reading?

Any questions that arise?

What are the potential implications for the classroom?

What additional thoughts do you have? Is there any additional reading that would be useful?

ARC1/2/3/4

Appendix 3: Information Sheet for Participants (ISP).

MANCHESTER METROPOLITAN UNIVERSITY

MMU Cheshire

'The Big Six' - How Teaching Schools are responding to the requirement to engage in research and development as a key driver for school improvement.

1) This is an invitation to take part in a piece of research.

This study will investigate the impact of research and development projects being undertaken by teachers in Teaching Schools and across alliance partner schools.

2) What is the purpose of the research?

The Purpose of the study is to evaluate how Teaching Schools are responding to the requirement to engage with and in research and development and consider the forms such research is taking and how it is being conducted.

3) Why is the study being conducted?

- The coalition government is committed to the reform of teacher training through the School Direct programme. All schools involved in School Direct are required to

engage in 'The Big 6' i.e. 6 elements of practice designed to improve teaching and learning. The sixth of these is 'Research and Development'. This study will investigate how schools are responding to the requirement and the impact the R&D is having upon practice.

4) Why am I being asked to take part?

As a teacher working within a Teaching School alliance and engaged in research and development your experience and opinions of the research and development requirement are highly significant to this research project.

5) Do I have to take part?

You are under no obligation to take part in this study. If, after reading this information sheet and asking any additional questions, you do not want to participate in this research you are free to withdraw without question.

6) What will happen to me if I agree to take part?

If you agree to participate you will be interviewed by the researcher. The interview will be recorded.

7) Are there any disadvantages or risks in taking part?

No, there are no disadvantages or risks in taking part.

8) What are the possible benefits of taking part?

You will gain insight into how the R&D requirement is being met and the impact school-based research is having on teaching and learning. You will also be contributing to the development of a wider understanding of the potential impact of school-based, practitioner led research.

9) Who will have access to the data?

All information collected during the course of the research will be confidential, stored securely on a password protected computer and will only be used for the purpose of this study. Anonymity of schools and individuals is assured and will be preserved and the true identity will be known only the Principal Investigator and the project supervisor.

Thank you for considering taking part in this research study.

Appendix 4: Informed Consent Form (ICF).

MANCHESTER METROPOLITAN UNIVERSITY

MMU Cheshire

Name of Participant:

Principal Investigator: Rachel O'Sullivan

Project Title:

'The Big Six' –

How Teaching Schools are responding to the requirement to engage in research and development as a key driver for school improvement.

Participant Statement:

I have read the participant information sheet for this study and understand what is involved in taking part. Any questions I have about the study, or my participation in it, have been answered to my satisfaction. I understand that I do not have to take part and that I may decide to withdraw from the study at any point without giving a reason. Any concerns I have raised regarding this study have been answered and I understand that any further concerns that arise during the time of the study will be addressed by the investigator. I therefore agree to participate in the study.

Signed (Participant)   Date   10/07/2014

Signed (Investigator)   Date

Appendix 5: Example of an annotated page from an interview transcript.

Ruth. School A. Teacher-researcher

272 R - Interesting. So how has the project influenced or linked with teaching and
273 learning?
274
275 RM - I think it's made us more aware that erm we need to try new things in the
276 sense that you know from the pupil voice and the pupil response we definitely have
277 changed the way we deliver lessons. We definitely try more and more different
278 techniques. You know the text books very rarely come out of the cupboard (laughs)
279 anymore you know what I mean but also we look at little things like seating
280 arrangements. We always look at pupils input in things like that do they think that
281 the benefit from sitting with their friends or do they think that they benefit from sitting
282 with someone of the same ability. All those sort of things so errm, we've even like
283 changed the layout of the classroom based on it. It's really impacting on our
284 teaching and learning just from the fact that we always look at it now from the point
285 of view that is this the actual best strategy for getting the kids to learn this particular
286 thing. And I think we probably spend more time planning lessons now than we
287 would have done in the past and it might you know be one of those things that's
288 eating into our time but it's something that we feel we need to do. It's something
289 that we feel that we could benefit from and you know whether it's coincidence or not
290 I'm not sure but results have gone up 100% over the last 2 years, in geography.
291
292 R - That's impressive. So, what ways does, or can the research impact on school
293 improvement?
294
295 RM - Erm it's well that particular project was actually part of the school improvement
296 plan and the school results during the time of the project the results did go up and it
297 sounds awful but every time you bring in a project, like I know this from going to
298 university and talking about the project, the first thing that anyone from senior
299 leadership who was there asked is, is this going to make our results any better? So
300 yeah, our results have improved. Whether that's coincidence I don't know but the
301 fact that the pupils are getting a better deal from us in terms of we're using each
302 other strengths to make sure the lessons they get are the best lessons they could
303 get. We're listening to their opinions on things, we're responding to what they tell
304 us, you know even in changes in our planning, we're using pupil voice on the half
305 termly basis rather than once a term. I think this particular project, you know, has

Handwritten margin notes:
New things (TRY)
Try different.
THINKING about what works / will work.
improve. evolve.
Time.
IMPROVEMENT +1
}- IMPACT leadership
collab.

Appendix 6: Example of an annotated page from an interview transcript.

HoPE. School C.   Research-Lead

68 some points, some key points in the year where those people who are engaging
69 with that have some time first of all to reflect and then also some time to complete
70 any sort of write up errm feedback that we want that we require as a school.
71 Obviously you've seen what we've done this year. It has been kept on quite a
72 manageable level this year to be honest cos what I didn't want to do is, is, is go too
73 heavy with it cos it would maybe put staff off in terms of time commitments erm but
74 if we keep it relatively manageable it means it gets done and it's effective rather
75 than making the projects so wide and so huge that they just become so
76 cumbersome that people can't complete them. So I think with regards to making it
77 sustainable, staff need to understand that it's manageable and it needs to be kept
78 manageable and it needs to be kept, you know, time manage, you know a time
79 frame on it for them as well and also there needs to be some key time give over for
80 staff to get together and reflect on it. (R - Ok) Does that make sense?
81
82 R - Yes it does, absolutely. So what does being a research rich school mean to you
83 Helen?
84
85 H - For me, it it's very much if, if, I, if for example erm you know it might've been you
86 and me discussing this the other day but basically if you've two surgeons that have
87 just come out of university and they've both been doing a lot of research and a lot of
88 errm reflection during their time at university and then obviously practicing
89 surgeons and if they hadn't then spent the rest of their years as a surgeon
90 continually reflecting and continually wanting to drive their own improvement you
91 wouldn't really want them being a surgeon on your own body (laughs) so it's the
92 same in teaching I think. It's really important that erm you know that we continue to
93 be reflective practitioners and I think you know for me research is a really good tool
94 for that erm for example erm on a whole school level erm it's really important that
95 we formalise and check that the things we're implementing on a school level are
96 actually effective and making the impact we want them to make and we do that
97 already, as schools we do that all the time but I think what research does it allows a
98 structure to formalise that and actually guide staff members to make sure they are
99 tracking erm impact and they are reflecting on whether or not the strategies we are
100 putting into place are working and if they are working brilliant, how can they be
101 moved on to the next steps and how can the be rolled out and if they're not working

Requirement.
Baby steps. Manageable
Time
Manageable

Time.

reflection.

Keep thinking. Developing
evolving.
whole-school.
impact.
reflection.

Appendix 7 : Theme - 'Leadership'.

SUPPORT

9:148 Booklets written by SLT lead (357)
153 'Facilitated conversations'
200 HEI support setting up. 'How to structure research' Masters credits. ASPIRATION
228 Support from HEI to check quality & improve.
9b:17 Dedicated meetings for discussion - facilitated discussion (26)
2:141 Dept + CPD
3:90 Dept
6b:25 Staff aren't rsch lit' to drive activity
6:118 HEI support = 36K
10:107+ Guidance on what + how + time allocated. Training to
122 support/mentor/encourage engagement
10:181 All support from Helen (this is potentially a limiting factor)
13:200 Not aware of external support
207 used academic texts through mum = mmu staff. magazines
10:285 Pair up + encourage/facilitate A.R ALSO collaboration.
11:125 Training staff is a barrier - it's not about big projects/ outstanding results. Staff fear of failure. Clear expectation.
11:144 Helen provides the support nothing external other than -
160 Online, Twitter
12:46 Training required to show staff what rsch is + involves.
12:109 Internal support - material on shared drive + talking.
12:234 facilitated => success. Nothing on t+l/practitioner enquiry
13:55 No library for teachers. no external support
13:58 Twitter.
13:166 CPD programme, termly rsd letter, Twitter twilight aspiration.
188 HEI involvement with ITE work
238 CPD - 1 day = 'stimulation'. 'Embedding change' 3/4 sessions + 'Transforming Practice' 6/10 sessions
14:71 Lack/ no support => reluctant + share own work
94 'again, keep it to myself really,'
104 'I didn't want people to think - here she goes again...'
117 'school taking more interest' hearts + minds
150 HEI support
2:146 Support v. dept. based. Nothing external other, no official bodies' - than social media
3:39 Ease of understanding + implementation
3:103 Support from NCTL - nothing else
4:82 Not aware of external support.
5:148 Little support
5:109 Links with universities important + support agenda.

RESOURCES

13:224 Insight not give it the 'R' badge

11:29 Budgets are tight. Guidance of post support may generate £.
13:119 Financial implications - cover
137 Journals to expensive which means teachers don't get to read good material
13:201 £17k grant will buy time + books
13b:98 Will schools want to be engaged when funding isn't there?
13b:213 When £ is tight schools have to think v. carefully about how they spend
5:107 £. Time in schools = £
6:57 Teaching without adequate funding.

TIME

9:58 School has given dedicated time to meetings, writing up f/b, collaboration
9:73 If too ambitious, could deter staff. Too much time.
7:354 Staff have been given time to think + reflect => success
9b:14 Dedicated time
9b:134 If time is given to it staff are more willing. See activity as valued
9b:242 rsch - connotations of epic work, massive bids, 5,000hrs in library
10:106 Time needs to be allocated
10:150 Time restrict ability to complete research - 'when am I going to do that on top of everything else?'
10:334 Should be built into teachers' timetable
11:18 Looking for strategies to make teacher life easier.
11:133 Staff leave things to last minute - give time to build in.
12:22 Want to start with but need to find time + £
12:74 Impression it will take time - stigma attached but reality: attainable
13:51 Time is key
13:125 It takes a lot of time for a teacher to sit + read
13b:272 Terribly time consuming. v. difficult for a tchr will responsib for rsch to deliver - 'something's got + give'.
14:50 Didn't have much time - pressure of job.
14:125 I know it's prob' the usual teacher moan time + £... Time in lessons or in school.
14:137 Time '' frees are for planning.
1:76 It is time consuming
1:103 Rsch 'creates' time for proper planning + reflection
137 Resources necessary = crew + time
233 Only true if initiatives are worthy of time effort + energy. if rsch is basis.
2:92 'Time well spent'
3:40 Needs timetabling or don't get around to it. Time given to enable forum for sharing + discussion.
3:67 Rightly or wrongly no time for research. Takes a lot of time to give written f/b.
3:186 Tchrs like sharing but time needs to be made.
4:22 Helped with time management - makes planning quicker.
4:167 Taking more time over practice. TIME SAVING
5:54 Useful school sorted cover + give teacher time.
63 'Time, but that's what teachers always say'
192 The more time given to develop prac, the better.

Appendix 9: Theme – 'Culture'.

CO-OPERATION / COLLABORATION

1:80 Rsch activity generally requires co-operation from others in school
:128 Communication is very important so people know what's going on
:132 Working collaboratively planning + delivering lesson.
:197 Benefits of working collaboratively

2:10 Discussion around planning + outcomes.
35 Sharing + talking about practice (WANT TO)
85 Passing on useful / relevant material to colleagues.
108 Supporting each other
102 Wanting to help each other 'Sharing culture'
121 } Conversation about research 'it's natural'
140 }
263 'there's this very strong culture of it's ok to talk about your practice + to discuss.'
213 Staff gathering findings independently + then meeting to collaborate + plan
263 'from the SMT there's this very strong culture of it's ok to talk about your practice + discuss it.'
3:186 'Teachers like sharing best practice with each other.'
4:12 121 Collaborative focus when planning.
28 Building relationships in Dept.
4:126 Collaboration => positive work environment. Less isolated.
4:157 Identified good practice shared across departments
174 Improved + strengthened relationships.
5:16 Different experience staff working together. Planning for perfection - 'powerful' 254
162 Looking to collaborate with schools or HEIs
6:46 Work on ARC for 12 months to focus on improving practice
7:147 Pool findings + build on that - share + build (14)
8:19,26,31 Meeting to discuss + plan
32 Collaboration with pupils
8:103 Staff teaching each other + learn from each other.
8:132 Sharing knowledge, experience + expertise. WILLING.
8:232 Sharing good practice in school + across Alliance. Help + support
8:269 Acknowledge skills + expertise of others / colleagues
02 Using each other's strengths - listening, responding.

CULTURE

EXPECTATION / NORM

2:268 'it's natural, it's just part of every day'
2:117 'Excellence is just a given + is just expected'
6:249 High standards, high expectation
8:372 Stale + jaded, same old same is not the norm.
* 9b:307 Vast majority will have done AR + 'will always use those skills'
10:193 'It's not something that people are really used to doing, research.'
11:137 Clear expectations of what is involved / expected. Not as high as expected.
12:132 Will become second nature.
1:229 'if you do what you've always done you'll get what you've always got'
2:55 Staff on MA, PhD.
2:74 'It's very much encouraged - there's a culture of it.'
86 As a teaching culture it's what you do.
98 Culture of school supports, promotes, encourages
141 It's the culture people experience when they enter school.

2:30 Always searching for improvement

RISK

4:138 Staff encouraged + help to model each other's practice across school
4:223 Nature of school makes it possible.
1:109 Research takes teachers away from their 'normal jobs'
114 'It's a tricky situation because yes we do need the research but do these pupils need their individual lessons more than we need the research?'
3:201 Open to research IF evidence is clear!
5:58 Risk of trying new things pre exams. Stick to KS3.
143 Summer term is when it happens - exam take over autumn + spring.
5:77 Pressure of results + league tables + things like that
93+99 Time.

IMPROVEMENT

2:55 Staff studying for MA, PhD.
2:57 Aspiring Middle Leaders
:83 Wanting to 'better yourself'
91 Sustainability will require developing culture
117 'Excellence is just a given + is just expected to become excellent then you have to research + you have to develop + you have to keep up with the latest information.'
273 Rsch enables change, keeps practice relevant.
1:230 'We're always searching for improvement
1:40 Middle leaders course
3:85 'Outstanding Teacher Programme'
3:183 The rsch literate teacher is up-to-date, evaluates own practice, keeps them fresh, keeps them motivated.
4:47 'Improving Teacher Programme'
4:164 Encourages creativity
188 Improved T+L => school improvement
5:36 Driving forward good practice.
204 L'ship ensure practice is continual
219 Recognised improvement in own practice.
5:305 Enriching practice
6:143 I want to be better than I am
257 AGENCY professionalism
1:90 - Better teaching   WHOLE SCHOOL

2:191 Whole school conversation
3:44 Whole school / whole staff
4:68 Need for w.s. approach to promote
4:146 'open door'
223 Finding ways to become more effective.
5:173 w.s. focus on L+T
6b:60 Cascading findings across w.s.
9b:173 Rsch 'a part of bigger picture'
12:155 Rsch activity really important will become ws
4:70 Whole school approach + training + promote
4:146 Open door x school

251

IMPROVEMENT

6:259 — Rsch ⇒ look at how they can improve.

6b:144 — Rsch underpins other 5 strands of TB6

7:74 — Teachers want to get better together & improve their prac.

7:181 — 'I think teachers want to discuss how they can get better, what they can be doing to get better, what they can be doing to make their pupils progress more & rsch is fundamental to that'

7:197 — Thinking & questioning practice – is it really beneficial? definitely improving practice

8:376 — Improving teaching ⇒ improved learning + improved teacher thinking

9:104 — Rsch provides evidence of impact. Drives improvement (112)

9:250 — Outcomes of rsch will have 'driven improvement in own t+l'

9:324 — 'Journey to outstanding'

9:370 — Continual, ongoing vision, planning, reflection...

10:391 — Improve as a professional through research

11:369 — Rsch might unlock ⇒ school improvement instead of repeating same old same.

12:99 — Constantly striving for the best

13:268 — I really believe it's made me a much better teacher & educator

299 — A critical stance has most potential for school improvement

13b:145 — Understanding evidence ⇒ is something working

14:57 — Practice can be improved

CO-OP / COLLAB

9:187 — Specific session to meet & discuss. "Facilitated conversations"

9:235 — Triangulation within Alliance. Reflect, discuss, compare share good practice

10:234 — Potential for Alliance spread.

10:264 — Sharing practice

11:81 — Collaboration to prevent reinventing the wheel.

11:116 — 'Sell' ideas to staff

11:199 — Potential for X-academy collab ⇒ change AND in school X-Dept

12:34 — Talking & comparing results

12:66 — Working collaboratively x-school

12:140 — Potential for x-school work

13:79 — Without collab = challenging to sustain "lonely furrow"

13b:109 — Powerful x-school collab.

14:53 — If someone else had tried too, could have helped

KPI / PRESSURE

5:# — Pressure of results & league tables
100 — May be open to suggestion but pressure is limiting factor

6b:105 — Tchs / schools / HTs want evidence of practice before signing up. They want proof of benefits

7:58 — Day-to-day teaching took over distracting / detracting / from research

7:194 — Not knowing / understanding impact is a barrier

8:124 — Staff need to see it's beneficial to them.

8:147 — Risk of day-to-day getting in the way.

8:350 — 'it sounds awful but sometimes in education you need to show people something works before they'll willingly buy into it.

8:374 — It shouldn't always be about results. / buy into it.

9:258 — Evidence of results ⇒ comfortable implementing.

9b:181 — People are very busy & demands on staff

10:153 — Overwhelmed with marking, continuous assessment

10:325 — So much work in teaching – research is often sacrificed.

11:101 — Free staff to rsch their interest. Not all about attainment & progress.

13:54 — Teachers can't quite see why it matters

14:78 — Under pressure – deadlines, tried lity, input data

3:43 — Pressure of providing effective written fб

14:128 — Share your ideas
1:30 — Co-op from others involved
1:126 — Communication v. important
145 — Benefit of collab.

CULTURAL SHIFT   Leadership — how are things set up?

13:209 — Starting career long habits.

269 — I acknowledge formally my own learning matters &

13b:105 — Not a transformational but winning over hearts + minds

13b:168 — It takes time

4:28 — Building relationships in Dept.

OPPORTUNITIES — facilitation of opps under llship

4:45 — Importance of giving every dept. opps to try different things / approaches

5:299 — Range of opportunities to engage further careers, experience + skill base

7:294 — Knowing where to get resources would enable more tchrs to be rsch active.

9:170 — R+D as KPI will engage more schools

9:373 — If for employees would retain staff

9:373 — Professional learning opportunity

10:371 — Teachers want to continue to learn as profs but need opportunity to learn + think.

11:20 — Freedom to focus on something of interest.

11:333 — Can't put finger on a pattern rsch offers opp' & try something + see impact it has

14:66 — More opps to share would have been good

1:226 — Opps to reflect + experiment + evaluate

4:45 — Opps to try, building it in   Impact: Pos'

VALUE   under leadership.

13:152 — Whether r+d is valued by SLT + culture determines how agenda is positioned – PASSIVE e.g.'

13b:65 — If SLT don't value it, it won't happen.

14:24 — Lack of interest, no follow up. Nobody asked

1:59 — Rsch not major part of day-to-day job

1:102 — Rsch has to take 2nd place most of the time

1:109 — Implications for career & taking people away from their normal jobs

114 — Tricky do pupils need normal lessons more than rsch   needs research

140 — Activity needs to be valued

314 — Glad of focus

Appendix 10: The lonely practitioner - Rose's story.

Of the interviews I conducted within this research, I was particularly struck by Rose's story. Rose, a modern foreign languages teacher, had been teaching for three years and had graduated with a master's in Teaching and Learning the week before I interviewed her. As an element of her MA Rose had undertaken a research project into the use of developing target language with a year 8 class. Despite having graduated within days of the interview, the tone of Rose's interview was markedly different from every other in this study. She spoke of her research without enthusiasm and it was apparent that her experience of conducting school-based research had been lonely, isolating and difficult.

Rose's story is powerful, offering valuable insight into the experience of a young teacher motivated by a desire to improve her practice and keen to undertake research activity. Rose did not benefit from leadership support, the allocation of any resources, or the existence of a research-rich culture. Her story effectively captures the significance of each theme and the challenge of undertaking research in the absence of support.

Rose was teaching at a School D, a Teaching School in the North West of England. My initial conversation with the deputy headteacher at School D was positive, she was very keen for School D to participate in my research. However, when she realised that I was not offering support or guidance in establishing research activity

participation was withdrawn. However, the deputy-head did, at my request, circulate an email to all staff asking if anyone would be prepared to be interviewed about their experience of, engagement or interest in teacher-research activity. Rose was the only teacher from School D who replied agreeing to participate in my research.

I interviewed Rose in July 2014. She was, at that time, unaware of any research and development activity occurring at School D, either at a whole school level or involving individual members of staff:

> I'm not really aware of any research activity that's taking place, I'm
> not actually sure if there is any if I'm honest (Rose, T-R:D).

Rose acknowledged that she received permission from the headteacher to carry out her research but beyond that there was no further support, backing or interest from the school leadership team in her research project. Leadership support and backing of research activity, as has been discussed, conveys a message that research activity is valued by SLT and is a school priority (Orphanos and Orr, 2014). An absence of SLT involvement indicates that it is highly unlikely that a research-led culture will either exist or develop, or that resources will be allocated to support research activity, as was evident in Rose's experience.

The real, or perceived, lack of interest in Rose's research was a recurring theme throughout her interview and it is noteworthy that in the following quote taken from her interview she uses the word 'nobody' seven times. This conveys a strong

message that Rose felt unsupported and isolated and her colleagues showed little interest in her work:

> I obviously asked permission from the headteacher to do it. I sent all the consent forms etcetera to parents and things. Nobody really said no. Nobody said it wasn't ok. I was allowed to run with it but not many people or nobody has asked me for the results or any kind of ideas really that came. I finished the dissertation, submitted it got my mark and that was it. Nobody's asked since. I did have chance errrm at the departmental meeting just to kind of share the idea that I wanted to trial the group talk. I had like a half hour slot just at a departmental meeting to present it, people asked a few questions and then I just did it with my class. Nobody else had a go at it, nobody really asked did it work, did it not, that kind of thing. It was just me getting on with it to be honest. To be honest since starting it, nobody's really asked me about it for three years (Rose,T-R:D).

When questioned about possible reasons for the lack of interest in her research I was interested that Rose assumed some of the responsibility for her colleagues' indifference indicating a reluctance on her part to actively share her findings or circulate her assignment:

> Maybe it's me partly as well. I didn't kind of actively say, I've finished it now, here's the, you know the assignment. I didn't really want to send it out to people if you know what I mean. I suppose I could have sent the results out and things and you know quotes and questionnaires and interviews but, I don't know, maybe it was my reluctance as well… because no-one else was doing it and I didn't want to be this, I don't know, I didn't want people to think 'oh gosh here she is again with you know this new idea'… I suppose I wanted to do it, get it done and that kind of be the end of it… probably because nobody else was doing something similar maybe I didn't share it (Rose, T-R:D).

This comment from Rose indicates a strong sense of isolation, not only in undertaking research activity, but in doing something different and how that may in

turn have positioned her as different, even estranged, from her colleagues. Rose indicates that she felt uncomfortable and to an extent, it seems that Rose's reluctance to share her research findings may be associated with a fear of how she might be perceived by her colleagues. McNicol (2004) found that while teachers may not be obstructive or actively opposed to a colleague's research involvement, their indifference to a colleague's endeavours and the resulting feelings of isolation experienced by a lone teacher-researcher may prove to be significant barriers towards establishing successful practitioner research. McNicol's findings were evident in Rose's experience and reinforce the importance and value of a school culture that supports, promotes and values teachers' learning and promotes professional collaboration (Godfrey, 2014; Szczesiul and Huizenga, 2014; Day, 2004). Rose's experience supports the findings of Christenson et al. (2002) who suggested that research activity could potentially lead to teachers feeling alienated from their non-research active colleagues. Had colleagues been research active Rose may have felt more confident and more inclined to talk about and share her research, thus reinforcing the importance of a research-rich school culture in making teacher-researchers feel secure, supported and valued for engaging in research into their practice.

Rose's reluctance to discuss her research and her learning with colleagues indicates a tension between her desire to learn and improve, as evidenced by her undertaking an MA, and of feeling uncomfortable even embarrassed in her desire to improve. Rose spoke of the modules she had undertaken during her master's but of not sharing that knowledge or learning with colleagues:

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> I did other modules but again, kept it to myself really. The other
> work I was doing. I did one on, errrm a module on curriculum
> development, inclusion a general one on teaching and learning...
> I've not spoken to anybody else (Rose, T-R:D).

There is a suggestion through Rose's comments that she positions herself as a 'victim', blaming herself for her desire to improve and not wanting to disclose that aspect of her practice, or certainly play-it-down.

Rose indicates that she felt marginalised as a direct result of her research activity. Such comments resonate with Hargreaves (1996) who suggested that any teacher who discusses research activity or findings in a staffroom conversation would be regarded by most colleagues as showing off. Admittedly Hargreaves' research was conducted twenty years ago and attitudes may have changed. However, the notion of 'showing off' resonates with Rose's comment, 'I didn't want people to think 'oh gosh here she is again with, you know this new idea'' and as such indicates that it remains relevant today. The suggestion that teacher-research activity may be perceived as 'showing off' is a damning comment on teachers who as professionals would be expected to commit to career-long professional development as central to their role and identity.

Rose explained that the only formal opportunity for discussion of her research activity was a thirty-minute agenda item within a department meeting. While this seems an appropriate time for such discussion it should also be acknowledged that thirty minutes probably represents half of the meeting time and so would have put

pressure on the head of department to cover all other business in a shorter time. Extending the meeting by thirty minutes longer than usual is unlikely to be received well by staff who, at the end of the school day, would be less receptive to discussion particularly of something they may have considered to have little relevance to themselves or their own practice. Once again this reinforces the importance of the school culture in creating opportunities for professional conversations to occur within the school day and for adequate resources to be given to the research agenda. Only if such conditions are met is it likely that research will become embedded into practice and not regarded as merely a bolted-on addition to teachers already over-stretched time.

The lack of interest in Rose's research demonstrated by her colleagues serves to reinforce the importance of SLT support and backing of a research agenda and teacher-research activity. Absence of SLT support is likely to leave research interested or research active teachers feeling vulnerable and exposed due to their different approach and potentially novel, innovative teaching methods (Seferoglu, 2010). It is not unreasonable to suggest that only the most confident, experienced teachers would not be discouraged by feeling vulnerable or exposed and so able to continue in their research endeavours.

I have discussed the key role of an effective SLT research champion in clearly conveying the rationale for a research agenda, in demystifying research activity and presenting it as unthreatening. This point was reinforced by Rose who suggested

that teachers may not understand what research is or what it entails and will need guidance and support to get started:

> I think people need to be made aware that they can you know, go
> away and do this kind of thing [research activity] really... They think,
> I don't know maybe it's going away and writing an essay,
> something like you did at university for your dissertation. It doesn't
> have to be that does it. So maybe kind of making sure how, what
> kind of things they can do to carry out that research (Rose, T-R:D).

This comment indicates the importance of communicating a clear research agenda which is likely to be determined and delivered by the school research-lead who will play a key role in shaping, driving and facilitating the agenda and consequently establishing a research-led culture. It would seem the absence of such a lead at School D left Rose in the polarised position. She was faced with the potentially daunting task of either trying to convince colleagues of the reason for and potential benefits of her research, or of keeping her research to herself leaving her feeling marginalised and estranged (Christenson et al., 2002). Rose's research activity resulted in her feeling uncomfortable and different, factors which are unlikely to lead to the embedding of research activity in teachers' practice and indicate something of the challenge of generating bottom-up momentum.

Rose's comments and account of her research journey suggest that she would be unlikely to embark on similar activity under the same conditions. Rose did not give any indication of having enjoyed undertaking the research project and suggested that she was glad to get it over and done with, 'I suppose I wanted to do it, get it done and that kind of be the end of it'. It is likely that the motivation of achieving her

master's degree was a significant factor in her continuing the research activity through to its end. It is questionable whether, in the absence of such an external motivator, she would have continued in her research endeavour.

Jane (HTSA) highlighted the significance of an external motivator as a necessary stimulus to promote teacher-research activity, particularly in the absence of a school-led agenda:

> It takes a lot of time for a teacher to sit and read, properly read and then they don't have a lot of time and I don't think they are terribly motivated to do that and some teachers need that external motivation, so things like going on a master's programme is what motivates them… Without that external motivation I don't know if they will (Jane, HTSA:E).

Stenhouse made a similar point in a paper in 1981 in which he suggested that research by teachers 'is a minority activity' and it is only in rare cases that such activity is sustained beyond formal degree structures. While it could be argued that Stenhouse's comments may be out of date, it does remain largely the case that a minority of teachers engage in research activity after qualification. Bassey (1999) expressed regret that of the many teachers who undertake and successfully complete a master's degree, few subsequently engage in further research. While Bassey is clear that the valuable learning gained through a master's degree makes the undertaking worthwhile, he highlights that very few of findings reach publication or even reach the teachers who would benefit and learn from the research. Quite simply, the research 'doesn't achieve its potential' (Bassey, 1999: p.6). The rather bleak insight into Rose's experience reinforces Bassey's findings as in not sharing her research and learning with other teachers the opportunity for her research to

have wider impact was lost. The absence of a research-rich culture at School D meant that Rose's efforts and endeavours were not celebrated, valued or even acknowledged. The lack of value given to Rose's research raises issues relating to whether teacher research undertaken as part fulfilment of a master's degree in the absence of a whole-school research culture merely represents 'going through the motions'. As such, it is likely to have little long-term impact and limited potential for sustainable change to teachers' practice once the master's study is completed.

The importance of a research-led, research-rich school culture that promotes collaboration as a powerful means to improve teacher practice is widely acknowledged (Department for Education, 2016; Moolenaar, 2012; Fleming and Kleinhenz, 2007; Wood, 2007). Safe conditions through which teacher collaboration is facilitated enabling teachers to discuss practice, share ideas and problems and learn together are recognised as central to teacher improvement (Seferoglu, 2010). So significant is collaboration that Christenson et al. (2002) identified that without it teachers were likely to give up on their research endeavours. Rose discussed how helpful and useful it would have been to have opportunities to work with colleagues, rather than in isolation. She had found the lack of interest in and support for her work both difficult and disappointing:

> Maybe if, if somebody else had trialled it at the same time as me and I could have gone in to observe them rather than just me focussing on my classroom, a bit more triangulation if you like. Seeing somebody else do it in the lesson and then work with somebody else and even share my findings… You know what worked and what didn't work and then practice can be improved... I think more opportunities to share it would have been good (Rose, T-R:D).

The opportunity for Rose to work alongside and share research experiences and findings with a colleague or colleagues may have offered her a potentially far more positive experience of research activity. Rose's negative experience offers valuable insight into the importance of facilitating opportunities for staff to work, talk, question and learn together. Where schools actively create conditions to promote collaboration teachers can effectively unite in a common commitment to professional development. Working together in a culture of research and improvement, they can seek new and creative approaches to raise the quality of their teaching and therefore the quality of opportunities for the young people they teach (Seferoglu, 2010).

The absence of resources available to Rose to support her research was clear. She spoke specifically of lack of time being a limiting factor in enabling her to further her research leaving the project with unrealised potential:

> There's still a long way to go with it [the research] really. There are things I'd like to try out 'cos as I was doing it in the lesson and obviously the research did take place in a lesson I, I didn't really have much time you know with other kinds of, you know we've got to do assessment and everything else in the classroom. Lots of different deadlines to meet there wasn't much time to do it (Rose, T-R:D).

The every-day pressures placed on teachers can significantly limit the potential for research activity to occur or develop and without leadership backing of research activity the challenge is arguably greater. It is highly unlikely that in the absence of SLT backing resources will be allocated to support teachers in their research efforts. A lack of, or limited access to resources is likely to result in only the most committed

teacher-researchers continuing in their endeavours and it is unlikely to move research from the small-scale activity of a minority to the embedded, sustainable whole-scale practice of the majority.

When asked what Rose considered would be required to embed research at school in order for it to become a sustained activity she identified the need for time, funding and opportunities for collaboration. Rose also spoke of the potential for research time to be built in to the school day and I was interested in her identifying the significance of schools taking an interest in teachers' research. She indicated that there could be potential in teachers and school leaders agreeing mutually beneficial research interests i.e. a topic that could benefit the teacher and the school:

> I'm not sure, school taking more of an interest it it... I think maybe to embed it research something that the school wants to develop, to find out more about maybe. I know you are doing research for your practice but if it were for the school as well, and maybe funding to do it cos I paid for it myself as well. And time. I know it's probably the usual teacher moan, time and money but also time in lessons or time in school to you know work on it really, develop it etcetera and then obviously, hopefully roll out whatever findings you know with other departments, some time to share your ideas as well (Rose, T-R:D).

One of the central objectives of teacher-research activity is for teachers to identify the means to become more effective. There is a danger that if the focus of research is negotiated between teachers and school leaders, teachers may be compromised, or at least feel compromised, and research topics enforced. However, I do think there is potential in Rose's suggestion for collaborative research projects to be negotiated and conducted investigating specific aspects of school practice.

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Rose indicated that a shortage of time had been a barrier to her research activity:

> Time really because obviously you do get frees but then those frees
> are supposed to be for planning your teaching and then obviously a
> lot of the research I did errm like the preparation, the reading took
> place at home and at weekends. I did find it hard. The time at
> home cos obviously I wanted to relax as well from school, you know
> that's why instead of taking two years it took closer to three years
> (Rose, T-R:D)

I was particularly interested to note that Rose indicated her work-life balance was disturbed or even compromised in trying to manage her work-load, the requirements of her master's study and finding time to relax. While it is to be expected that any teacher embarking on further study will be required to undertake additional work, if the school stands to benefit from the teacher's further study this does create an argument that school leaders should take into account the additional workload. If school leaders are serious about promoting and building research capacity, offering incentives such as protected or timetabled research time will indicate that teacher research is valued and supported. Research expectations placed on teachers must remain manageable and achievable, or the burden and pressure will almost certainly compromise both the agenda and teacher well-being with potentially detrimental effects on any long-term research agenda.

The theme of resources encompassed access to research expertise. Once again the absence of a research agenda, a non-existent culture of research practice or activity and a lack of SLT backing meant that support or expertise available to Rose was limited to what she could access independently outside of school. Rose referred to having received support from her PGCE tutors and the work from her

PGCE year had been useful. Rose had undertaken her PGCE four years earlier and while material from her PGCE and support from her tutors may have been a useful resource, reliance on these sources is concerning and reinforces issues relating to teachers' access to current research findings. Rose, as a master's student, had access to the university library but as discussed earlier, access to academic material for teachers who do not have an affiliation to a university library is problematic. Limited access to academic resources and support will almost certainly limit the scope of teacher research.

I suggested at the beginning of Rose's story that the tone of her interview was subdued. She spoke without enthusiasm and seemed weary of her research journey. There was no indication that Rose felt inspired or empowered by her research and the lack of support she received from the school and her colleagues had evidently had an adverse effect on Rose's experience of engaging in and with research. It is therefore all the more powerful that Rose spoke with real conviction of the benefits she recognised as a direct result of her research activity. Rose recognised that trying new, different strategies and approaches had been beneficial to her practice and that being able to share her learning with colleagues could be a valuable contribution towards teachers' professional development.

> Trying out different strategies with pupils in the classroom. I don't
> know, never being kind of, never just teaching the same lesson
> over and over again, the same style but always wanting to try
> something new. I suppose it's developed my practice and then
> maybe the practice of other members of the department if I shared
> resources and things they've tried (Rose, T-R:D).

It is disappointing that the potential value of Rose's findings were not realised at School D due to the lack of value given to Rose's research. It would seem that the absence of opportunity for Rose to share her findings and her reluctance to talk about her research due to a fear of being perceived by colleagues as showing-off meant that her colleagues missed out on a valuable CPD opportunity.

Rose spoke of what she recognised to be the importance of teachers developing as research literate, research-engaged practitioners as part of a career-long journey of improvement that counters stagnation (Stenhouse, 1979). In response to being asked if she thought there is a need for teachers to engage in career-long research activity she responded:

> I think yes because other-wise you'd just become ... you know you
> go to school, you teach the same kind of lessons day in, day out
> and do that for the rest of your teaching career and it becomes, I
> become fed up of it you know if I find myself teaching the same
> lesson to three different classes, I don't try new things, I become
> bored. If I become bored the pupils are bored. The teaching and
> learning isn't developing. It's not, you know the teaching isn't
> conducive to learning so I think it is really important. I think it's you
> know, professional development. I think it's good to keep your
> mind active, to keep trying new things and develop teaching (Rose,
> T-R:D).

It is a reasonable expectation that teachers, as professionals, will engage in a career-long journey of learning, self-improvement and professional development. Engaging in and with research activity is a recognised and valuable element of such CPD. The reason Rose was undertaking research was in part fulfilment of a master's degree, the underlying rationale of which was to make her a better teacher. The lack of interest or even indifference shown by her colleagues towards Rose's

research raises issues relating to teachers' attitudes towards self-improvement. A lack of interest in the potential for professional development offered through engaging in and with research may suggest an indifference to improvement or even an arrogance. Some teachers may be so confident in their practice they see no need to undertake such activity in pursuit of improvement; I would class my former self in this category. Such resistance to ongoing professional development within the teaching profession is concerning and supports a view that qualification may be perceived as warrant enough to secure teacher practice as high quality and effective, a view that is arguably outdated and unacceptable (Hargreaves, 2003). However, it is not possible from the data to draw any conclusions relating to the reasons behind the apparent indifference and lack of interest demonstrated by Rose's colleagues. This would be an interesting area for further investigation.

Rose epitomises the lone researcher, 'ploughing a lonely furrow' (Jane, HTSA:E). Through her story, Rose tells of the challenges she faced, and overcame, in undertaking research in a culture that did not value or support her activity. Her experience is all the more powerful as it is set in such contrast to the experience of participants whose research activity existed as part of a whole-school agenda to develop teacher-research literacy and promote teacher-research activity. The positive enthusiasm for research and collaboration as expressed by participants who were working with colleagues, supported by SLT and benefitting from a structured, resourced, valued research agenda is evidenced by the following comment:

> Becoming research literate keeps them motivated, teachers like sharing best practice with each other. They like seeing the research that people have done (Susan, T-R:A).

Despite an absence of leadership backing, without the interest of colleagues and with no allocation of resources Rose, seemingly against all odds, recognised the value of research-engaged practice. She spoke of the benefit to her own professional development and the huge potential research offers teachers in keeping their practice current and their teaching exciting as they continue to learn, think and develop as practitioners. What is particularly striking in Rose's comments is her recognition of so much of what the advocates of the teacher research movement have long reported to be the benefits of teacher research (Godfrey, 2014; McDonagh et al., 2012; Elliott, 2007; Kincheloe, 2003; Rudduck, 1995; Stenhouse, 1979a; Stenhouse, 1979b).

It seems remarkable that Rose has reached these conclusions largely on her own. It is not possible to determine from her interview how much of Rose's recognition and realisation of the potential for teacher research to function as a powerful form of CPD emerged from the taught elements of her master's. However, it is possible to surmise that her thinking it is not due to a school research-champion, a research-rich school culture that celebrated, valued and promoted teacher-research activity or collaboration with colleagues but that through her independent research endeavours she has recognised the potential for 'research as a basis for teaching' (Stenhouse, 1979a).

Rose's story indicates that the challenge of undertaking research activity as a lone researcher should not be underestimated. Instead of research being a positive and empowering experience, an absence of support is likely to lead to a lonely, challenging and potentially daunting research journey with many obstacles along the route. Rose's story suggests that the potential for bottom-up momentum to drive a research agenda seems almost impossible. To achieve this goal would surely require a particularly driven, committed, resilient teacher to successfully convince school leaders of the value of investing in a school research agenda. Even if our champion was successful in convincing SLT, s/he would then need to overcome the lack of interest demonstrated by colleagues, feelings of isolation and estrangement as experienced by Rose while at the same time working to convince colleagues of the potential benefits of research engagement to their professional development. Such a challenge would, needless to say, be in addition to the every-day pressure and demands of her/his teaching job. It would certainly not be a challenge for the feint hearted.

Despite the challenges ahead, the prize of persevering could be great. Through establishing a research-led culture that celebrates and values teacher-research activity, conditions can be created that emphasise collaborative relationships through which teachers will feel supported in their endeavours and facilitated in trialling different, creative, innovative practices. Through developing shared norms and values teachers can work together to gain knowledge and skills (Stoll et al., 2006) that mitigate against an over-reliance on tried and tested, outdated approaches of teaching and learning. In this way effective, career-long professional development can be made a reality. The reward of which promises to be

enthusiastic, inspired teachers and motivating, inspiring, high quality teaching and learning for all young people.

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