

Agents of Change: The perceived impact of engaging in action research on Teacher Action Researchers.

Alison Whelan

Doctorate in Education

School of Education, Communication and Language Sciences

Newcastle University

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Abstract

This study focused on a small sample of teacher action researchers (TRs) to explore their perceptions of the impact of engaging in classroom-based action research on their professional identity, agency and the ecology in which they conducted the research. A hermeneutic phenomenological approach was used to conduct a narrative inquiry using interviews with semi-structured questions. Transcripts were analysed using Interpretive Phenomenological Analysis (IPA) through the conceptual lens of my own experience.

Main findings explored three emerging themes and the participants' perceptions of them. Perceived professional identity is constantly evolving from even before a teacher enters the classroom, and is iterative – strongly influenced by past experiences, rooted in current circumstances, and shaped by future aspirations. Professional identity is also linked to personal identity, but there is no guarantee that any teacher will naturally become a TR, as other factors need to be present for this to become a dimension of their identity. Successful research project outcomes can heighten sense of agency, and therefore agency is linked to an awareness of the practitioner's ability to effect change. A stronger sense of agency can strengthen the innovative and experimental dimension of professional identity, and vice versa.

Most significantly, TRs seem to be most influenced in terms of agency and identity development by a noticeable impact on their immediate ecology and are less influenced or interested in replicability or impact outside their ecology. An unsupportive ecology does not necessarily lead to lower sense of agency or weaker identity as a TR. Even if a practitioner is no longer in an active TR role, professional identity retains aspects of this and has been shaped by past experiences, so it is difficult to extract that dimension of the self. This means that once a TR identity is established, it is difficult to step back into a non-research mindset and teach "off the shelf". Perceived professional identity as a TR is therefore constantly evolving, accumulating past experience to adapt to new educational situations and requirements.

Acknowledgements

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Agent of Change: What is a teacher action
researcher's perception of the impact of
engaging in research?

Alison Whelan

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This study focused on a small sample of teacher action researchers (TRs) to explore their perceptions of the impact of engaging in classroom-based action research on their professional identity, agency and the ecology in which they conducted the research. A hermeneutic phenomenological approach was used to conduct a narrative inquiry using interviews with semi-structured questions. Transcripts were analysed using Interpretive Phenomenological Analysis (IPA) through the conceptual lens of my own experience.

Main findings explored three emerging themes and the participants' perceptions of them. Perceived professional identity is constantly evolving from even before a teacher enters the classroom, and is iterative – strongly influenced by past experiences, rooted in current circumstances, and shaped by future aspirations. Professional identity is also linked to personal identity, but there is no guarantee that any teacher will naturally become a TR, as other factors need to be present for this to become a dimension of their identity. Successful research project outcomes can heighten sense of agency, and therefore agency is linked to an awareness of the practitioner's ability to effect change. A stronger sense of agency can strengthen the innovative and experimental dimension of professional identity, and vice versa.

Most significantly, TRs seem to be most influenced in terms of agency and identity development by a noticeable impact on their immediate ecology and are less influenced or interested in replicability or impact outside their ecology. An unsupportive ecology does not necessarily lead to lower sense of agency or weaker identity as a TR. Even if a practitioner is no longer in an active TR role, professional identity retains aspects of this and has been shaped by past experiences, so it is difficult to extract that dimension of the self. This means that once a TR identity is established, it is difficult to step back into a non-research mindset and teach "off the shelf". Perceived professional identity as a TR is therefore constantly evolving, accumulating past experience to adapt to new educational situations and requirements.

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Chapter 1: Introduction

1.1 Part A: Introduction

This study focuses on a small sample of teacher action researchers (TRs) taking part in a narrative enquiry to explore their perceptions of the significance and impact of engaging in action research on their professional identity, agency and the ecology in which they conducted the action research. A phenomenological method is used to analyse in-depth interview data, and to consider the research question through the eyes of those directly involved.

When Stenhouse (1975) created the term “teacher-researchers”, “the aim was to use research in improving educational practice, and was to be carried out by practitioners themselves, not by external agents” (Hammersley, 2004: 166). Having been a TR myself, I want to explore the impact of being a TR on a practitioner’s professional identity and agency, to see if there is a perceived long-term impact on identity or ecology as a result of engaging in action research.

The research question was formulated using an inductive approach, and data collected via interviews and coded using an Interpretive Phenomenological Analysis (IPA) method allowed me to develop a specific question to explore:

What is a teacher action researcher’s perception of the impact of engaging in research?

The word **perception** is key here, as it is important to note that in a phenomenological study, the data is subjective and direct from the participant, and as such inferences and conclusions can only be drawn about the participants involved in the study. These can be used to discuss potential repercussions on the wider TR community, and the wider educational field, but all discussion is based on participants’ perceptions rather than hard, quantitative data which is easier to generalise and infer further conclusions. Using data which is derived from perceptions and subjective beliefs also means that maintaining a high level of validity and reliability of the data is imperative, and this will be discussed in detail in later chapters.

This research is significant to both the academic educational research field, and to the teaching community who engage in action research, as little research exists into the impact of engaging in action research on TRs themselves. This will be discussed in more detail throughout this chapter and in subsequent chapters. It is hoped that by studying the perceived impact on a small sample of TRs, further study could be carried out which would continue to develop our knowledge about how professional identity evolves in practitioners who adopt a new dimension to their teaching role, that of researcher, and what impact this perceived identity development could have on the teaching and learning ecology in which they work.

1.1.1 Professional history

In both our personal and professional life, we adopt many roles that define us and shape our constantly evolving identity. These roles in life are taken on voluntarily and through necessity, reacting to changing circumstances and conditions in our workplace, home and family lives, and influenced by the supporting cast around us, all of whom are living their own lives and creating their own identities. Our changing roles impact on our identity: how we define and perceive ourselves, how we describe ourselves to others, and how we make choices based on what has gone before.

When I entered the classroom as a practitioner, I defined myself as a teacher, which could be embellished with other labels – a secondary teacher, a teacher of modern languages, a recently qualified teacher, and so on. All of these aspects impacted on my perception of my identity, and others' perception of me, my skills and my experience. However, early in my career I unexpectedly became involved in a national research project led by Newcastle University and the Campaign for Learning and became a teacher action researcher (abbreviated to TR in this thesis), joining a network of other TRs who were redefining their roles within their educational environments by creating and leading action research projects and sharing the results with others.

My professional identity had changed, and I found that I could no longer teach the curriculum purely as a facilitator of knowledge, but both wanted and needed to incorporate a research

element into my work. I still defined myself as a teacher to those outside the education system, but within my environment I perceived myself as a teacher-researcher. This term seemed to illustrate the distinction between my stance as a teacher action researcher, deeply involved in action research and often finding it difficult to separate my roles as practitioner and objective observer; the stance of the non-teaching academics whose articles I read in educational journals, or whom I encountered at networking events; and the teachers who taught the curriculum without feeling the need to investigate further.

1.1.2 Educational research by academics and practitioners

Historically, educational research has tended to be “done by those outside the classroom for the benefit of those outside the classroom” (Nixon, 1981: 5, in Nisbet, 2005: 34), mainly by academic institutions. Classroom teaching and educational research are two distinct roles, and since the 1970s there has been ongoing debate about whether the two can be successfully combined and whether classroom-based, teacher-led research can really be as thorough and rigorous as that by an objective, external academic. When Stenhouse (1975) created the term “teacher-researchers”, “the aim was to use research in improving educational practice, and was to be carried out by practitioners themselves, not by external agents” (Hammersley, 2004: 166). Quantitative research could show a wide range of individual differences but was often unable to explain the meaning or implications of the findings for everyday contexts, whereas qualitative research, such as that conducted by teacher action researchers, focused on understanding and insight into the complexities of learning and human behaviour (Nisbet, 2005: 35). By conducting their own qualitative research into teaching and learning, practitioners could use their own findings and insights to inform teaching and improve learning. Innovations such as the Humanities Curriculum Project in the early 1970s paved the way for more teacher-driven research, and challenged the previous concept that teachers were merely passive users of materials. Instead it allowed them to interpret and test ideas that had been developed “in the varying settings of their own schools” (Rudduck, 1980: 140). Rudduck’s definition of a teacher-decision-maker combines pedagogical and ecological knowledge with an evidence-informed approach:

“The task of the teacher-decision-maker is to assess the potential which a set of ideas—such as a project—might have in her school by bringing together a knowledge of the particular setting in which the project might now be introduced and the insights derived from the qualitative and quantitative data offered by the evaluation team. Thus, in this approach, dissemination is about encouraging and legitimising active, not passive, responses by decision-makers.” (Rudduck, 1980: 140)

This means that the role of the practitioner changed from delivering a curriculum in a particular way, to becoming an agent of change, able to redefine their classroom conditions and implement changes on their educational environment. Teachers who assume this role can initiate an inquiry and conduct a research project using a cyclical process of question, inquiry, evaluation and reflection. The research may stem from their own interest or curiosity or may be linked to professional or personal development. In some schools, management may encourage or request staff to take part in research projects, with results being shared across the school. TRs may work alone, particularly if they are conducting research as part of a professional or academic qualification, or in teams, working towards a school directive or management-led project. In nearly all cases, a TR will still be carrying out their teaching workload as a priority, and their teacher action research will fit around this, often in the teacher’s own free time.

1.1.3 Conflicting roles for practitioners

Combining the traditional roles of classroom teacher and teacher action researcher leads to the development of a new practitioner role and a changing professional identity. The TR must juggle the responsibilities of providing a curriculum set by department, school or government, often driven by assessment and data, with the creativity and innovation fuelled by their research interests. In some cases, their research is focused on their own classrooms and students and shared exclusively with their immediate colleagues. This contrasts with much of the educational research undertaken by academics, who view a classroom with an outsider’s objective viewpoint, and are more able to both generalise their research and compare it to other published research. This difference between the research of academics

and that of TRs prompted Stenhouse (1981: 111) to comment that “too much research is published to the world, too little to the village”. The work of TRs tends not to be far-reaching, whereas the work of academics may be widely published but is not necessarily read by the very teachers who could use it to make a difference in their classrooms. Little research by TRs is published in educational journals, and many academics dispute its value due to a perceived lack of rigour and replicability (Flyvberg, 2006). Indeed, academics such as Castle (2006) and Dadds (1998) found during their studies that even TRs often do not place immense value on their own research, believing it to be only of interest to themselves and selected like-minded colleagues and professionals.

The launch of the Chartered College of Teaching in 2017 may prove to be the outlet that bridges the gap between teachers, TRs and researchers, as it promises to give teachers access to educational research journals. Whether this initiative is successful depends largely on whether teachers have the time and inclination to access this information, and apply it to their own ecology or, indeed, to their everyday teaching responsibilities. Likewise, no mention has been made as to whether research by TRs themselves will be made available, or if it will remain the domain of academics. There is an opportunity here to “publish to the village”, as Stenhouse said (1981: 111), through making TRs’ work easily available to other teachers and TRs, placing it in the same league as work by established academics.

A further outlet is that of the Sutton Trust-Education Endowment Foundation (EEF) Teaching and Learning Toolkit, consulted by 64% of schools in England, according to the National Audit Office (NAO 2015). The EEF is “an independent grant-making charity dedicated to breaking the link between family income and educational achievement, ensuring that children and young people from all backgrounds can fulfil their potential and make the most of their talents”, by funding “rigorous evaluations of innovative projects aiming to raise pupils’ attainment” (EEF website, January 2017). Founded by the education charity The Sutton Trust, it offers to assist schools in raising attainment by investing in evidence-based projects, using Randomised Controlled Trials (RCTs). Schools and teachers can run these prescribed RCTs and the results are published online, allowing other schools to judge their cost-effectiveness, impact and potential to work in their own setting. Teachers may feel that they are becoming TRs by taking part in these RCTs, though in fact, the innovation and creativity levels are rather

low compared to if they undertook their own research projects, either with the support of their school or an outside institution. There are plans to create Research Schools, in the same vein as Teaching Schools, to provide a centre of excellence for each region and a research hub for teachers wishing to get involved. In terms of bringing evidence-based teacher action research to a wider audience, both the EEF and the Chartered College of Teaching have enormous potential. Whether teachers wish to get involved and commit to the extra workload is another matter.

1.1.4 TRs and non-TRs

This begs the question, why do some teachers choose to take on extra work by becoming TRs? Teaching is, according to the media, teaching unions and teachers themselves, becoming a more stressful and time-consuming career, with teachers increasingly leaving the profession. The UK newspaper *The Guardian* (22 March 2016) reported that 50,000 teachers left their jobs in 2015 (the highest figure in 10 years), representing 11% of the workforce. However, my own experience as a TR kept me involved in the profession, as I saw a change in the way I thought about teaching and learning, and a shift in my perceptions of both my professional identity and my role within my educational environment. I believed myself to be a more confident, innovative teacher, willing to take risks and try new techniques in the classroom. I set up research projects, evaluated the results, and reflected on how the situation could be changed, before beginning the action research cycle again. Are TRs therefore more creative, more innovative and more willing to take risks than their non-TR counterparts? Does involvement in research set them on a different career path to that which they may have taken otherwise? Is there a noticeable change in the way they perceive their professional identity and their role in education? Do TRs feel that they have made an impact on their educational ecology, and that they have been successful as an “agent of change”?

1.1.5 Research into TRs

Many studies have been conducted into the phenomenon of teacher action research, most notably recent works by Leat, Lofthouse and Reid (2014) and Bevins and Price (2014). Others have studied TRs themselves, particularly Castle (2006) and Dadds (1998), often looking at the way teachers behave in the classroom, and how their research impacts on their students’

learning and on the teaching techniques employed. However, few studies examine the impact of the change in professional identity on the TR themselves, and if they perceive their research to have had an impact on their methods, techniques and theories, as well as on their students, colleagues, schools, or the wider educational context. With this in mind, and with my own experience as a TR as a starting point, I intend to examine this phenomenon using a narrative inquiry approach, to better understand a TR's perceptions of their role, their professional identity and the changes it has undergone throughout their career because of their involvement in research, and the impact their research has made on themselves, others and their educational environment.

These concepts of professional identity, resilience, and perceived agency link well with work published in recent years by Thomson and Gunter (2011), who explore the fluidity of academic researchers' identity within schools; Biesta, Priestley and Robinson (2015) and their comprehensive work on teacher agency; Gibbs and Miller (2012, 2014), who researched teachers' resilience and well-being within schools; and Kemmis (2012) and his exploration of spectator and participant perspectives of action research. Though these works all contribute greatly to the field in providing an excellent insight into the perspectives of TRs, they are all written by non-teachers: academics who may at one time have been active classroom practitioners but are now viewing the phenomenon from an objective distance. The research undertaken and described in the following chapters attempts to bridge this gap and provide insights by TRs analysed and interpreted from the viewpoint of a fellow TR. The added element of empathy and understanding of the situation will stand this study apart from its related literature, and my aim is to make it accessible to TRs themselves, who may feel isolated and unique in their assumed role.

With my own perceptions and viewpoint as a starting point, my research question has therefore been formulated through an inductive data collection process, and examines if there is a perceived impact on a practitioner's identity and ecology when they define themselves as a TR. This question is: **What is a teacher action researcher's perception of the impact of engaging in research?** In the research process, I first establish that there is a hypothesis worthy of further research using closed questionnaires with a small purposive sample, then conduct a hermeneutic phenomenological study to interpret narratives

provided by three purposely selected TRs in semi-structured interviews. These emerging themes and concepts can then produce inferences and initial conclusions on whether these TRs really feel that they are “agents of change” and are able to conduct innovative research which has a lasting impact on both the education system in which they work, and on their own professional identity. The analysis of the three participants can then be used to help draw potential conclusions about the role and impact that TRs may perceive in the wider educational ecology.

In order to understand more about the development and role of TRs within educational ecologies and within academic research, it is necessary to explore the varied literature in the field and examine how TRs are viewed by themselves and others in terms of educational research. This will be discussed in the literature review in the next chapter.

Chapter 2: Literature review

2.1 Part 1: Teacher, researcher, or TR?

2.1.1 *The portrayal of teacher action research in literature*

There are a number of key areas to consider in this literature review regarding the role of teacher action researchers, in both their own perception and the perception of others. Firstly, we must look at the conflicting roles held by a TR and how they define themselves in their professional lives – are they teachers, researchers or a combination of the two? Is a combination possible? How are they regarded by their colleagues, school management and those in outside agencies, in particular, academic researchers? Secondly, the concept of professional identity must be considered in more depth, and especially if and how TRs perceive that their identity develops through their engagement in action research. This incorporates how teachers perceive their professional development throughout their educational career; how they must learn to become resilient and more willing to take risks in an increasingly risk-avoidant culture; and how engaging in research can potentially help them to avoid becoming overwhelmed and disillusioned, and leaving the profession. Thirdly, the problems and paradoxes of engaging in educational research must be explored. Teacher action research has been controversial since the 1970s, when Stenhouse began to put forward his idea on practitioners engaging in research to inform their own practice, and has continued to divide academics on its validity, reliability and importance. Researchers such as Dadds (1998) and Castle (2006) have done much to give a voice to TRs and allow them to share their stories of engagement in action research, as have the academics involved in the L2L research project with the Campaign for Learning (Higgins *et al.*, 2007; Wall *et al.*, 2009; Wall *et al.*, 2010), but there are still issues for TRs in terms of being able to share and publish their findings to a wider audience. Finally, we must consider if the research carried out by TRs is actually regarded as making an impact, and if so, in what way – a perceived impact on the TR themselves, or a visible impact, with findings and outcomes actively used to make a difference to teaching and learning? There is a great deal of research pertaining to these four areas, which will help me to define my research aims and structure my ideas on if there is an impact on TRs when they engage in action research.

2.1.2 Perception of being an agent of change

All teachers strive to be agents of change (Biesta and Tedder, 2007; Biesta, Priestley and Robinson, 2012, 2015; Elliott, 2007; van der Heijden *et al.*, 2015). They join the profession to change lives, to change futures, to change education. They want to impart knowledge, help to shape their students' perceptions of their role in the world, and give them the best start in life. But to be a successful agent of change, the conditions, circumstances and ecology must be hospitable – school, management, pupils, and the teacher's current personal and professional mindset all combine to create an ecology where learning can occur effectively, organically and innovatively. Biesta and Tedder (2007, in Priestley, Edwards, Miller and Priestley, 2012: 11) point out that being an effective agent of change “depends on the interaction of the capacities and the ecological condition [...] in other words, agency is positioned as a relational effect.” When a practitioner actively aims to be an agent of change, they decide the focus of their teaching and learning (Leat, Lofthouse and Reid, 2014: 3), and move away from the role of classroom technician (Carr, 1995) to become learning facilitators (Day, 1999).

To become a TR is to become a more innovative and proactive agent of change, willing and able to effect positive changes on the learning ecology. They use their curiosity and their desire to know more about the teaching and learning process to instigate an investigation, and they will begin to find that “curiosity and contemplation are the complementary bookends of a research process that leads to valid knowledge” (Dadds, 2002: 17). Engaging in teacher action research is a more complex process than experimental teaching and learning and needs to have an aspect of structured reflection on or about educational practice, to resolve problems or examine ecological issues (Murray, 1992: 191). However, “there are times when we [as TRs] initiate inquiry, or find ourselves embarked on it, without having been stimulated by a practical problem” (Hammersley, 2004: 170). While some practitioners will have a solid support network or academic background to assist them, others may embark upon a research process in response to an issue that affects their ecology or to explore a ‘hunch’. They may work autonomously, relying on their own intuition. Leat, Lofthouse and Reid (2014: 4) discovered that TRs engaging in research ranged from those pursuing a

personal inquiry with little interest or support from others, to those with strong ecological and external support in data collection, analysis and writing up.

2.1.3 TRs as Researchers

One issue for TRs is that they often lack confidence and experience in relating academic literature and theory to their teacher action research work (Stenhouse, 1981: 111). They may believe that their work is only relevant to themselves and their own ecology, and as such they share their findings only with their immediate colleagues within their institution. Their lack of expertise in academic writing and research methodologies may prevent them from being able to share their work with a wider audience of practitioners who would most benefit from the knowledge. Educational literature on teaching and learning tends to stem therefore from external academics, those outside the educational environments about which they are writing. TRs are perhaps conditioned to believe that their work is not “real research” and has little relevance outside their own classroom, feeling that nobody else would be interested in reading about their studies as they are only focused on their own practice (Dadds, 1998: 47).

Research is expected to produce knowledge, which can be then used in educational practice and by educational practitioners (Biesta, 2007b: 296). Teachers feel they are not qualified to produce this knowledge, or to pass judgements on what works and what does not, and they are often surprised to find that when they disseminate findings and share theories with fellow practitioners, there is both common ground and replicability across ecologies. Each practitioner therefore has a small role in education, but when knowledge is shared and combined, building on what others have achieved, then the possibility for positive change is maximised. A single TR can effect a change that will make “a small contribution to the improvement of the human condition in that context” (Dadds, 1998: 41).

The type of research project in which teachers are most likely to engage is action research, as it is generally an inquiry process conducted both by the practitioner and for the benefit and use of the practitioner. Action research is therefore always relevant to the action researcher as they themselves have set the purpose and the focus of the inquiry. Action research develops through a self-reflective spiral of cycles: planning, implementing, observing,

reflecting and re-implementing (Kemmis, 2007), meaning that the teacher becomes a more reflective practitioner and develops greater mastery of the practice of teaching. TRs following this cycle must employ critical reflection to develop greater insight into their practice and their teaching and learning methods (Forde *et al.*, 2006). TRs use this reflective insight to evaluate their experiences and develop new understandings, and evidence derived from action research projects can be used to inform teaching and learning policy and practice.

However, a criticism of teacher action research is that it can be difficult to describe clearly or collate neatly. Teacher action research produces social and cultural results that can take time to manifest themselves, and may not be easy to relay to others; for instance, how does one qualify improved confidence or self-esteem? This is perhaps one reason why action research is not valued as highly within academic literature, and why very little literature on action research is from the perspective of these TRs. Some educational researchers have previous careers as teachers, some infiltrate the school ecology and thus become less of an “outsider”, and some conduct objective studies of TRs and relay their findings. This has led to a gap between research and practice, and a seemingly endless discussion on “what works”.

2.1.4 Educational research and making TRs’ voices heard

There is little research on teacher voice with a specific focus on the phenomenon of engaging in action research. Llorens (1994) points out that

“historically, teachers have never been an important source of information for educational change. Indeed, those most actively engaged in the transmission of socially determined knowledge are the least recognized in decisions that inform that process” (p3)

She draws on social psychologist Kurt Lewin’s 1940s definition of action research as being “the application of tools and methods of social science to immediate, practical problems, with the goals of contributing to theory and knowledge in the field of education and improving practice in schools” (Oja & Smulyan, 1989: 1, in Llorens, 1994: 4). This links to Stenhouse’s (1975) comment that teacher-researchers’ work could and should generate knowledge that

could be used by practitioners themselves. Likewise, Llorens cites Longstreet (1982) who demonstrates “how existing research paradigms do not allow for the dual concerns of research for teaching: the simultaneous need for understanding and action” (1994: 4). Longstreet discusses how academic research can be divided into the scientific and the humanistic, and both must combine to create an understanding of this particular social phenomenon, as individually they cannot adequately address “the ever-changing complexity of education” (ibid., p4).

Gade (2011) examines the development of praxis within practice through her experiences of engaging in action research and defining her new professional role as a teacher-researcher-educator (her term). Her study aims to explore how her “learning and growth as an educational practitioner allows me to account for the ‘what’ and ‘why’ of my actions (McNiff, 2007)” (Gade, 2011: 35). As a maths teacher, she moved from developing her practice, to using her own narrative as a means of analysis, to drawing upon her cumulative experience to conduct action research. Gade draws on Clandinin and Connelly’s (1998) term “personal practical knowledge”, which allows for “the ability of teachers to draw from individual experience and talk about themselves as knowledgeable people” (Gade, 2011: 39). This concept, that teachers engaged in action research may be knowledgeable ‘experts’ in their field, is not one which is frequently examined in academic literature. However, engaging in action research does not necessarily lead to the creation of teacher-researchers. Indeed, Llorens (1994) found, when studying teachers engaged in a collaborative research project between their school and university-based academics, that these teachers potentially became more reflective practitioners, as a result of the research skills they had learned through the project. They had also developed their sense of professionalism and empowerment, possibly due to the professional relationships developed with the outside academics and with their colleagues. But “what they still lacked was a sense of their own voice and its importance to educational improvement in their own classrooms and beyond” (p6). Llorens concludes by stating:

“For action research to be successful it must promote and respond to a teacher voice. This cannot be a token acknowledgement that practice can inform theory or that teachers' questions are relevant as long as they are overtly

socially critical. Action research must first be a form of empowerment if it is to be anything else. Unless teachers believe that others will listen to them, that what they have to say is worth hearing, they will remain silent” (p8).

Exploring the notion of teacher voice in reference to the phenomenon of engaging in action research would be an acceptance that TRs can elucidate their understanding of the links and tensions between theory and practice in the classroom. Stewart *et al.* (1994), in their evaluation of their collaborative research project examining the impact of incorporating student teachers into their classrooms, recognised the importance of “ordinary” teachers bringing their voice and their narrative of engaging in action research to a wider audience:

“And so here I am, a primary teacher struggling to bring the 'teacher's voice' to the research. One who is beginning to appreciate the potential of collaborative work, and who is discovering the power of narrative written from an ordinary classroom teacher's perspective” (p345).

This concept of being an “ordinary teacher” is a recurring theme in literature on teacher action researchers. In his blog, Oliver Quinlan (2012) discusses the importance of teachers evaluating their underlying reasons behind their choice to be a teacher. This self-questioning, he claims, helps “to articulate your moral purpose, a theoretical framework is the place to articulate your intellectual purpose. It shapes the thinking you do, the decisions you make, and as a result the paths you and your learners take”. This same technique could be used to inquire of teacher action researchers why they choose to engage in action research and what impact they perceive it to have on the paths they take in the classroom and in their career. No teacher is merely an “ordinary teacher” but is formed and shaped by the experiences they have before entering the classroom, and once in it.

Tim O’Brien (2016) conducted a research project for the newly-formed Chartered College of Teaching, interviewing a large sample of teachers from across the UK and across different educational sectors, and asking what the Chartered College could do for them as practitioners. The main findings included teachers’ hopes that the CCoT will support and enhance teacher professionalism; offer access to high quality research; facilitate the sharing

of practice; and represent and amplify teacher voice. These four aspects are linked, and all embrace the concept of teacher voice. High quality research does not need to simply imply academic research but must include that conducted by teacher action researchers; this research must be disseminated and shared across the educational community in a variety of ways; and by sharing this research, teachers will feel more empowered and more like an active creator of knowledge, rather than a passive recipient of policy and directive. The Chartered College of Teaching has strong potential for allowing teacher action researchers to make their voices heard, to other practitioners, to academics, and to decision-makers in government. In this way, a teacher action researcher may now have the potential to make an impact on both their immediate educational ecology, and the wider educational field.

Some researchers focus specifically on making TRs' voices heard (Castle, 2006; Dadds, 1998; Baumfield, Hall, and Wall, 2008). However, much research literature is focused on the effect of research on educational practice and policy, rather than the effect on the TRs themselves. The educational climate changes regularly, and as governments implement different policies and ideologies, teachers must adapt their practice. Reflection on this practice is crucial to how teachers develop as practitioners (Reynolds, 2011: 8), and sharing this reflection with others allows different viewpoints, techniques and methodologies to evolve within an ecology (Whelan, 2009). What is needed to assist teachers in sharing their research is a framework which combines theory and practice (Goodman and Grosvenor, 2009; Richardson, 1994), which would allow policy-makers and practitioners to create new, co-constructed policies to structure teaching and learning. However, teachers are often more influenced by their own experiences than theory, and to become more rounded educational practitioners in action research, would need more thorough training in pedagogy, research methodologies and philosophy to avoid merely instinctively experimenting in the classroom in the hope that there will be a positive outcome (Hopmann, 2009: 3). Indeed, teacher action research must be systematic and structured, because, as Dewey (2009: 3) points out, "experimentation is something other than blindly trying one's luck or messing around in the hope that something nice will be the result".

There are externally-based academic supporters of action research, who support and guide TRs in academic-led research projects. This type of teacher action research can develop

evidence informed practice and help build research capacity within an ecology (Baumfield, Hall and Wall, 2008: 122). Action research can support the implementation of new ideas and practices by encouraging reluctant colleagues to “have a go and try” (p123). This “have a go”, risk-taking mentality was a strong feature of the Learning to Learn project, a joint undertaking by Newcastle University and the Campaign for Learning, a national education charity (Higgins *et al.*, 2007; Wall *et al.*, 2009; Wall *et al.*, 2010). A key characteristic of the project was teachers’ willingness to “have a go” and experiment in their classrooms, with support from academics; results were disseminated first within the home institution and then across the other participating institutions. Risks were encouraged, and teachers were empowered to test their own hypotheses and ideas, with results informing their own practice, and impacting on their colleagues and immediate ecology. A narrative inquiry into the teachers involved in the project found that if they were prepared to take these risks, “it resulted in new ideas about the relationship between teacher learning and pupil learning - a relationship in which pupils are viewed as partners in learning” (Thomas, Tiplady, and Wall, 2014: 8). The reflection process was key, as was the process of sharing findings with fellow practitioners at regional and national network meetings and conferences, but what set this project apart was the support afforded to the TRs by the university academics, the Campaign for Learning and the Local Authority advisors involved, and the collaboration that was encouraged.

2.1.5 Perceived issues with validity and relevance in educational research

However, a problem with teacher action research, such as that of the teachers in the L2L project, is that it may not feel like “proper” research – something echoed by Cook (2009), who studied the “mess” in action research, and concluded that there were doubts as to whether this type of study was “proper research” or was being conducted “properly” (p3). She hypothesises that that “the pull towards a neat model of research has the possibility of limiting researchers to reporting *what fits* rather than *what is* or finding out *what could be*” (2009: 16). But the cultural role of research is often far more important to a classroom teacher who is researching an issue relevant to the individual student or colleague participants, not a data cohort or a generalised cross-section of the population. Having studied various government policies and OFSTED reports, Biesta (2007a) suggests that there are serious doubts about the quality and relevance of current educational research, and that

much of what is available does not assist in developing government policy or provide clear guidance for practitioners, and that it can be fragmented, methodologically flawed and politically motivated (p1-2).

Often academic researchers (perhaps supported by government, policy-makers, school management or other externally funded bodies) examine the technical approach, as they focus on a particular outcome. TRs are more likely to explore the cultural role of research, based on hunches and usually localised on an issue in their own classroom or school. Biesta maintains that the technical and cultural approaches should “mutually inform and reinforce each other” (2007a: 19), but when a teacher undertakes research in the classroom, it is too often disseminated only within their school and no further. It is not considered reliable enough, or has little transferability, or indeed TRs themselves often believe that their work has little value to anyone but themselves and their own teaching and learning ecology (Dadds, 1998).

Any social science research, whether undertaken by an outside agency or otherwise, is fraught with issues of validity and reliability, given the nature of the individual personalities, feelings and opinions of the subjects, but validity in research is, according to Cook (2009), a discipline that forces the researcher to question, critique and engage with data in a manner that allows them to thoroughly explore their understanding (p15). Being involved in an ethnographic ecology means that TRs are more able to build “communities of inquiry” (ibid., p13), and an action researcher is more likely to catch critical incidents as they occur, unlike an objective observer who may theorise due to a lack of active experience in the field (Blumer, 1969). A TR is also more likely to grasp the “here-and-now-ness”, the “happening-ness” and the “lived-ness” of the classroom and engage subjectively and intersubjectively with the whole experience of being a classroom practitioner (Kemmis, 2009: 891).

The TR, it seems, is ‘on-the-spot’, and often has background knowledge of the situation, is more comfortable in the environment, and has a relationship with participants. Of course, this can lead to a grey area where boundaries between teacher and researcher are blurred: it is difficult for students to ‘opt out’ of a research project in which their own teacher is asking them to participate, particularly if the research concerns a whole class of students.

2.1.6 *Contrasting roles of teacher and teacher action researcher*

The argument therefore rages over the division between researcher and practitioner. Due to the inevitable bias of the TR, Cook (2009) feels that “one indicator of rigorous research has been the distance between the interpreter and their subject” (p13). Likewise, Biesta quotes Bauer and Fischer in their view that “practitioners may act as researchers” (2007a: 231), but he feels that these two have different expertise, different responsibilities, and that “by collapsing the two roles [...] there is a danger that researchers lose their critical distance vis-à-vis educational practice” (2007b: 300). Just as an outside agency may see the student participants of a study purely as research data, without history or personality, likewise the TR has many other demands on their time and needs to balance research with teaching, learning, behavioural management, and environmental changes. They may be masters of their ecology, but the moments for objective observation are few.

Research by outside agents may have less value when transmitted to teachers, in that only information from research can be passed on to practitioners, and true knowledge of the subject requires a more in-depth experience (Dadds, 2002: 19). However, there are some research situations when an outsider can observe more, from an objective and impersonal point of view, devoid of personal opinion or relationship with the subjects, and situations when a TR is best placed to test a particular theory about their specific learning ecology. There may therefore be no real advantages to being an insider or outsider (Hammersley, 1993). Indeed, quite often research only comes about due to the presence of an “outside actor”, who guides or supports a TR through the process, or instigates research programmes (coaching is a good example of this) that the teachers are then encouraged and are confident enough to continue without the outside agent’s presence (Berger *et al*, 2005). Baumfield, Hall and Wall (2008) suggest that action research is “a process of beginning with engaging *in* research as the stimulus for engaging *with* research (Baumfield, Hall *et al.*, 2007)” (p122); many TRs may indeed begin their research career through the guidance of a ‘professional’ researcher.

Overall, those who study the field of teacher action research seem to feel that the problematic issue is communication between researcher and practitioner, and that much research

struggles to be translated effectively into a noticeable impact on practice or policy (Biesta, 2007b; Watkins, 2006; Hargreaves, 1996). In both academic research and teacher action research, we only find out “what *has been possible*”, and therefore educational research “can tell us *what worked* but cannot tell us *what works*” (Biesta, 2007a: 16, emphasis in original).

2.2 Part 2: Perception of TRs’ professional identity

2.2.1 *Research into teacher action research*

Much research done about teacher action research is focused on the effects of the research – the impact on the pupils, the school, the data, the progress in learning. There is little on the challenges of being a TR and the TR’s voice is rarely heard (Leat, Lofthouse and Reid, 2014); Bevins and Price, 2014). This is a pity, because “good researchers are not only good at field work and interpretation – they are also good storytellers” (Shkedi, 1998: 575). When researchers do examine the action research or teacher action research being undertaken by teachers, it is often considered “a weak contribution to public knowledge” (McIntyre, 2005: 367). When conducting research, TRs prioritise practicality, feasibility and effectiveness in context. Researchers, on the other hand, prioritise clarity, coherence and truth (ibid., p359).

Though academic researchers have termed research carried out by teachers in diverse ways – teacher inquiry (Ermeling 2010), action research (Baumfield, Hall and Wall 2008), evidence-based practice (Biesta, 2007a) – they often draw on the writing of Dewey (1933), Stenhouse (1975) and Schön (1987) before them. The notion of lived experience features strongly, and Ermeling (2010), McIntyre (2005), Carr and Kemmis (1986), Cook (2009), Kemmis and McTaggart (1988), and Dadds (2002) all discuss the importance of teachers using a teacher inquiry model to plan, observe and reflect on problems or situations that are “job-related and relevant” (Ermeling, 2010: 378). What TRs do is very much dependent on their personal environment (McIntyre, 2005: 359). The decisions they make in designing their research projects is ultimately tied up with their ecology – their day-to-day teaching and learning environment.

Kemmis (2012) talks about teachers examining their work in a detached manner (p897), but other researchers acknowledge the level of reflection that TRs need to apply on a constant

basis (Rodgers, 2002; Ben-Peretz, 2011; van den Berg, 2002; Thomson and Gunter, 2011; and Hardwick and Worsley, 2011). Rodgers links reflection and practice and implies that theory and evidence must be generated from classroom practice (p245).

2.2.2 Development from reflective practitioner into potential teacher action researcher

Teachers frequently implement the skills of experimentation and reflection, this being the nature of their job, and Rodgers feels that when teachers start to “see” the teaching and learning in more nuanced ways, they will become more aware of their actions (p250). This links with Ben-Peretz (2011) who believes that teachers “carry in themselves the knowledge required for teaching” (p5). This idea that teachers’ own personal, practical knowledge has a major bearing on the research evidence that is produced is very much in line with Schön’s (1983) concept of the reflective practitioner. A teacher’s ideas and knowledge base are constantly developing as they gain more experience, encounter different challenges, and interact with different students. Of course, if a teacher’s knowledge base is constantly developing throughout their teaching and learning career, then it stands to reason that their professional identity will also be in a state of flux. Thomson and Gunter (2011) discuss how teacher action researchers’ professional development leads them to become more adept at reflecting-in-action and reflecting-on-action (Schön, 1983), and therefore encounter “transformative growth” (Kolb, 1984, in Rodgers, 2002: 232) which illuminates their practice.

As teachers become more skilled in reflection, they become more interested and curious about their practice, and examine their students’ learning more closely (Rodgers, 2002: 232). With this curiosity comes the desire to experiment, take risks, and try to solve problems. Indeed, reflection helps the teacher to slow down to see, describe and analyse what happened in the classroom, then strategize steps for intelligent action (ibid., p234). This is the starting point for a TR: stopping to reflect on what is happening in the classroom, and how they should or could proceed. In this way, Rodgers and Schön represent the ideal for the TR. “Reflecting-in-action” is the ability to notice what is happening, and make necessary adjustments to professional practice (Solomon, 2008; 4); it is the ability to “respond thoughtfully in the moment” (Rodgers, 2002: 232). The practitioner therefore experiments in a way that is “at once exploratory, move testing and hypothesis testing” (Schön, 1987:72).

Various researchers have explored the field of TRs' development of professional knowledge and their attitudes towards their changing practice, such as Whitehead and McNiff (2006); Altrichter, Posch and Somekh (1993); Connelly and Clandinin (1997); and James and McCormick (2009) amongst many others. Altrichter, Posch and Somekh refer to teachers who reflect on their practice in order to strengthen and develop its positive features as "normal" teachers (1993: 5). However, in choosing to act on their reflection-in-action and reflection-on-action, the TR adopts several roles: that of executive, manager and technician of the research process (Taber, 2007: 31). Whilst teaching and meeting the goals of their department, school and local authority, the TR must also consider these roles alongside their pupils' needs, the resources available, their context and ecology, and wider policy and requirements (McIntyre, 2005: 360).

The process they follow will not necessarily be straightforward and linear but will be trial and error; a series of risks, experimentation and failure. The research process may, at some point, end up "in a mess" (Cook, 2009: 4), but this is rarely mentioned in academic research. The TR will recognise this idea of "mess", and at times may give up because of it. It may be this kind of "mess" that prevents many teachers from disseminating their research further afield than their own schools. But messy areas are the forum for co-construction, where strands of knowledge that have been unearthed lead to development and change (ibid., p7).

2.2.3 The role of the ecology in developing a teacher action researcher's voice

Though many TRs are supported by academic institutions (as in projects managed by Baumfield, Hall and Wall (2008) or van Eekelen *et al.* (2006)), there are those who work alone, unsure of their methods, their changing identity and where this research is leading them. What they do is for their pupils and their teaching and learning ecologies. They are often trying to improve an existing situation or resolve a problem. Their identity has changed from that of a 'normal' teacher to a TR, and they are stranded in a no-man's land, neither a teacher nor a researcher. There is very little research in this area, but immersion in a specific social, cultural and institutional ecology can affect teachers' professional identity, as can their beliefs, attitudes, emotions and truths (van den Berg, 2002: 582).

Other criteria such as willingness to devote time to work, incorporating a personal identity into their work, and policy environments can all impact on a teacher's professional identity. A turbulent policy environment for instance – such as one which is unsupportive to the idea of teacher action research or teacher-led innovation within the curriculum – can lead to “negative perceptions of their [the teachers'] own self-worth” and “a feeling of identity loss” (van den Berg, 2002: 600). In October 2015, the Guardian newspaper reported on a YouGov poll which found that 53% of UK teachers were considering leaving the profession over the next two years due to disillusionment, heavy workload, data-based assessments, constant professional observations and a general feeling of unhappiness in the job. This was echoed in another related article written by a former teacher in the Times Educational Supplement (TES) Online, where the author, Alan Gibbons, said that teaching had become all about the “workload, the endless collection of data, the subordination of teaching and learning to tracking, testing and "accountability", which invariably means stress-inducing targets and anxious over-the-shoulder concerns about the next Ofsted inspection” (TES Online, 6/11/15).

He quotes further statistics: 40% of teachers leave within a year of qualifying, and 11,000 young teachers leave before they have completed a full professional development (most likely, the 6 years on the main pay scale before entering the upper pay scale). “The exodus has almost tripled in six years and there is much talk of a teacher recruitment crisis.” Indeed, the problem seems to have started more than 15 years ago, as Slick (2002) cites Borsuk's (2000: 1) comment that “a large number of people who either are good teachers or who could have become good teachers are quitting once they've seen what the job is like” (Slick, 2002: 199). Factors which can help with retention of teachers include “opportunities to gain a sense of self-worth and feeling of success” (p199).

In this data-obsessed educational climate, there is little room for a teacher to truly spend time focusing on teaching and learning, innovation, creativity, or the nurturing of a child's potential. These facts obviously impact on the general number of teachers in our schools, but also on the number of teachers willing to go a step further and become TRs. If a teacher is already overloaded with day-to-day work, they are less likely to have the time to reflect on their work and use action research techniques of reflection and experimentation. If they are constantly being asked to meet targets and match up to criteria for a 'perfect' lesson, they

are less likely to feel confident enough to take risks and explore new techniques which may fail. If they are already feeling disillusioned in their job, they are certainly less likely to be the innovative, creative, passionate teachers that they perhaps once were.

2.2.4 Initiatives in training and continuously developing innovative teachers

The process of training has altered over recent years, with many teachers now entering the profession through vocational routes such as Teach First, or through a programme within a Teaching School. Throughout the formal training process, however, it is important to equip a trainee teacher with the skills needed to be an “inventive pioneer” (Schrag, 2009: 23). The “Master Teacher Standard” (DfE Press Release) was put forward in 2011 to encourage teachers to aim for a higher standard of qualification and practice within the profession. When this idea was conceived, understanding research methods and how to conduct inquiry were considered priority skills for new teachers (Oancea and Bridges, 2009: 564). Newly qualified teachers were to see “theory as a friend rather than an extraneous indulgence” (ibid., p564). The criteria would focus on their teaching ability and their assessment planning and organisation skills. Skills and traits such as inquiry-based learning, evidence-based practice innovation and risk-taking were not mentioned, and imparting knowledge seemed to be favoured over research-led practice. Perhaps because of this, some commentators feel that the wider teaching culture still lacks the courage and the imagination to fully embrace action research and inquiry, and that many teachers are in fact content to continue teaching as they themselves were taught, even if they claim to dislike the process (Garrison, 2009: 19-20).

As mentioned, the Chartered College of Teaching, the new professional body for teachers, aims to connect “a diverse community of teachers to share ideas and knowledge and provide an independent, authoritative voice for the teaching profession”. More than 2,000 academic journals and books are accessible through the Chartered College's research database, and the aim is to reintroduce the idea that teaching is an evidence-based profession. Likewise, reported evidence that opportunities for teachers in England are insufficiently evidence-based, do not focus sufficiently on specific pupil needs, are too inconsistent in quality, and lag behind those experienced by colleagues elsewhere internationally, led to the Teacher

Development Trust launching a review of effective professional development. Both initiatives will undoubtedly have an impact on the profession and on practitioners who actively engage in research, and it is hoped that more teachers will be encouraged to become research-informed.

2.2.5 Perceptions of self-efficacy, resilience and managing change in pedagogy and curriculum

Covering the content required is the key focus in many classrooms today, leading to a lack of intellectual demandingness (Lingard, 2007: 258). Pedagogy and curriculum can seem curiously disconnected from the lives students will go on to lead. Many newly qualified teachers strive to be a “good teacher” (Williamson and Morgan, 2009: 290), or better still, an outstanding one, who can deliver inquiry-based personalised learning experiences but still follow “nationally defined criteria for effective practice” (ibid., p290). However, the definition of a “good teacher” is constantly changing.

Gokce (2010), Parker *et al.* (2012) and Gibbs and Miller (2012) have all examined teachers’ motivation, resilience and workplace well-being, while Devos *et al.* (2012) looked more specifically at self-efficacy of teachers and their feelings of depression. Worryingly, Devos *et al.* support the theory that in a performance-goal driven environment, the aim is to demonstrate competence or avoid demonstrating a lack of competence, and with little effort, as making an effort is seen as a sign of lack of ability. “Similarly, failures and setbacks are attributed to a lack of ability, which leads to negative feelings and disengagement from the task” (p208). Likewise, a teacher’s beliefs about their self-efficacy influence practically every aspect of their professional lives, their goals and actions, their resilience to adversity, and their perseverance in the face of obstacles; to their feelings of stress and depression, and their ultimate achievements (Bandura, 2000: 75, in Gibbs and Miller, 2012: 611).

Managing change well also has a major impact on teachers’ feelings of efficacy, but changes in education can be both positive and negative and can have far-reaching effects that are perhaps unanticipated. For this reason, changes in strategy are sometimes “so gimmicky and great” that “they do not challenge or encourage teachers to question and revise their existing approaches to teaching and learning” leading to a “hyperactive culture” that leaves teachers

exhilarated but drained (Hargreaves and Shirley, 2009: 7). In other words, if a thorough, reflective process is not followed as part of a change, with constant monitoring, reflecting on outcomes and revising the strategy, then a teacher runs the risk of a negative impact on their feelings of self-efficacy, as well as on the teaching and learning taking place.

We may be heading towards a situation where teachers become “failure-avoidant” (Parker *et al.*, 2012: 505) and refuse to put themselves in the role of TR due to the current nature of the profession, in case their research process makes them look incompetent, or leads to a perceived failure. Devos *et al.* (2012) use the word “vulnerability” (p206) which sums up the position in which a TR in today’s schools may find themselves – by attempting to solve problems in an innovative way and risking failure, a data-focused manager may miss both the professional development and pupil progression that is taking place and see only a lack of competency in following a tightly-structured curriculum.

2.3 Part 3: Problems and paradoxes in the world of education and educational research

2.3.1 *Evidence-informed teaching and learning through teacher action research*

Education at the current time is full of paradoxes and difficulties, and perhaps teachers need to focus more on teaching and learning than on action research. Teacher action research has been called a contradiction in terms (Hammersley, 2004) and the research aspect will always be subordinated to teaching (Cain (2011: 12). Teachers must make the teaching of the curriculum and the associated assessment, monitoring and data-collection their priority, but a teacher who has had previous research experiences may use those experiences in their everyday teaching. The research may not be formalised, but there may be aspects of reflection or exploration involved that a teacher with no research experience would not use. Conversely, some teachers may be undertaking or have recently finished a higher degree and would therefore have some research experience that is still filtering through into their daily teaching. Relatively few, however, continue being actively involved in research after their degrees (Watkins, 2006: 15).

Bevins, Jordan and Perry (2011) followed a small sample of science TRs undertaking small-scale action research projects, with the focus of using reflection “to enable the teachers to

self-evaluate their professional practice and gain a greater understanding of the wider contexts of teaching and learning” (p399). They express concern that the project may risk “losing the confidence of science teachers by promoting a culture of CPD that is centrally led and politically motivated” (p400), and that it would be of more benefit to the TRs involved to instigate a teacher-led agenda which meets TRs’ needs and develops their knowledge of teaching and learning.

Teachers are constantly attempting to incorporate new top-down initiatives into their teaching which may be “pale, remote, vague, formal”, and should instead be used to “inspire experimental action” (Dewey, 2009: 2). If this were possible, this would be “evidence-informed teaching” (Biesta, 2009: 14), and would involve the teachers themselves in decision-making on policies and directives. However, policy-makers often prefer to ignore evidence which does not fit their theories or their political agendas (Lauder, Brown and Halsey, 2009: 580). In this context, “what works” refers only to theories and evidence that achieve outcomes and effects desired by those who commission the research (Sanderson, 2003: 334).

Of course, if TRs were able to influence policy-making, the research community would need to be trained, cohesive and spread across a wider network. “Professional conversations” (Dadds, 2002: 13) which did not demean or intimidate non-researchers (p14) and fit in with time constraints (p11) would need to take place regularly. “Subjective research knowledge is enriched in validity when it is shared and critiqued with our research communities” (p13), and such communities would improve teachers’ agency and self-efficacy.

2.3.2 Replicability and generalisation

This is a common theme across many academic papers on educational research in general, in that it is irrelevant to practice, does not make any serious contribution to knowledge, and produces findings that are inconclusive and inconsistent (Hargreaves, 1996). Then there is the concept of replicability, and whether one specific case can be generalised or used to develop theories based on its findings (Lee, 1989; Flyvberg, 2006). Events in a classroom may be seen to be unique and non-recurrent, which would hinder researchers attempting to verify the findings of a study (Lee, 1989: 121). This may be true, and educational research is often

criticised as being “fragmented into lots of small-scale case studies which so often extol their own uniqueness” (Pring, 2000: 247). However, generalisations can be made on a single case, and indeed formal generalisation is overvalued, whereas the “force of example” is undervalued (Flyvberg, 2006: 425).

In an educational setting, many policies are rolled out across secondary or primary schools with little or no prior testing. Teachers are expected to put into practice theories which may not have had the benefit of experimentation and evaluation. Yet a successful case study which formulates a hypothesis based on the evidence collected is considered to be too specific and unique to be trusted. Teachers are conducting successful case studies in their classrooms, which are being noticed by other teachers who may replicate aspects of them in their own classrooms, and yet this constant educational research is having little or no impact on policy-makers because it is not considered valid or reliable enough (Lee, 1989; Flyvberg, 2006).

This may be in part due to the nature of the data collection and analysis. By its social science nature, data is more likely to be qualitative, and an objectivist would be concerned by a lack of quantitative analysis (Lee, 1989: 121), as the study may rely on data from narratives, interviews or focus group discussions. But the understanding gained from examining a phenomenon in close proximity, as often occurs in ethnographic action research, is a valuable research method, utilising the concepts of “*verstehen* [...] achievable through participant observation” (Lee, 1989: 125) and “the “hermeneutic circle”, in which the researcher discerns the meaning of a specific human action by relating it (actually, cross-referencing it) to all the other human actions observed in the same setting” (p126).

At the same time, ethnographies, case studies and participant observation tend to rely heavily on narrative interviews, questionnaires and other qualitative methods, which “approach the complexities and contradictions of real life (Flyvberg, 2006: 429-430). Unfortunately, too often, teachers engaged in case study research may not feel that their work, particularly when it relies heavily on narrative, is as valid as an alternative methodological choice, and believe their work to be of no interest outside their own classroom (Dadds, 1998: 47). But narratives can stimulate thought and discussion in others, being reflective yet open to interpretation,

and leading readers to draw diverse conclusions (Flyvberg, 2006: 430). The study then offers different possibilities to different people. It can prompt reflection on a practitioner's own experiences, as "it startles us all to find our own perplexities in the lives of others" (Hamilton, 2011: 5). Although it may be impossible to replicate a case study in its entirety, the actual aim is to replicate an experiment's findings, as the same theory can yield several testable hypotheses (Lee, 1989: 134).

2.3.3 Finding an ethical balance between perceived roles as teacher and teacher action researcher

In educational research involving pupils, ethical considerations must be prioritised. To bring teacher action research to the same validity level of outside agency-led research, it is vital to give participants (in this case pupils) an opt-out clause. Ensuring that pupils know they have a choice in taking part in research, and have a voice throughout the process, via a feedback loop, is essential. In fact, this feedback can be informative to the researcher and provide valuable qualitative data. "Trustworthiness' must be a central tenet of research" (Groundwater-Smith and Mockler, 2007: 203) and "such trustworthiness is best tested through ongoing discourse among those who participate in it" (p204). Trust can therefore only be gained through open communication amongst all parties.

A need for validity, reliability and generalisability in teacher action research therefore requires the practitioner to adopt an objective stance and a willingness to accept critical feedback. They must strike a balance between subjective commitment and detached viewing to attain a distance from their work (Dadds, 2002: 13). Triangulation, by which different perspectives give a more rounded impression of the study (Torrance, 2012: 3), can be used in the form of respondent validation (p5) but can bring its difficulties in that participants may alter their narratives when they know the work will be published (p5). An experimental approach to educational research, where the researcher is genuinely trying to find something out (Gorard and Cook, 2007: 311), and which is accurate, rigorous and has a level of replicability, may lead to more evidence-based policy-making. To effectively inform government policy, educational research requires a combination of academic-led research and practitioner-led classroom-based action research, and a balance between theory and practice. TRs have an opportunity therefore to make an impact on the education system: if

they have an understanding of what education is (Carr, 2007: 282), they can be the agent of change to improve it.

2.4 Part 4: Potential and reported impact of teacher action research beyond the context of the research.

2.4.1 *Teacher action research: undervalued and under published*

TRs, managers, policy-makers and academic researchers may have differing ideas of what good research is, and one theory or methodology does not fit all circumstances. Good quality research delivers evidence which allows a researcher to believe and act on a hypothesis. Some aspects of good research are already present in schools and could be fully satisfied with training in research methods: triangulation, gathering the views of teacher, observer and participants (Elliott, 2007: 233); a teacher's agency to implement change, innovation and reflection (p237); sharing research with others in a community of practice (p241); and methodological rigour (p242). However, "impact beyond the context of the research cannot be predicted with sufficient certainty, even in the longer term" (Elliott, 2007: 245). Action research studies may even have a potentially negative impact and tell us more about what doesn't work than what does. Unfortunately, too often research of this nature is unpublished, and only research showing a clear and definite positive impact on learning is utilised by policy-makers. Even when outside agencies undertake research projects within schools, often schools only value their contributions if they can see the potential for positive action (Crozier, 2009: 596).

Currently, practitioners may be writing about research but are not yet being trained how to be qualitative researchers (Denzin, 2008: 319). Teachers must be trained in the art of research methods in their initial training, to enable them to assume the identity of a TR throughout their career (Oancea and Bridges, 2009). Specific educational issues which affect practitioners directly could therefore be investigated by the practitioners themselves. A "community that honors and celebrates paradigm, and methodological diversity, and showcases scholarship from around the world" (Denzin, 2008: 319) would enable non-academic research to be shared, discussed and valued across the educational research field. For practitioners, evidence that emerges from teacher action research and is relevant to

teaching and learning issues can inform practice and be grounded in practitioners' everyday experiences (Stenhouse, 1975; Bassey, 1995; Tripp, 1994; Hammersley, 2003).

2.4.2 The need for research programmes rather than research projects

Currently, many top-down initiatives are designed to “improve the *performativity* of teachers with respect to the outcomes of their teaching” (Elliott, 2001: 558), but action research can involve teachers in the construction and execution, rather than simply applying the findings, meaning that teachers engage *in* educational research instead of with it (ibid., p565). Because of the complications presented by the issue of action researchers using mixed methods and participant research, there are criticisms within the academic community as to whether practitioners are capable of undertaking such research. However, while Hargreaves (1997) defines research as a basis for practice, Stenhouse (1975) defines practice as a basis for research (Elliott, 2001: 572). This, therefore, may be the aim of action research: to enable practitioners “to be more self-conscious, systematic and critical (i.e. objective) about their teaching with the aim of improving it” (Hopkins, 1984: 203). Practitioner-led, evidence-informed research needs to become academically accepted within the educational community. Research “projects” should therefore be turned into research “programmes” (Fielding, 2010: 128), with quality criteria and frameworks in place (ibid., p133-134) to guarantee methodological reliability and rigour.

In fact, action research needs to be more interconnected with other educational research. The insider knowledge of the practitioner is essential when setting a research agenda (Dadds, 2002: 12), and the evidence collated can be used to increase knowledge in many ways, not just to have a short-term impact on the practitioner's teaching and learning ecology. In this way, we are edging towards Kemmis' (2012) idea of an ecology of practice, whereby practices and metapractices are connected: since the nineteenth century, education and educational policy, and educational research and evaluation have been interdependent entities, each influencing and being influenced by the others (p887).

2.4.3 Perceived short-term and long-term effects of teacher action research

Is there ever a proven impact on education from the use of teacher action research? Research that teachers undertake on their own practice is proven to be more likely to lead to immediate

impact in the classroom, than formal research that teachers are expected to apply to their practice (Castle, 2006: 1095). Action research can challenge top-down policy-making and can be a mechanism for transforming school cultures and empowering schools, teachers and pupils (Armstrong and Moore, 2004: 4). A positive short-term effect of action research appears to be TRs engaging in an action research method and reflecting on the teaching and learning process. As a result, failure may be viewed as a stepping stone on the path to change, rather than a stumbling block, and a seemingly “unsuccessful” project which does not achieve its original purpose may still raise fresh issues and challenge previous assumptions and theories (Armstrong and Moore, 2004: 2).

Literature on long-term impact is more limited, though both Cain (2011) and Kemmis (2012: 898) see the potential for longer-term impact on education: Cain feels there are practical outcomes, such as the generation of teaching approaches and resources that can be used by other teachers (p9), while Kemmis focuses more on the long-duration process, and how the cultural, economic and social-political role of education is affected by each professional involved in researching their own environment (p898). However, Berger *et al.* (2005) and Ermeling (2010) are more reserved in their opinions. While Berger *et al.* found in their project that the research was transformative for the teacher, they felt that there was little impact on the culture of the schools, and that any research was “either benignly ignored or actively rejected” (2005: 94) by colleagues.

2.4.4 Communities of knowledge, collaboration and reflection

Teacher action research must be mandated across the board: all teachers must take part, and the projects must be supported fully by management. However, management cannot force teachers to become TRs (Berger *et al.*, 2005: 100), thus it must be embedded into professional and personal development within a school. One way of doing this is in the form of communities of knowledge within a school (Dimmock 2016; Olson and Craig, 2001; Banegas *et al.*, 2013; Goodnough, 2011; Ross and Bruce, 2012; Vaino, Holbrook and Rannikmae, 2007). In Olson and Craig’s knowledge communities (2001: 671), teachers can exchange their knowledge, and Haraway’s idea of “shared conversations” (1988: 584, in Hardwick and Worsley, 2011: 136) can come to fruition. These conversations can be the starting point for collaborative teacher inquiry where teachers can embrace risk-taking, innovation and

experimentation. In this safe environment, teacher action research need not be presented as a “victory narrative” (MacLure, 1996, in Dadds, 1998: 43) or as a story which could “expose [the TR’s] deficiencies rather than reveal the complexity and richness of their work” (Rodgers, 2002: 233). Practitioners can share experiences, collaborate on projects, and collectively reflect on findings. Some schools are already using this sort of community of knowledge as part of their professional development programmes. However, teachers are perhaps resorting more often to the internet to find virtual communities which more impersonal and therefore come with less professional risk.

Action research can be used to enhance or extend skills, as well as to support students’ learning, and practitioners engaging in research-led practice may be negotiating their own definitions of “good teaching” (Williamson and Morgan, 2009: 291-292). This type of practice goes against the idea of the performance agenda of teaching the test, which can see teachers’ motivation and commitment reduced. Perhaps all teachers should have a reflective internal dialogue asking ‘What worked today and what can I do that is different?’

There can be a sense of empowerment when engaging in teacher action research (Colucci-Gray *et al.*, 2013). Practitioners can observe the impact on their environment, and on professional development. Internet-based education blogs and reports rarely mention academic research findings, but offer research-based ideas and methods tried by practitioners and available for other practitioners to replicate. This is ‘sharing good practice’, which is often a feature of CPD (Continuing Professional Development) programmes within schools, but is rarely used to its maximum potential. In fact, there are several factors which have been proven to positively influence teaching and learning, including teachers’ knowledge and their understanding of their subject matter; teachers’ values and beliefs about their role; and the autonomy that teachers feel they have in deciding what the learners in their environment need (Christie and Boyd, 2004).

2.4.5 The need to equip practitioners with research skills

Engaging in action research can therefore be a positive and empowering way of inspiring teachers and learners. But although many teachers aspire to have the autonomy to make

decisions on their own teaching and learning needs, they may not be equipped to be research-led practitioners. Many may lack the skills and the confidence to identify problems, formulate hypotheses and combine their educational expertise with a research methodology (Smith, 2013).

Castle (2006) terms this a new professional stance, that of teacher as pedagogical researcher (p1094), which does not aim to generate knowledge, but empower teachers (Berger *et al.*, 2005: 102). Teaching is not simply a matter of imparting information to impressionable young minds, but as Cain (2011: 7) points out, it is a co-constructed role of mutual influence, where teacher and student learn from each other. Standing back to observe the pupils and reflect on the teaching and learning process is, as previously mentioned, essential in a learning environment. Armstrong and Moore (2004: 9), McNiff (1988: 50) and Mohr (2004) all draw the same conclusions about the personality of a TR: they are well-informed, questioning, resourceful, committed, tenacious, curious, and interested to see what learning looks like and how it is done. This is therefore another long-term effect of being involved in action research: empowerment. Davies (2013: 67-69) found that TRs became more empowered to challenge boundaries and find fresh resources or opportunities and saw their definition of professionalism widened. The teachers believed that they could make good educational decisions and were more willing to take risks. By becoming researchers, practitioners can take control of their practice and their professional lives in ways that contradict the traditional concept of their role and demonstrate that education be reformed from classroom level (Flake *et al.*, 1995: 407, in Castle, 2006: 1096).

This demonstrates that teachers are now thinking of themselves as researchers and creators of knowledge, rather than recipients and consumers of research (Castle, 2006: 1094). Teachers involved in research attribute changes in their practice to their involvement, and find their professional development enhanced (Ermeling, 2010; Cain, 2011). Change begins with the teacher themselves, in their own classrooms, making sense of their own practice (McNiff, 1988: 53)

2.4.6 *The difference between teacher innovation and teacher action research*

It can be hoped that alongside the 53% of teachers who are disheartened in the current education system, there are 47% who continue to innovate in the classroom. But innovation is not necessarily the same as action inquiry. Action research requires structured reflection on or about practice, and deliberate study of a problem or issue that is affecting the teaching and learning environment (Murray (1992: 191). However, issues and problems within the ecology are not always the focus for the practitioner, and they may engage in an action research method for other reasons (Hammersley, 2004). Innovation can become action research, if the practitioner decides that they want to investigate an existing phenomenon, if they want to instigate a change and examine the impact (Lofthouse, Hall and Wall, 2012: 176). This may place innovation in a different category to action research. But both action research and innovation require a practitioner to take risks, reflect on practice and reformulate hypotheses when outcomes are not satisfactory. Innovative teachers may not be action-researchers, following a research process, and they may not be master-teachers, with a focus of consistently outstanding teaching and meeting school excellence criteria. They are educators, who try to improve teaching and learning process within their ecologies. When innovations do not lead to positive outcomes, and there is a lack of support structure within the school, an innovative practitioner may find themselves with “knots”, whereby they pursue goals or strategies but find themselves frustrated and anxious (Leat, Lofthouse, and Taverner, 2006: 668).

TRs need to be “so deeply rooted in collaboration” (Leat, Lofthouse, and Taverner, 2006: 669) that they can confidently take risks in the classroom. They must feel they have control over which innovations they subscribe to, instead of having innovation thrust upon them. To innovate in the classroom, teachers require time, supportive leadership, collaboration and interaction, a culture which celebrates learning, and a recognition of the local nature of the innovation (Weston, 2012). If these factors are not present, a teacher will struggle to become a confident innovator in their ecology. The introduction of innovative practice must be a peer-led, long-term process, with external researchers as collaborators, and this is also proven to be one of the most effective forms of professional development (Weston, 2012).

In some projects supported by outside agencies, teachers can study issues which impact their own ecologies, work alongside experts, and disseminate findings to colleagues and teaching and learning networks. The Learning to Learn (L2L) project, managed by the Campaign for Learning and Newcastle and Durham Universities, was one such project, and some schools involved were more supportive than others, with some TRs becoming isolated in their ecology. However, successful projects were used to inform school and Local Authority policy, and the evidence gathered through the research process was the key to convincing senior leaders that there was validity in the findings. Teachers involved had increased agency, increased self-efficacy and increased motivation and enthusiasm, because “the locus of control throughout [*the project*] was with the teachers, not the researchers” (Higgins *et al.*, 2007, in Thomas, Tiplady and Wall, 2014: 2). When the practitioners involved were left without external support, they may have found it difficult to continue with teacher action research autonomously.

This is the area where I hope to be able to add my contribution: what impact does identifying as a TR have on the TR themselves and their ecology? I intend to discuss the impact on the TR themselves, in terms of their identity and agency, through their own perceptions. By using their own voice to narrate their experiences, I will be able to add my contribution to the field but with a different angle, as the viewpoint will not be that of an outside researcher, making inferences and assumptions, but will be based on interpreting their own perceptions and opinions on the phenomenon of engaging in action research.

2.5 Conclusion

Practitioners seem to be more likely to be influenced by other practitioners and evidence from teacher action research. But “research is a matter of communal participation rather than solitary activity” (Hammersley, 2005: 8), and a supportive community of practice is necessary to ensure that the TR realises the value and validity of their research. Likewise, “practitioner research fails the ‘quality of purpose’ test when it is implemented in a ‘top down’ way which denies teacher agency and is aimed at serving the school or system hierarchy” (Groundwater-Smith and Mockler, 2007: 208). Teacher action research runs the risk of being ignored or twisted to meet whole school improvement plans and policies. Practitioners must

continue to use their curiosity and contemplation to engage in research, even in the face of adversity from policy-makers, academics and their own educational institutions. For practitioner-led action research to be considered as valid and as reliable as that undertaken by outside agencies, and for it to become an essential and integral part of the educational system, there must be strong research frameworks in place, continuous training in research methods, and support from both within their ecology and from academics, the educational community and policy-makers.

Chapter 3: Methodology

3.1 Research background and initial investigation

As a preliminary piece of research to the main research project, I decided to gauge if there was merit in investigating this phenomenon and created a questionnaire which posed a number of closed questions to past and present colleagues with whom I was or had been associated. Some of these I knew to have been actively involved in teacher action research, whilst others were experienced teachers and I was curious as to whether they had taken part in any action research and would therefore class themselves as TRs. This small feasibility study also helped to identify practical problems and potential issues that may emerge if a larger-scale study was conducted to investigate the phenomenon (van Teijlingen and Hundley, 2001; Polit *et al.*, 2001).

3.1.1 *Sample*

The sample consisted of sixteen teachers based mainly in the North East and North West of England. These were known to me in a personal or professional capacity, either through teaching networks, initial teacher training, or TR networks. Most were still active practitioners, but some had left the classroom to progress either in senior management roles or in other areas of education. They received an email inviting them to complete a short questionnaire, with the opportunity to add further comments where necessary, and to include their contact details and sign a consent form if they wished to be involved in more in-depth research on the topic. All sixteen teachers who received the email replied within a number of weeks, with most opting into further research. At all times, participants in the questionnaire process had the option to withdraw their responses and were made aware that the process was part of a larger research project but that their responses would be rendered anonymous, regardless of whether they continued with further participation.

3.1.2 *Data collection*

A questionnaire was devised with ten closed multiple-choice questions. Five of these were “yes/no” or “yes/no/sometimes”, whilst the others offered a series of options, allowing participants to select as many as necessary. There was also the opportunity throughout the

questionnaire to add extra comments, and many of the participants used this to expand on their answers. The questions were based on my own experiences, and a copy can be found in Appendix C. I asked first for their opinions on whether they considered themselves to be TRs and “agents of change”, but did not provide definitions of these terms, to allow them to make their own decision on what the terms meant to them. I then asked a series of questions on their reasons for undertaking action research, and the types of impact they had both hoped to have and had actually considered themselves to have when engaging in action research. These questions were all those which I had posed to myself throughout the later years of my own TR work as a result of my critical reflection when completing evaluative assignments for my doctoral study.

All the questionnaires were sent in early 2014 by email, completed digitally and returned by email. There was no anonymity with the data collection process, as the questionnaires were sent from personal or professional email addresses, but the data was collated by simply numbering the participant responses rather than using any names, therefore rendering the participants anonymous to both myself as the researcher and to others. A small-scale preliminary study like this has obvious limitations, such as the risk of making inaccurate predictions or assumptions on analysis of the pilot data (van Teijlingen and Hundley, 2001), but in this case the preliminary study informed me as the researcher whether there was merit in formulating a research question and the best process to follow to do this.

3.1.3 Analysis

The answers from the questionnaires were analysed in a simple spreadsheet format, as the aim here was to gain an overview of the opinions of the sixteen teachers who responded. Though not all the respondents answered every question, for the purposes of analysis, n=16. Numbers of significance, generally implying a majority of participants, are highlighted in each table, and discussed below.

3.1.4 Discussion of question 1 and 2

1) Do you consider yourself to be a “TR”?	Yes	No	Sometimes
	10	1	5

Table 1: Question 1 from preliminary study questionnaire

2) Do you consider yourself to be an “agent of change”?	Yes	No	Sometimes
	11	2	3

Table 2: Question 2 from preliminary study questionnaire

I have formerly worked with some of the respondents in a TR capacity, and so ten of the sixteen considering themselves a TR does not come as a surprise. However, as I do not clarify any sort of definition of the term “teacher researcher”, there is variation in what that term means to the respondents in question one (Table 1). For my purposes, the useful data here is that they feel they have an additional dimension to their professional identity. Five of the respondents feel that they are only TRs “sometimes”, and this suggests that their personal motivation, professional identity and sense of agency are susceptible to change depending on the ecology and circumstances in which they find themselves. The second question (Table 2) refers to being an “agent of change”, as coined by Biesta and Tedder (2007, in Priestley, Edwards, Miller and Priestley, 2012: 11), by which a teacher can make a positive impact on their learning ecology through action research. Again, I provide no definition for this term, and it is up to the respondents how they interpret it and how they choose to apply it to their own role. Eleven of the sixteen feel they match the criteria however they define it; it has been interpreted as an aspect of their professional identity.

Though one respondent does not see themselves as a TR, and two feel they are not agents of change, it is interesting to follow through the rest of their responses to see if they feel they have undertaken research that led to any sort of impact. It seems to be merely the definitions of these aspects that they feel do not apply to their identity, rather than the role or the process. Murray (1992) states that education research is “*structured reflection* on or about educational practices, the deliberate and systematic focusing of a research technique on a

recurrent instructional or administrative problem” (p191, emphasis in original), implying that TRs will use certain epistemological positions in their research, and they will have a distinct idea of the problem they wish to study and therefore a clear research question or theory (Whelan, 2012). If teachers are not using a defined action research process, then they may not identify themselves as TRs, but as teachers exploring a hunch by trying out different teaching and learning methods, styles or tools. The respondents who feel they are not TRs may not be actively involved in explicit action research, but may have been asked to participate in such projects in the past, and therefore have experience of teacher action research without feeling they are able to define themselves as a TR.

3.1.5 Discussion of question 3

3) Are you /have you been able to conduct innovative research within your current or previous educational setting(s)?	Yes frequently	Yes dependent on certain factors	Yes for particular projects	No
	9	2	4	1

Table 3: Question 3 from preliminary study questionnaire

Question three (Table 3) asks if respondents have conducted research within their setting, with nine of the sixteen stating that they have done so frequently. Four have undertaken research for a particular project or reason, and a further two have done so but it was dependent on certain factors (this could have been a request from senior management, a professional development course or specific project). Teachers may be conducting research within their classrooms but do not identify with the term TR or agent of change, as they do not see it as an integral part of their role within the ecology or their professional identity.

Those who study the field of teacher action research suggest that research struggles to be translated effectively into a noticeable impact on practice or policy (Biesta, 2007b; Watkins, 2006; Hargreaves, 1996). In both academic research and teacher action research, Biesta

claims, we only find out “what *has been* possible”, and therefore research “can tell us *what worked* but cannot tell us *what works*” (2007: 16, emphasis in original).

3.1.6 Discussion of question 4

4) Do you feel that your research has / has had a lasting impact on the education setting in which you work?	Yes	No	Neither	Both
	13	1	1	1

Table 4: Question 4 from preliminary study questionnaire

Question four (Table 4), therefore, asks the respondents if they feel their research had had a lasting impact on the educational setting in which they worked, and happily, thirteen of the sixteen responded that there has been an impact. One answers with “yes and no”, but unfortunately does not offer any further explanation, and likewise the respondent who answers negatively does not expand on this. It may be due to the nature of the research, the process that was followed, or a number of other factors that led to a lack of impact, particularly if they were engaging in a research process directed by senior management. Castle (2006) discusses Richardson’s (1994) belief that

“research that teachers do on their own teaching is more likely to lead to immediate classroom change than is formal research that teachers are expected to consume and apply to practice” (p1095).

This data appears to corroborate this belief and the majority of the respondents appear to believe that their research had an impact, even if this was only observable within themselves or their own teaching and learning ecology. Coupled with my own experiences and my observations of TRs throughout my career, this result was enough to persuade me that the concept was worth exploring in greater depth.

3.1.7 Discussion of question 5

5) Do you feel that you have contributed to the field of educational research?	Yes	No
	6	12

Table 5: Question 5 from preliminary study questionnaire

Responding to question five (Table 5), twelve of the sixteen respondents claim to have seen no discernible impact on the field of educational research because of their teacher action research. However, there are many reasons for a teacher to embark on a research project, such as professional development, making a difference to the teaching and learning environment, and being part of a wider network of like-minded individuals.

3.1.8 Discussion of question 6

6) What are/were your reasons behind doing research?	Personal interest	Personal development	Professional development	Requirement due to course or SMT request	School responsibility
	11	10	13	4	5

Table 6: Question 6 from preliminary study questionnaire

Similarly, the respondents give a variety of reasons why they have done research in their setting (question six – Table 6), the most common being for professional development or school-based CPD (Continuous Professional Development). A teacher has many demands on their time, and to undertake an extra project voluntarily requires additional commitment. Personal interest in education and personal development (such as a voluntary university course to enhance their role or change career path) also scores highly, but the political climate of the time when the respondents were most active in their research could have influenced this. Certainly, the Campaign for Learning Project took place over a period when education was given support and funding by the government of the time, and teachers felt more enabled

to be creative and innovative within the classroom. Assessment for Learning was a priority on most schools' agendas, but the general focus in education was to develop a child's emotional and social skills alongside developing their knowledge, rather than "teaching to the test".

Interestingly, doing research as a requirement for a course (such as a middle-management course) or following a request from the senior management team does not score too highly, demonstrating that most respondents took part in research projects out of personal and professional interests, rather than being forced down that path by their superiors.

3.1.9 Discussion of question 7 and 8

7) What do/did you hope will/would be the impact?	Impact on Students and/or Learning	Impact on Teaching Methods	Change in Mindset Self/Students/ School	Wider impact on School	Wider impact on LA/Govt	Wider impact on Education research	Other
	14	11	13	11	1	2	1

Table 7: Question 7 from preliminary study questionnaire

8) What do/did you perceive to be the actual impact?	Impact on Students and/or Learning	Impact on Teaching Methods	Change in Mindset Self/Students/ School	Wider impact on School	Wider impact on LA/Govt	Wider impact on Education research	Other
	13	11	13	6	0	1	2

Table 8: Question 8 from preliminary study questionnaire

The most interesting piece of data in questions seven and eight (Tables 7 and 8) is the stark difference between the eleven respondents who wanted to make an impact on their whole school environment, and the six who felt that an impact was observed. The results for making an impact on students, learning environments, teaching methods and mindsets throughout the school were remarkably similar, and this may suggest that teachers set out on their research journeys fully aware of their limitations and capabilities within their own learning environments: they want to be a successful agent of change and thus create research projects which are achievable and realistic, rather than too ambitious. Berger *et al.* (2005) claim that research can be transformative for the teacher, but there is often negligible impact on the culture of the schools, and that any research is “either benignly ignored or actively rejected” by colleagues (p94). Teacher-led research appears to have had an impact on the respondents themselves and their immediate ecologies rather than on the wider educational climate. This may be due to the perception of a lack of validity and replicability due to the ethnographic nature of the studies (Flyvberg, 2006), and the lack of methodology or grounding in existing literature, and also a lack of communication or respect within the educational research field for teacher research.

3.1.10 Discussion of question 9

9) Do you believe that teachers/TRs can actually improve educational practice through classroom-based research?	Yes	No	Sometimes
	12	0	4

Table 9: Question 9 from preliminary study questionnaire

The consensus from the respondents in question nine (Table 9) is positive in terms of whether teacher action research could improve educational practice, with all selecting either “yes” or “sometimes”. This is not a question of personal impact, but general impact, and a practitioner needs to feel there is a purpose to their research to fully commit to the process. The positive response here suggests that the teachers questioned feel there is validity and reason behind undertaking action research, whether they consider themselves a TR or have merely dabbled

in innovation and experimentation. However, the response “sometimes” suggests the fluctuating nature of agency, and how an unsuccessful outcome or unsupportive ecology can prevent a TR from feeling that they have impacted their environment as an agent of change.

3.1.11 Discussion of question 10

10) Do you believe that over the last decade TRs across the UK have had an impact on:	Own practice	Own class room	Dept/ colleagues	SMT	School ethos
<i>Yes</i>	14	14	11	9	10
<i>No</i>	0	0	0	2	2
<i>Don't know</i>	1	0	4	4	3
	Wider circle	LA/ govt policy	Education literature	UK education	
<i>Yes</i>	7	1	6	2	
<i>No</i>	2	5	1	7	
<i>Don't know</i>	4	8	8	6	

Table 10: Question 10 from preliminary study questionnaire

To sum up, in question ten (Table 10), respondents are positive about the impact that engaging in teacher action research has had on their practice, their ecology, their colleagues, their senior management teams, and their school ethos. As I expected, based on my own experience, there is less positivity about the wider impact made in other ecologies, or on educational policies or literature. However, given the nature of the subsequent research, it is not necessary to consider the wider impact of engaging in action research, as my data will only focus on the participants’ perceptions of the impact on themselves and their immediate ecology. Further study could be carried out into their perceptions of their impact on the wider educational environment, contrasting with quantitative data examining educational research literature available by TRs and major policies or directives influenced by evidence provided by action research carried out by TRs.

3.1.12 Conclusion

I had considered this as an area worthy of research based on my own experiences as a TR, but the data gained from this small-scale preliminary questionnaire confirmed that there is merit in exploring the impact that engaging in teacher action research has on TRs' professional identities and ecologies. As a qualitative researcher, I opted not to continue with further quantitative study, but to devise a small-scale narrative inquiry, to more thoroughly investigate the experiences and perceptions of a selected number of respondents. Though the eventual participants in the main study were all involved in the pilot, I feel there is insignificant risk that they will respond differently to if they had not been exposed to the pilot investigation, given the nature of the narrative inquiry process.

The next stage of the research process was therefore to develop a more in-depth study which would allow a small sample of participants to narrate their experiences in their own voice and would enable me to interpret these experiences through their eyes, but also to bring my own conceptual lens as a TR to the process. This questionnaire relates to the research as a whole through its use as a preliminary project, testing my theory that there may be a viable research issue worth exploring, and in identifying the three participants who will be used in the main research project. This will be discussed in detail in the next part of the chapter.

3.2 Interpreting the phenomenon of engaging in action research through teacher voice

Preliminary data collection and my own lived experiences suggested that a TR's professional identity could be linked to their experience in the classroom ecology, and their perception of the impact that occurred. This phenomenon is best understood and analysed using a narrative inquiry approach. From the narratives of their "lived time" (Bruner, 2004: 692), I will be able to interpret the phenomenon from the perspectives of the participants. This next stage of the research therefore follows on from the preliminary data but selects a small number of the original participants in a purposive sample to gather more in-depth data from which meanings and theories can be extracted and interpreted. A quantitative, questionnaire approach would not be the best fit for a study examining the perceived effects and impacts of a phenomenon, as the data will be necessarily detailed, complex and heavy with inference and implications, as well as being affected by memory, emotional responses and social

interaction. For this reason, the questionnaire discussed in the first part of this chapter was merely used to identify a research issue and extract three suitable participants, and the remainder of the research project follows a qualitative approach.

3.2.1 *Choosing a narrative inquiry approach*

The starting point for any researcher using narrative inquiry as a research methodology is an interest in and curiosity about how people live and their experiences (Caine, Estefan and Clandinin, 2013; Clandinin and Connelly, 2000; Clandinin and Rosiek, 2007). Experiences are continuously interactive, and therefore people live their own storied lives in relation to others also living storied lives, and create their own narratives (Dewey, 1938, 1981). Through interpreting my participants' stories, I could also begin to interpret my own. With a commitment to Dewey's (1938) suggestion that "experience is knowledge for living", I will seek to make sense of our interwoven stories and how they impact on our different lives and the wider world. As each participant's story is situated within a larger social, cultural and ecological context, the changing nature of the identities of both participant and researcher must continually be considered.

To extract meanings and generate knowledge from these stories, a narrative researcher should listen to their participants, acknowledging the mutual construction of the research, and also recognise that the participants are both living their stories in an ongoing narrative and telling their stories as they reflect on life and make sense of it to themselves and others (Savin-Baden and van Niekerk, 2007: 463). This ongoing nature of experience is important as our stories are not a clear-cut recital of our lives, but contain memories, places and relationships located in our past, present and future (Bruner, 2004: 692; Caine *et al.*, 2013: 581). In narrative inquiry, we are capturing how people make sense of the world and seeing their version of the world through their eyes. In Bruner's words, "we *become* the autobiographical narratives by which we "tell about" our lives" (2004: 694): by exploring the narratives, I hope to make a contribution to the field that is unique by providing a more introspective perception of teacher action research through my use of narrative inquiry.

An aspect to consider is the fact that narratives can be “messy, blurred, chaotic and contradictory” (Munro Hendry, 2010: 78). It is in the analysis that a sense of coherence and logic appears. Participants have lived varied lives and are telling stories about their own version of their own reality, and for a researcher to attempt to make sense of this and derive some meaning from this which can then be generalised and used to produce reliable and valid conclusions about the nature of teacher research, requires a willingness to allow the narratives to happen without hindrance, and welcome the mess. It also requires the researcher to consider the supporting cast of the participant’s narrative (Riley and Hawe, 2005: 230), as there are many people who will have affected or shaped the participant’s experience and these experiences may not always be mentioned in the correct chronological point of their narrative. Bruner (1991: 3) calls this “distributed intelligence”, and comments that a person’s network of friends, colleagues, reference books and data bases must all be taken into account as part of their lived experiences – a person never operates “solo”. A narrative will always contain references to people and things that have affected the life of the participant in some way, whether consciously mentioned or interpreted by the researcher in the analysis stage, and this supporting cast is a crucial factor in discerning how the participant’s life so far has impacted their perception of their professional role and identity.

3.2.2 *Small sample research*

Each of the three participants was chosen specifically to take part, and each participant’s narrative is a unique phenomenon that links to the other participants’ narratives through its context. This kind of small sample study has been criticised for its apparent lack of replicability and validity, and for the fact that it sometimes appears to be only of use and interest to the researcher of the project in question. Indeed, much educational research carried out by TRs is in the form of small sample, ethnographic case studies, as the researcher’s immediate research environment is often their classroom, department, school or other educational ecology. TRs often ask themselves, why would anyone be interested in their research, as it is only relevant to their small environment (Castle, 2006; Dadds, 1998)?

Flyvberg (2006) also mentions this “nagging question”: “Who will want to learn about a case like this, and in this kind of *detail?*” (p237). He contests that theory, reliability and validity are

all present in this form of research. His main argument is the concept of expertise in an area, stressing that one can only become an expert by gaining context-dependent knowledge and experience as a practitioner in a specialist field (p222). Those who examine case studies or small sample phenomenological studies will naturally have a deeper understanding and greater expertise in the concepts of that context than that of a researcher who examines a wide range of data from across that context. Though a small-scale study may seem to lack breadth, by being focused on a small sample in a specific area, it will have greater depth than a wider-ranging large-scale study. If enough small-scale studies are carried out, then judgements can be made on their typicality, therefore offering validity and reliability, and allowing theories to be generalised (Giddens, 1984: 328, in Flyvberg, 2006: 224-225). In my own research, I hope to produce the depth required to generate conclusions on my initial thoughts with validity and reliability, and to produce theories which could be tested both with other small-scale studies or tested across a larger sample of TRs. A researcher dealing in small sample studies is able to allow the reader to draw their own conclusions and interpretations from the work, giving more diversity in terms of research or impact based on the findings.

3.2.3 Making sense of oral narratives

Narrative interviews of this nature fall under the category of oral history or life history interviews, as explored by Faraday and Plummer (1979), Miller (2000) and Walther and Carey (2009). The latter pair maintain that “we are all composed of many stories and live multi-storied lives” (p3) but that we often choose which of these stories to live our lives by. Indeed, events from our past are not recalled as discrete segments, according to them, but blur into the present, as does the expected future. We make sense of our lives as an ongoing process and can only comprehend new events within our current understanding. These new events may alter our story, but they may also be interpreted to fit in with our existing story (Poirier and Ayres, 1997: 552).

In other words, my participants’ current version of their life story may not conform entirely to the actual events as they happened, and as a result I will be looking at critical incidents (Tripp, 1994) mentioned throughout the narratives. A critical incident is something produced by the way we look at a situation (Tripp, 1994), therefore, an incident may not have seemed

enormously important at the time it was occurring, but whilst telling the life story, it is interpreted in a different manner and it takes on a greater importance. The participant may not even be aware of the importance they are attaching to the incident, but it becomes obvious to the researcher that it can be interpreted as an event which had great significance and requires further analysis and interpretation. Examining narratives for critical incidents requires the researcher to look for elements of conflict, discomfort and miscommunication (Musanti and Pence, 2010: 78). The researcher's task is therefore to examine the narrative using Riessman's (1993) lens of "why was the story told that way?" (Riessman 2000: 3).

It must be kept in mind that as a TR myself, I bring a certain "conceptual lens" (Halquist, 2010: 454) and must be careful not to impose my own bias and theories when making methodological decisions on critical incidents. The feedback process, so important in a phenomenological inquiry, can be used to help the participants themselves to comment on critical incidents and for them to reflect on whether they seemed significant at the time or if they now perceive any significance. The ethical dimension is also important here, as the researcher's role is to put themselves in the mind of the participants and attaching criticality to events that they felt were not significant would be imposing theories and bias onto the data and not fairly representing their voice. The researcher has a duty to ensure the validity and credibility of any conclusions drawn from their narratives.

3.2.4 The emotional nature of a co-constructed narrative inquiry

The use of narratives can lead to a messy, incoherent data set and render the coding process complicated. The unstructured or semi-structured nature of the data collection has the advantage of being a flexible and inductive process, allowing the researcher to build on each narrative, incorporating new layers of thought at each stage, and to change direction through the course of the investigation as and when necessary. This approach is a naturally interpretative, qualitative process, and gives the researcher time and space to notice patterns and change. The longitudinal sense of this project, where the narratives span a period of several years, requires a flexible attitude towards the data collected. The narratives collated are unlikely to have a structured beginning, middle and end, but will be "interruptions of reflection in a storied life" (Savin-Baden and Van Niekerk, 2007: 464). This is not a

straightforward tale of a life as a TR, but a story with interruptions, alterations, unexpected events and changes of identity throughout. It is the co-construction between participant and researcher that will guide the form of the narrative, and as such prevent it from having a formulaic, predictable structure. The narrative is likely to have an emotional effect on both interviewer and interviewee, particularly when the interviewer has been involved in this same field and has comparable stories. To maintain more objectivity and less bias, I could opt to use an interviewer not involved with teacher action research to conduct the interviews, which would allow me to look at the data purely as an interview transcript, into which I had little input in terms of its outcome. But as a phenomenological researcher, it is important that these interviews are co-constructed. In fact, in qualitative research and phenomenology in particular, the researcher's values define the world that is being studied, and though subjectivity can bias the researcher, subjective processes can actually enhance objective comprehension of the phenomenon being studied (Ratner, 2002).

This concept of co-construction must not be confused with using the narratives to prove pre-existing theories. To conduct a narrative inquiry of this type, there is a need for in-depth engagement and a shared understanding of the context, and "as a result, there is a blurring of interpretive boundaries between the analyst and the research participant" (Riley and Hawe, 2005: 234).

3.2.5 Capturing the individual voices behind the stories

A key concern in the use of narratives, both ethically and in terms of validity and reliability, is remaining true to the participants' stories. A participant should be recognisable to themselves through the narrative reproducing their voices authentically (Heikkinen *et al.*, 2012: 9). This means that the researcher has a duty to recognise and respect the views of the participants, without passing judgement. However, the interviewer is the initial audience for the telling of these stories, and as such this influences the way in which they will interpret and present these stories, and how the stories will be interpreted by the readers of their work (Borland, 1991: 64). Stories are representative of identities, so to criticise a story can be seen as a criticism of identity (Savin-Baden and Van Niekerk, 2007: 463). The participants involved in the project have had varied careers, experiences and lives, and the role of the researcher

is not to pass a judgement on the rights or wrongs of their stories, but to use their stories to find common themes and threads that will both resonate with others with similar experiences, and lead to greater understanding in those who have not shared these experiences. The researcher must remember that they are continually constructing their own identity and as they do so, they similarly construct their notions of others' identities (Borland, 1991: 72).

3.2.6 Validity and generalisation

A criticism of small-scale narrative research is that of its validity and how it can be replicated, generalised or used as reliable data when such a small number of participants are involved (Larsson, 2009). However, with this project, I am aiming not to generalise across the teaching profession, but to fill a hole in the broader picture (ibid., p28). Participants were selected deliberately, not as a random sample of teaching practitioners, based on what I already knew, had experienced personally, and had uncovered in preliminary questioning of a larger sample group (also selected deliberately based on previous knowledge). The idea is therefore to maximise variation by examining the variation in the set of data that has been selected. If the data set has been selected well, there should be enough variation to be able to make generalisations and this variation should be expected to exist in other similar situations (ibid., p31). The sample is therefore based on "what was already known and what was needed next in order to push the understanding of the researched phenomenon further" (ibid., p31). In this study, participants have been selected as they have similar career histories in that they were all involved in teacher action research early in their careers. This action research was supported by senior management and/or led by external agencies or academic institutions. However, the participants' later careers have diverged substantially, giving a variation within the sample that can be maximised throughout the findings. Conclusions drawn from this narrative analysis could not be claimed to always hold true for all teacher action researchers but could potentially have resonance for others with similar life experiences. The narrative researcher recognises these potential flaws and is aware that though the stories are narrated by the participants, they are created and interpreted by the researcher, and disseminated to the reader in diverse ways.

This is a further criticism of narrative analysis, as a narrative can lose context if the researcher picks and chooses chunks of texts. When coding, it is necessary to keep thinking of the narrative as a whole rather than a sum of its parts. The aim of a narrative inquiry is to assign significance to what has been told.

3.3 Research Methodology

3.3.1 *Adopting an interpretivist approach*

A teacher action researcher may see links and patterns, create propositions and formulate theories, reflecting on their teaching and learning experiences (Thomas and James, 2006). There is some debate as to whether TR research is, or should be, positivist or interpretivist (Cain, 2012). In the positivist tradition, Cain recommends large, representative data samples; unambiguous hypotheses; numerically expressed data and statistical analysis (p5). There should be a degree of certainty from the findings – something which an interpretivist approach struggles to provide.

In fact, meanings and phenomena are in constant flux, with social reality continually created and altered by individuals. This does not mean that people will always behave in the same way as they always have previously, rather that people change their behaviour in response to others' behaviour and to the social constructs and situations that they find themselves in, or indeed that they create for themselves. A positivist approach may not suit the needs of the TR, who is immersed in the ethnographic ecology of their classroom. Taking an interpretivist stance tends to use a small, non-random and potentially non-representative sample, but "knowledge is constructed by individual minds, in unique ways" (Cain, 2012: 8) and an interpretivist therefore studies real-life, lived experiences. The job of the interpretivist researcher is to acknowledge their own values and beliefs in relation to others' lived experiences. Their view of social reality may be different from that of their participants, but neither is wrong or right – merely worthy of examination.

Interpretivists often make no attempt to be objective or remove themselves from the research, accepting that their values and beliefs will influence the research in some way and using unstructured approaches to data collection in order to embrace this. An interpretivist

researcher must demonstrate self-reflexivity and evaluate their influence on the research work carefully (Greenbank, 2003: 795). My research stems from a career as a TR, and my experience will undoubtedly have an impact on the way I undertake the study. It will be vital to reflect on this influence of core values throughout the process and use my version of reality alongside those of my participants. A constant critical self-reflection must be applied during the analysis process and a researcher's personal experience must not overshadow or taint the experiences narrated by the participants.

The main proponent of this stance is Max Weber and his concept of *Verstehen* or seeing through the eyes of others. The concept could be criticised as a research method since data gathered is derived from personal experience (Tucker, 2014). However, surely all data, particularly qualitative data, is derived in some sense from personal experience, whether gathered via interview, observation, narrative or other means. To avoid an overly simplistic view of this data derived from personal experience, it is therefore necessary to see *Verstehen* as a starting point to further exploration, and this includes using the available literature to inform the data collection process. Strauss and Corbin's (1998) idea of a 'theoretical sensitivity' is a valid method for an interpretivist stance, to avoid being swayed or influenced too much by the existing literature, but to give a grounded knowledge of the concepts and theory involved.

3.3.2 *The role of the researcher*

Considering all this, it seems that to adopt an interpretivist stance means to allow the researcher's own identity, values and lived experiences to play a part in the research. It has even been suggested that only those with direct experience of the field can undertake research in that field, and that it is difficult for the researcher to avoid starting the process with an agenda which is influenced and altered by the participants involved (Fawcett and Hearn, 2004: 214).

Our concept of identity and self also plays a role in how we interpret participants' narratives (Hartman, 2015: 23), and this study will consider how engaging in action research has impacted on the participants' perception of identity and agency. There may be limited clear

answers to my research questions, but I hope to discover how others perceive their lived experiences and if there is any correlation with my own.

3.4 Theoretical framework – phenomenology

3.4.1 *The philosophy behind phenomenology*

As a research method, phenomenology provides the framework for subjective study into how people see the world. Back in 1962 Merleau-Ponty described the method as a “description of phenomena” (in Kafle, 2011:182) but it has since been variously described as “a philosophy, a research method and an overarching perspective from which all qualitative research is sourced (Maykut & Morehouse, 1994)” (Kafle, 2011: 182); and “a response to how one orients to lived experience and questions the way one experiences the world.” (van Manen, 1990, in Kafle, 2001: 183).

In phenomenology, it is important to maintain an open attitude and to attempt to see the world in a distinct way, through unbiased eyes. This is a disciplined approach and requires an attentive manner and an open-minded view throughout both the interviewing process and the transcription and analysis process. This method is a lived experience for researchers who have pre-existing experiences themselves (Kafle, 2001: 188). The researcher is a “signpost”, directing the reader towards the essential findings and concepts of the phenomenon being researched (ibid., p189). Unlike other methodologies where impartial bias is imperative, the reverse is true, and it is the connection and interplay between researcher and participant that characterises phenomenology (Finlay, 2009).

Due to our own lived experiences and this interconnectedness, there are two perspectives that can be used to examine phenomena. The researcher can orient themselves towards the world and make statements about it (first-order perspective), or they can orient themselves towards peoples’ ideas about the world and makes statements about peoples’ ideas and experiences (second-order perspective) (Marton, 1981: 178). Phenomenology can be defined as a methodology that “aims to focus on peoples’ perceptions of the world in which they live in and what it means to them” (Langdrige, 2007: 4, in Kafle, 2011: 182), so it is apparent that a second-order perspective is the most applicable in this type of research. Though the

researcher may have their own personal lived experiences that they can orient towards and make statements about, what is being explored are the experiences of others and how they see the world, and these experiences can be analysed to generate theories and hypotheses that will be applicable to a wider audience.

Using a phenomenological approach with qualitative narratives allows a researcher to examine a variety of experiences that may not be mentioned by the interviewee in a chronological or coherent way. A person's awareness of the world is multi-layered: we are not aware of everything at the same time, and we will all be aware of everything, but everyone's awareness will be different (Marton, 1986). Phenomenology allows the researcher to examine the diverse ways that people see and experience a relatively similar phenomenon: that of being a TR and how their experiences of action research have impacted on them. This approach is particularly useful in this study, as the participants have begun their careers with similar research experiences but have then moved onto to different roles and identities within education. Examining the phenomenon through each of their perspectives allows the researcher to produce hypotheses on how engaging in action research can impact on a TR in a multitude of ways.

3.4.2 Types of phenomenology

Phenomenology tends to fall into three major types: transcendental, hermeneutic and existential (Kafle, 2011: 185). A hermeneutic phenomenological approach, developed by Martin Heidegger (1889-1976), uses the hermeneutic cycle to attempt to interpret the participant's world as experienced by them. This cycle consists of reading, reflective writing and interpreting, and is the best fit for a study where participants are sharing their life experiences and their perceptions of these. By telling stories as they are recounted by the participant, the reader is invited to think about the meanings behind the stories and make their own judgements and decisions about what they have heard. As a hermeneutic phenomenologist, my task is to represent these stories in their truest possible form and interpret them without undue bias or personal opinion; however, it must be remembered that it is not possible to remain entirely neutral and bracket off the way the phenomenon is identified and interpreted by the researcher (Langdridge, 2007). Unlike descriptive

phenomenology, where the researcher is required to bracket off influences surrounding the phenomenon, in hermeneutic phenomenology, the focus is on searching for themes and allowing the phenomenon to dictate how the data is analysed (Sloan and Bowe, 2014: 1296).

3.4.3 Pedagogical phenomenology

This hermeneutic phenomenological approach is an effective method to examine the nature of teacher-led research. Learning is a change in how a person understands the world (Fazey, Fazey and Fazey, 2005: 3), and in the ecology of a classroom, there is a constant interaction between teachers and pupils which results in learning taking place on both sides. In schools, there is a constant interplay of actions and interactions which have many emotional, temporal and relational dimensions (van Manen, 2002). It is deliberate reflection on this process that separates a TR from a teacher; the TR reflects on their work, experiences and investigations to effect positive changes to their practice and the teaching and learning in their ecology. Van Manen defines reflection in three separate ways: retrospective reflection on past experiences (as in this study); anticipatory reflection, which involves reflecting on future experiences – again, a hallmark of the TR; and contemporaneous reflection, which allows for a “stop and think” action on the part of the TR (van Manen, 1995: 2).

The concept of contemporaneous reflection is interesting – is it possible to reflect on practice during that practice? In this study, the TRs involved are giving retrospectively reflective accounts. But the concept of reflecting-in-practice is linked to that of reflection-in-action (Schön, 1983), and most teachers – particularly those used to action research – will constantly monitor and adjust their practice as they teach as a result of reflection. They will make seemingly spontaneous decisions, alter the course of a lesson when they perceive that something is not working, or pursue a comment, thought or idea that arises. Likewise, when asked to recount stories about their teaching experiences, the teacher will describe the many tiny incidents that occurred as a coherent whole. Many of these incidents would have seemed unimportant at the time, or would have passed without the time or the need to reflect upon them. However, each of these incidents can be ascribed an importance if they are brought to the teacher’s attention and reflected upon retrospectively.

When dealing with pedagogical phenomenology, a researcher should be concerned with *orientation, strength, richness and depth* to maintain a quality of data (van Manen, 1995; Kafle, 2011: 195). TRs are recounting their own lived experiences of action and reflection, and the accounts need to be rich enough for the researcher to unpack meanings and draw comparisons and conclusions. Likewise, the reader needs to be able to feel this is a true and honest account, with which they can empathise or use as a trigger for their own reflections.

3.4.4 Interpretative Phenomenological Analysis (IPA)

Interpretative phenomenological analysis (IPA) is a qualitative approach developed by Jonathan Smith, Professor of Psychology at Birkbeck University of London. It is an epistemological position which also offers precise guidelines for conducting an IPA research study and puts the analyst in a central role (Smith and Eatough, in Lyons and Coyle, 2007: 40). There are two main theoretical currents in the IPA approach: firstly, it is phenomenological, examining a participant's personal perception or narrative of a phenomenon; and secondly, it is hermeneutic in its attempt to interpret a person's version of their lived reality. IPA stems from the original founder of phenomenology, Edmund Husserl (1859–1938). Husserl believed that phenomenology could be a rigorous alternative to traditional methods, which he felt were not appropriate in the study of human experience. Husserl suggested that only our direct experience of the world was important, and we could only truly understand concepts if we had experienced them ourselves. Influenced by his teacher Husserl, Martin Heidegger (1889–1976) developed hermeneutic phenomenology, believing that we cannot be separated from the world in which we live and exist, and that we each experience this world in our own way. Unlike Husserl, Heidegger felt that to understand our world, it is necessary to look at both personal experience and the outside world, with aspects such as language, culture and history playing a part in how we experience our lived reality. Heidegger's work in turn heavily influenced Maurice Merleau-Ponty (1908–1961), who, in his (1945) phenomenology of perception, argued that as humans are embodied beings, it is not possible to detach the mind from the body, therefore we only truly know ourselves in relation to the world around us. Smith's IPA approach attempts to capture lived realities as they were experienced, as influenced by Husserl, but recognises that this type of research is both a dynamic and interpretive process, as influenced by Heidegger's hermeneutic phenomenology.

IPA has been described as “an epistemological stance whereby, through careful and explicit interpretative methodology, it becomes possible to access an individual’s cognitive inner world” (Biggerstaff and Thompson 2008: 216, in Murray and Holmes, 2014: 18). In the IPA process, the participant attempts to make sense of their version of reality, while the researcher tries to make sense of the participant trying to make sense of their lived reality. It is accepted in IPA that while a researcher will be able to extract some meaning from the participant’s version of reality, they will not be able to access their perceptions completely, as they are interpreting the narratives through the lens of their own perceptions and constructs. Many IPA studies are small sample studies, which means that IPA researchers do not attempt to confirm or disprove hypotheses established through existing literature in the field, but they collate data which is then used inductively (Smith and Eatough, in Lyons and Coyle, 2007: 43). The researcher is an intrinsic part of the IPA process, and becomes a participant-observer, developing an intersubjective relationship with the participant and the narrative. This is defined as “Einfühlung” meaning empathy by Husserl (1989: 170-180) and “Mit-sein” or ‘being with others’ by Heidegger (1962: 152-153) (Murray and Holmes, 2014: 25).

The IPA process is idiographic, inductive and interrogative (Smith and Eatough, in Lyons and Coyle, 2007: 41), and begins with the detailed analysis of one case before moving on to analysis of the second case, and so on until all cases have been considered. With longer interviews, the mass of data can feel overwhelming, so the researcher must follow a set process to identify central themes and concerns. This process is laid out to allow the researcher to collect and analyse data in an inductive and interpretive way:

- 1) The process begins with reading and re-reading the data to get a feel for its content, then identifying an overall theme which sums up the whole interview (Storey, in Lyons and Coyle, 2007: 53). The researcher must be aware of identifying too much with the interviewee, as it can force the data to conform to the researcher’s experiences rather than the interviewee’s. Reflecting on and acknowledging the interpretive framework the researcher is placing on the analysis is important to increase the transparency of the analysis, though there may be some aspects of the framework which are unconsciously applied and of which the researcher is unaware. (ibid., p54)

- 2) Key themes are picked out of each transcript, as interpreted by the researcher. As the themes begin to emerge, the researcher may become more aware of overarching themes and connections. This will assist in the interpretation process. In the initial transcript, connections are made, and themes linked together and checked for convergence and divergence. The process continues with each transcript in turn, but the inductive nature of IPA means that the researcher will accumulate knowledge and use each transcript's emerging themes to identify themes in subsequent transcripts. The whole process must be repeated several times in order to ensure the same level of validity and rigour in analysis in each transcript. Finally, all the themes are noted, linked, compared and cross-referenced. This can be done by hand or by using computer software.
- 3) This cross-referencing and combining of themes leads to the creation of thematic clusters, which in turn leads to the creation of superordinate themes.
- 4) A summary table is then produced with themes and illustrative quotations.

IPA is concerned with understanding what the participants' perceptions of a phenomenon are, from their point of view. However, the researcher must ask critical questions of the text, and delve deeper into the analysis to interpret the participant's mental and emotional state, maintaining a theoretical commitment to the participant as a "cognitive, linguistic, affective and physical being" (Smith and Osborn, 2007: 54).

3.4.5 Using a phenomenological approach in qualitative research

This study is focused on the lived realities of TRs, and for this reason, purposeful sampling is used to gain an in-depth understanding and a rich amount of data for the investigation. Participants need to be chosen based on their experiences and their suitability for the research question, and this process is easier if the researcher has a direct link to the area being studied (Yates *et al.*, 2012: 103). Having direct knowledge of the participants' history is an advantage, though when selecting participants is it unknown whether the stories they tell will be positive or negative, whether they will demonstrate a deep enough level of reflection

to stimulate an investigation, or whether they will be willing to share them, as the process of sharing experiences retrospectively can be an emotive one, opening memories that previously lay dormant.

3.5 Using interviews in data collection

3.5.1 *Interviewing as a data collection technique in phenomenological research*

In phenomenological research, interviews are a standard method of data collection, and interviews are entirely focused on the interviewee's experiences and aim to understand and describe a phenomenon in the interviewee's world. However, with this approach to interviewing, the purpose is to "explore variation in how the participant experiences or understands the phenomenon" (Yates *et al.*, 2012: 101). The researcher is therefore interested less in the participant and more in the phenomenon and their relationship with it, so that variation in relationships can be examined over several participants. The researcher may be "touched" by the research being conducted (Diefenbach, 2009: 877), and will have an opinion about it even if they are not directly involved in that field, keen to demonstrate their own, original interpretation of the narrative. For this reason, a qualitative interview may contain a lot of the researcher's own personality and the researcher may describe and interpret the interview differently to how the participant viewed the interview.

However, validity is key, especially with a small sample, and triangulation can be used, such as using participant feedback after analysis and collating other data forms such as prior interview transcripts, to ensure that interpretation is reliable and trustworthy. If there is "internal validity", then findings are more easily transferred to a wider population and therefore have greater "external validity" (Elliott, 2005: 22).

3.5.2 *Semi-structured interviews*

Semi-structured interviews are the preferred method of data collection in phenomenology (Yates *et al.*, 2012; Ashworth and Lucas, 2000: 302). The latter calls an interview a "conversational partnership", whereby the researcher can probe the participant without leading, and so unpack concepts and ideas in greater depth. Open-ended questions allow a narrative to flow unhindered: the participant can relate experiences in a non-chronological

way, and the researcher can read between the lines to explore the unsaid. A semi-structured interview with open-ended questions also allows each interview to evolve differently, as the interview will be based entirely on the participants' lived experiences which are naturally diverse. A participant's narrative can produce "data that are *more* accurate, truthful, or trustworthy than structured interviews" (Elliott, 2005: 23). The participant reflects during the narrative and the act of telling the story becomes "a meaning making activity" (p24). This can lead the conversation in different directions than the researcher perhaps intends, unearthing meanings that may not have been previously expected.

3.5.3 *Creating an interview schedule*

In deciding the interview schedule, findings from the questionnaire in my preliminary research were used. This questionnaire allowed me to identify key themes that could be reflected upon and explored further, so the open-ended semi-structured interview questions are designed to give the participant the opportunity to relate their narrative as fully as they wish, without interruption, but also to give the interviewer the opportunity to ask unstructured probes to explore themes and concepts further.

The co-constructed nature of the interview will also allow my own lived reality to enter the conversation. To maintain validity, it is important that any comments relevant to my own personal narrative are non-leading and in the context of the interview. Yates *et al.* (2012) point out the necessity of being non-judgemental, either in a positive or negative fashion, throughout the interview (p103), as it is essential that the participant feels relaxed and able to relate what could be quite personal and sensitive information about their experiences. With a constructivist-interpretivist approach, participants and researchers co-construct realities, (Hiratsuka, 2014: 3; Fontana and Frey, 2005; Holstein and Gubrium, 1995), and therefore both are actively involved in the data collection and interpretation process. This could give a potentially more meaningful and truthful account of their lived reality, as they do not feel coerced into answering a series of closed questions with no opportunity for elucidation. However, the interviewee may not view the process as truly co-constructed, but rather as "an exercise in which the interviewer extracts information from the interviewee for later interpretation" (Bryman and Cassell, 2006: 47). This perhaps cannot be avoided; after all, the interviewee is only taking part in the interview at the request of the interviewer. No

research interview of this style could be said to be completely natural and co-constructed. The interviewer will always have the higher proportion of influence in the process, as they have greater control over what is said, how it is said, and how the data is used afterwards (Briggs, 2002, in Kvale 2006: 483). The interview is in fact dominated in all senses by the interviewer and is therefore not an equal partnership, and this is set from the start, as it is the interviewer who decides the agenda and steers the conversation to meet their own research interests (Kvale 2006: 484).

The interviewer also has monopoly over the interpretation of what is said (Kvale, 2006: 485), which is where the feedback process demanded by a hermeneutic approach is so important. Participants need to have the right to agree or disagree with how their words have been described and interpreted. One way a monopoly of control can be minimised is by the researcher having a trusting relationship with the participant. There must be a rapport and a trust built prior to the interview, particularly as the participants receive the interview schedule via email and so can prepare themselves for the interview. The interviewer is in fact creating a “close, personal encounter where the subjects unveil their private worlds” (Kvale, 2006: 482).

An interviewer may need to adopt multiple identities, given their ethnographic immersion in the field being studied and them becoming a “research instrument” (Lavis, 2010: 318) in the interview process. They must play several parts during the interview – that of researcher, active listener, and co-constructor of knowledge. If the interviewer has been involved in the same field as the interviewees, and the process is a semi-structured narrative interview in a conversational style, then it is likely that the interviewer becomes an integral part of the conversation and will change roles throughout the process. The identities that the researcher assumes may change depending on the interviewee, their relationship, the trust that has been built up, the nature of the interview and the development of the conversation. These multiple identities allow the researcher to play the part both of an objective narrative analyst and of an active participant in the co-construction of the richly layered narrative, weaving together both parties’ lived experiences to enable the eventual reader to get a variety of insights into the phenomenon being examined.

The researcher must also ensure that language is everyday rather than technical (Elliott, 2005: 29). The nature of the semi-structured interview lends itself to a relatively natural, flowing conversation, and when the researcher is playing the part of the active listener, they must avoid interrupting the participant mid-narrative. If a researcher cuts off a story thinking it is irrelevant, then a whole series of subsequent stories may be curtailed (Thompson, 1978: 172, in Elliott, 2005: 31). Recording the interview can allow the researcher to give their full attention to the participant, and the interview can develop in a more natural way.

3.5.4 Types of interview: telephone and face-to-face

Narrative researchers must consider whether to conduct interviews face-to-face or by telephone. Sometimes face-to-face is not an option, due to geographical or time problems, and in this scenario, certain criteria need to apply to the telephone interview. Without non-verbal cues to assist the interviewer, they must use their voice to generate trust, keep the conversation flowing, and prompt the participant to expand where necessary. Adopting a calm, objective, non-judgemental persona is imperative (Genovese, 2004: 224), particularly if the subject discussed is sensitive or difficult. Telephone interviewing can also be preferable when dealing with participants with a higher social standing or a higher position of power. In the case of one of the participants, a telephone interview was required due to geographical constraints, but was preferable due to the difference in educational roles and the interviewer and interviewee's perceptions of these roles and their status.

The interviewer needs to direct the conversation due to the lack of non-visual clues (Holt, 2010: 115). Again, if the nature of the interview is sensitive or deeply reflective, then it can perhaps be an advantage for the participant to engage in a telephone interview where they are not scrutinised by the interviewer; it may feel less like an interrogation and more like a normal telephone conversation. A further advantage of the telephone conversation is the richer data that can be produced as a result of the lack of non-verbal communication (Holt, 2010: 116). With a small sample such as this, however, the research question is narrowly focused and according to Sturges and Hanrahan (2004: 116), telephone interviews can provide comparable information to face-to-face interviews.

3.5.5 *Selection of participants and use of a gatekeeper*

In this kind of qualitative study, the participants are selected according to criteria that makes them suitable: they have experience in the field that I am researching. However, this can make the participants less reliable as an information source due to their unconscious bias (Diefenbach, 2009: 880). He claims that both the interviewer and the interviewee can “spoil” the data by exerting influences or reacting to being asked particularly questions. In fact, an interviewee may even deliberately mislead the interviewer: the interviewee may try to give the interviewer information which appears plausible and appropriate, but does not reveal their true thoughts (ibid., p881).

The interviewee receives the semi-structured schedule in advance and has had time to consider their responses; they may choose to give information that is politically or socially more acceptable than the exact truth. This may be more common amongst those in power or with a higher social standing, who may feel the need to act the part or remain taciturn on matters of a sensitive nature. The interviewer may in this case be fed buzzwords, jargon and official party lines (Diefenbach, 2009: 881). It must also be taken into consideration that the responses given are the participant’s perception of their reality, and as such cannot be proved or disproved. The key is in the interpretation of the interview, and there must always be a critical objectivity when looking at the data. Again, triangulation of data forms can assist in ensuring validity of the information given.

Access to the participants in this type of study is via a gatekeeper, “a person who controls or limits researchers’ access to participants” (Saunders, 2006, in McFadyen and Rankin, 2016: 82). In this project, this is a colleague who has been involved in action research projects with each participant over the years and has contact details for each participant, as well as archive interview material for each that she had herself conducted. It was important to be aware that the gatekeeper could influence the research process, as her beliefs, values and assumptions about the importance of the research could have impacted how she allowed and maintained access to the participants. Fortunately in this case, the gatekeeper had been involved in the field of teacher action research for a prolonged period and understood that

the research process would adhere to strict ethical and safeguarding considerations and would not leave the participants open to vulnerability or negative impact.

Ethical approval was therefore sought for the research which named the gatekeeper and her purpose in the study, and she was the initial point of contact for all correspondence between researcher and participants. Once contact was established in terms of the research project, there was direct correspondence between researcher and participants to arrange interviews, conduct interviews, and discuss feedback. The gatekeeper also obtained consent to provide archive transcripts from interviews which she had conducted for a range of different projects whose purposes were not linked directly to the phenomenon of being a teacher action researcher, or their perceptions of engaging in action research, but had comments from the participants which may be interpreted as an insight into said perceptions.

It is important that there is constant, clear communication between researcher and gatekeeper, and that the gatekeeper's role in the process is subject to critical reflection by the researcher (McFadyen and Rankin, 2016: 87). The gatekeeper in a phenomenological study such as this is invaluable, as she provides a buffer between researcher and participants and her involvement helps to "gain their trust and convince them of the integrity of the study and the competence of the researchers" (ibid., p87).

3.5.6 Ethical considerations and safeguarding

In all interviews, there is a position of power held by the interviewer, and it is their responsibility to ensure that the process is conducted in an ethical manner. This study involves adults who consent to taking part in the process, and who are fully aware of the nature of research, being researchers themselves, but the nature of their narratives could be sensitive. They may discuss colleagues they have worked with, schools or local authorities, or incidents in their careers that were uncomfortable or negative, and it is important to recognise that bringing up these potentially sensitive memories could upset or distress the participant.

The researcher must therefore consider their well-being and not deliberately continue to probe a potentially exploitative line of inquiry. In the transcription, analysis and discussion

stages, it is essential that participants are rendered anonymous effectively and that colleagues or schools cannot be identified, as this could lead to later repercussions for the interviewee.

In this particular research project, all three participants are actively involved in the education system, meaning that they are teachers or senior management within a school, or they are connected to schools through academic routes such as higher education courses and initial teacher training. This meant that they could potentially say something which could be interpreted in a negative way by their current or previous school, management or colleagues, irrespective of whether the action research experience to which they were referring in their narrative related to that particular school. It was therefore important to conduct the analysis and interpretation aspect of the study with sensitivity, bearing in mind that these participants had shared their experiences voluntarily and that it was not my role to criticise their narratives. This also meant that the feedback process was ethically very important, as it gave the participants an opportunity to comment on my interpretation of their narratives, and this will be discussed further later in the chapter.

3.5.7 Transcription

Phenomenological narratives can be long and detailed, so it is essential that interviews are recorded digitally. This allows the researcher to focus on listening and interacting, rather than making copious field notes, and the transcribed recordings can be scrutinised repeatedly to allow a thorough analysis. The transcripts or key sections can also be examined by the participants for feedback which can help to ensure both internal and external validity. Inferences are drawn from the data by the researcher, and these inferences will naturally be influenced by the researcher's own beliefs and assumptions, both substantive and methodological (Hammersley, 2010: 558). It is difficult to conserve the original voice of the participant, and some meaning may be constructed by the researcher during the transcription process (Denzin, 1995; Hammersley, 2010). Certainly, transcription provides the most accurate method of creating an objective record of an interview, as opposed to field notes, but the method of transcription, whether by the researcher themselves or by someone else, is not simply a case of writing down what has been said. Rather, the transcriber will be influenced by their experience of the world and their "knowledge of the language and culture

to make sense of what people are, or could be, saying or doing” (Hammersley, 2010: 560). As the transcriber is writing down what has been said, they are making sense of and understanding what has been said.

Transcription, therefore, is the “slowing down and reflexive re-routing of a process that operates much more rapidly in ordinary social interaction” (Hammersley, 2010: 564). Whilst in the interview, the interviewer is focusing on listening, interacting, probing and maintaining the momentum of the conversation. Transcribing the conversation allows the researcher to listen to it with more objectivity than was possible during the process. Accuracy is key, as mistakes can lead to false inferences (Hammersley, 2010: 564). The act of transcribing is the first step to interpreting what has been said and what was meant. For this reason, the interviewer themselves is the best placed to transcribe the interview, as they build a familiarity with the data which assists in the analysis process (Bailey, 2008: 129). An accurate transcription, therefore, is the basis of a rigorous, reliable analysis.

3.5.8 Feedback

After transcribing and coding the interviews the quotes were organised into themes and subthemes, and sent via email to the participants for their approval. Two replied, agreeing with the interpretation of their comments. One also commented that due to a change in school and role, the context in which he works and expectations of what he is required to do have altered, but he has maintained the same approach to inquiry and evidence-informed teaching. If the participants had disagreed with the analysis and interpretation of their comments, both views would have been incorporated. In using an IPA approach to the analysis, narratives are interpreted through the lens of the researcher, but participants are recalling events and narrating perceptions that are temporally and contextually dependent, and therefore if circumstances have altered over time, their opinions and perceptions may also have altered.

The concept of reliability and validity, often termed as rigour or “trustworthiness” (Guba and Lincoln, 1981), in qualitative inquiry poses a particular issue in small scale phenomenological studies such as this. Research “must have “truth value”, “applicability”, “consistency” and “neutrality” in order to be considered worthwhile” (Guba and Lincoln, in Morse *et al.*, 2002:

15), but discerning rigour in quantitative research is quite different to rigour in qualitative research. Objectivity is more difficult to attain in qualitative research. However, credibility, transferability and confirmability are among the criteria they define as essential for establishing rigour and trustworthiness in qualitative studies. Member checking is therefore a process which can be carried out continuously throughout the study but is more likely to be used as “verification of the overall results with participants” (Morse *et al.*, 2002: 16).

In this study, member checking is used as a way of feeding back the initial coding of the interviews to the participants, giving them the opportunity to agree or disagree with the interpretation of their comments. The coding needed to be presented in a form that the participants would understand, as there is a risk that once the transcripts have been analysed and quotes have been decontextualized, participants may struggle to recognise themselves (Morse, 1998). The coding was therefore presented in a simple list format, abstracting comments and quotes into sections with headings to help the participant to understand what meaning and interpretation had been extracted from the quotes. As two of the participants replied with positive comments and agreed with the interpretations, the process helped to shape and direct the research during development. Any detailed, constructive or negative feedback from participants would be used to redefine the interpretation.

3.6 Combining the elements of the methodology

Though the sample for this study is small, the use of a rigorous methodology has generated data that can be generalised to a wider audience. To do this, any hypotheses or theories generated must be put in “a historical and societal context” (Diefenbach, 2009: 889). This means the longitudinal aspect of the participants’ retrospective narratives will need to be placed in the educational context of the time when the TRs were carrying out their research, and connections made to research by others in the same field, to avoid being singular, stand-alone case studies.

When the impact of teacher-led research is examined in the literature available, it is usually in terms of pupil progress, pupil satisfaction, whole school change, and professional development initiatives, such as coaching. Very little is written on the subject of TRs

themselves and their reasons for conducting research, their feelings towards it, and the impact it has had on them personally. Literature on why some teachers become TRs, and others do not, is limited. However, Castle (2006) and Dadds (1998, 2002) look more closely at the subjective experiences and thoughts of the TR, and how their teacher action research impacts on their role as an educator and those they educate, and of all the literature, their work has made the greatest impression on me as a TR.

My aim therefore is to put my work alongside theirs as an account of what makes teachers turn to teacher action research and what the impact of this is on their professional identity and agency within their ecology. The research stems from my own lived experiences as a TR, which sets it apart from other literature on the subject. This study should resonate with other TRs who experiment and take risks within their classroom, and it might inspire those who perhaps have little support within their schools, or who are disheartened by government directives and policies, to continue being curious and reflective about education.

Chapter 4: Analysis

4.1 Conducting the study

4.1.1 *Participants*

A phenomenological narrative inquiry approach requires a small sample of participants who meet the criteria of having been involved in teacher action research. Three participants were therefore selected from my awareness of them having been involved in teacher action research, two by personal acquaintance and one through a gatekeeper at Newcastle University. These participants all completed the pilot study questionnaire in the preliminary stage of the research, though I had anonymised their responses within the preliminary stage and therefore did not have any bias towards these particular participants. They were chosen as they had consented to be involved in further research, and all had strong experience of undertaking action research on a large scale, often working with outside agencies, and which was then published to a wider audience. The three had similar histories, in that all had been involved in conducting action research, working alongside or collaborating with external agencies and academic institutions, and publishing the findings. However, all three had taken different career paths following their initial work as a teacher-researcher, and therefore could be taken as a varied representative sample of teacher-researchers. The generalisation potential can be improved by maximising variation in this way (Larsson, 2009: 31). There was a risk that in the course of the project, one or more may decide to opt out of the research, particularly as the interview process would ask them to consider their personal and professional experiences in detail, but I decided that if this were the case, I would continue with a smaller sample.

Alongside their narrative interviews, a gatekeeper at Newcastle University provided access to historic interview transcripts and summaries from several research projects that the participants were involved in. These interviews were conducted by the gatekeeper, and permission was obtained from the participants to use the historic transcripts. The interviews were not specifically regarding their perceptions of teacher action research but were used to gather data for the different research projects they were involved in at the time. As the interviewer was not a TR herself, this puts a different angle on the data collected, compared

to that which was collected by me in February 2015, as it removes the bias and is not co-constructed in the same way. The data from these interviews, from 2006 to 2010, is coded using the same method, however, and some quotations are used to illustrate the longitudinal aspect of the participants' research careers alongside the findings from the interviews conducted by me specifically for this study. This historic data is useful for triangulation purposes and is an additional, contextualising data source.

The participants all share a history of conducting teacher action research either autonomously or as a school-based directive. All three have been given pseudonyms for the purposes of anonymity, and schools, colleagues and Local Authorities mentioned have all been altered.

- **Liz** was offered an opportunity to assist in teacher action research linked to a national project in her preliminary stages of primary teaching, and quickly took on further responsibilities in that area. She moved schools to take on an Assistant Headship, then quickly moved again to become Headteacher at a relatively early age, managing to incorporate action research into both these roles. Her classroom teaching is now very limited, but she incorporates research-based Continuous Professional Development for her staff into her school policies. Liz's original action research explored teaching and learning tools and techniques, and the findings were shared and used to inform policy across her school and across the action research networks in which she was involved.
- **Matt** is a secondary teacher who was given the opportunity to work on a school-led inquiry project and has since led further projects linked to inquiry and project-based learning, often collaborating with external agencies and academics. His most recent action research explored inquiry-based teaching and learning, and his main area of interest is how to increase creativity, questioning and problem-solving in his students. Since his interview for this research project, he has moved to a different school but maintains a TR role.
- **Kate** began her career as a secondary teacher but moved into teacher action research partly because her school was involved in a large research project, and partly because she embarked on a vocational academic study programme. Her career has alternated between periods as a teacher, TR, senior leader and academic, and although she no longer teaches in a secondary classroom, she maintains an active academic teaching role, with opportunities to engage in research.

4.1.2 Interviews – recording and analysis

Interviews were conducted in person with Matt and Kate, and by telephone with Liz due to geographical constraints. It must be noted that the participants had received the interview questions a week prior to the interview taking place and had time to prepare responses and reflect on the content of their narratives. This meant that the narrative produced reflects not only the interview's day and time, with its accompanying emotions, events and outside influences, but also how the participants *chose* to narrate their experiences. Their narratives are representative of their opinions, memories and perceptions, and an interview on a different day, with a different interviewer or with different peripheral circumstances may have produced an alternative narrative.

The recordings were transcribed and analysed using the interpretive phenomenological analysis (IPA) approach. Firstly, initial readings were made several times of each transcript in turn, and this iterative process meant that the transcripts became familiar, and initial themes began to emerge. This is useful when the researcher/interviewer shares experiences with the participants or has a similar career history. Though the phenomenological process is co-constructed between researcher and participant, and there will be an element of bias and preconceptions for the researcher, it is important to follow an inductive process and avoid prejudging or jumping to conclusions based on the researcher's own experiences.

In terms of collecting the data, as a researcher I did not encounter any issues or problems, and each participant engaged fully with the interview process, maintaining the co-constructed conversation and openly sharing their experiences with me. This may be due to the fact that I shared their background as a TR, and was not an outside researcher, posing questions about a subject in which I had never been actively involved. The telephone interview will be discussed later in the chapter, as it was an effective method of maintaining an equanimity between researcher and interviewee, despite our differing status in terms of educational roles. The participants had obviously prepared for the interviews, as they had been given the questions a week earlier and were willing to talk in depth about their careers as TRs, as well as sharing personal details which had bearing on their career trajectories.

4.1.3 Emerging themes

Themes were developed from the transcripts using an inductive approach. Following the IPA method, as described on p59, each transcript was analysed in turn by hand, rather than using computer software (due to researcher preference). Notes were made on each transcript, as shown in the scanned images below, and the knowledge accumulated during each analysis of each transcript enabled me to keep repeating the process and applying new knowledge to each transcript. Therefore, with each coding analysis, more information was extracted and interpreted.

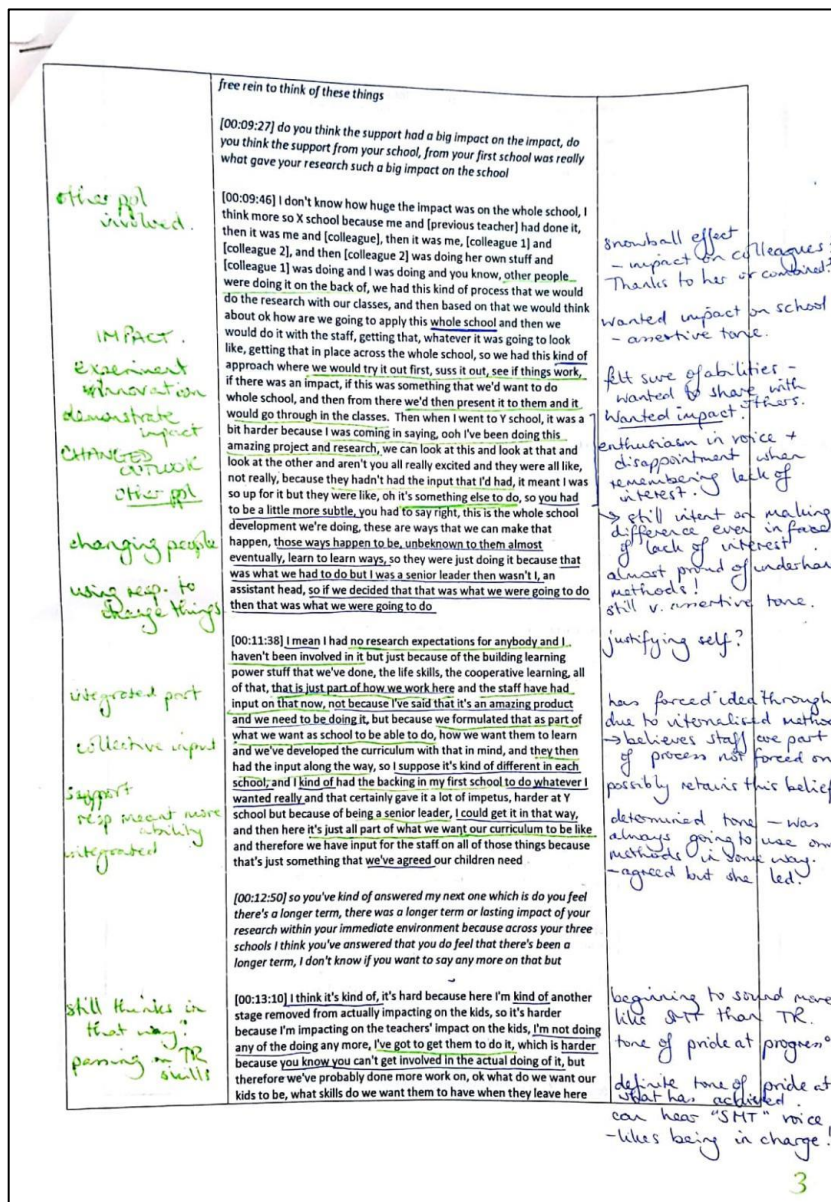


Image 1: Example of transcript pages with hand coding, extracting themes as interpreted by the interviewer/researcher

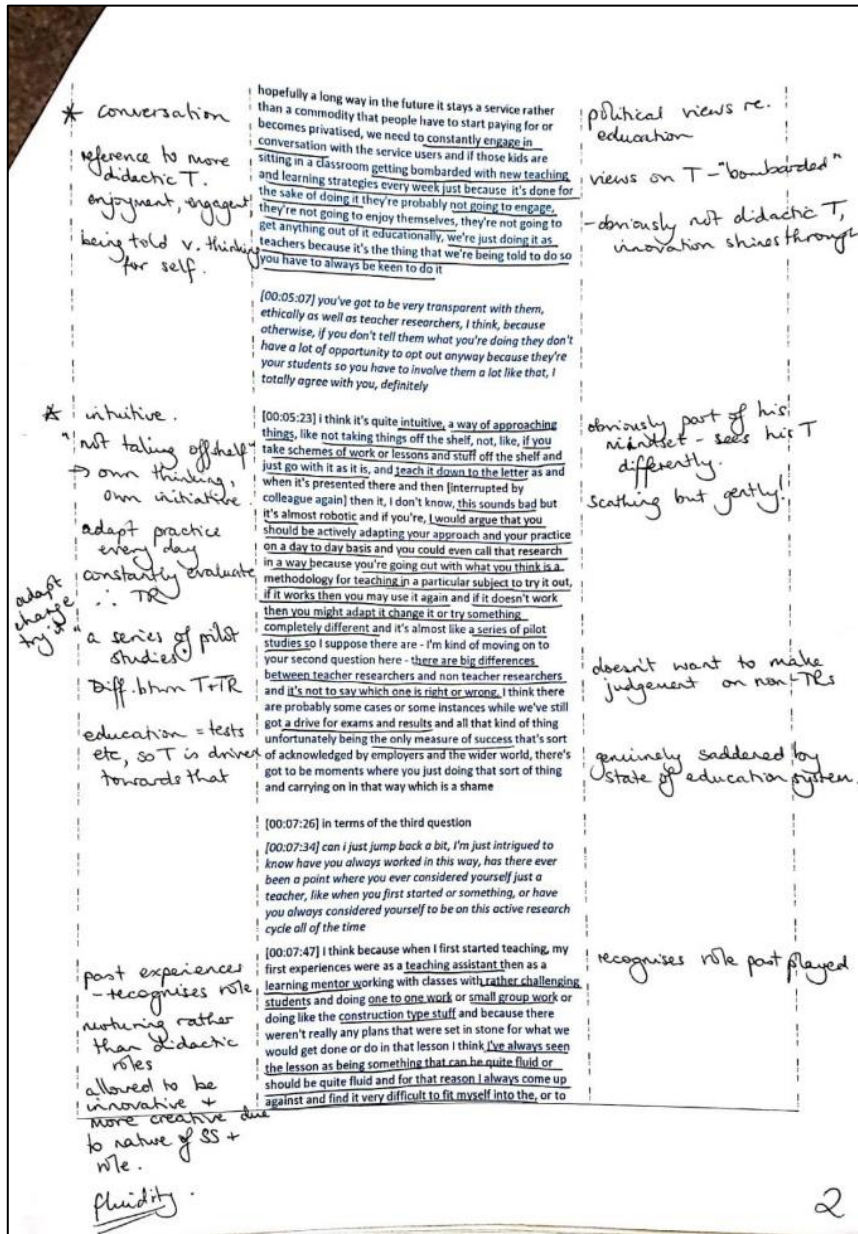


Image 2: Example of transcript pages with hand coding, extracting themes as interpreted by the interviewer/researcher

The emerging themes from each individual transcript were then compiled into a table, which enabled the themes to be grouped into thematic clusters. Throughout the process, three superordinate themes emerged clear: **perceived impact on and evolution of professional identity, perceived impact on agency and perceived impact on ecology**, though these superordinate themes became more defined and precise as the research process evolved, and in the initial stages of analysis were stated simply as agency, impact and identity.

The themes were therefore compiled under these three headings for each transcript, so the three participants' data could then be compared and contrasted, as illustrated in the scanned image below, which shows notes made for one transcript:

① Agency		
Context	Active	
Other people's res.	Experiment Innovation	Purpose
Stk else had to do - SDP.		Trying diff things
Influenced by research		Opportunity
Asked to do it		LA has/had effect
Considers needs of others		Progression
Broad range		Support/lack of
Collective input		Resp. meant more ability.
② Impact		
Working it up	Give staff CPD opports.	③ Identity
Observes others for own TR skills		That kind of person
Reflection	Change of impact	Trying new things
Changed outlook		Different Teacher
Changed T style		Changed T style
Demonstrate impact		Internalised
Using responsibility to change		Changed outlook
Integrated part		Skill thinks in TR way
Passing on TR skills	One opport. leads to another	Putting on TR skills
Feels impact		Links back to TR past
Integrates into T now		Changed mindset
Consistency		High expectations of self determination

Image 3: Notes made when compiling emerging themes under the three original emerging superordinate themes of agency, impact on ecology and professional identity, from one transcript.

These three superordinate themes were compiled into a summary table which shows all of the subordinate thematic clusters that were formed and the emerging themes from all three coded transcripts. Some themes emerged from all the participants' narratives, some only from one or two, and some themes overlapped or were so similar they could be amalgamated into one. The summary table for all three superordinate themes and the six cross-cutting themes is below, and the full table showing the coding from the transcripts in thematic clusters can be found in Appendix A. The cross-cutting themes will be examined across three analysis and discussion chapters, analysing the superordinate themes of perceived professional identity, perceived agency and perceived impact on ecology in turn. In this research, identity refers to professional identity, or how the participants perceive their role and their professional persona; agency refers to their perceived ability to effect change within their ecology; and ecology refers to the educational environment or institution in which they work and engage in research.

	EMERGING SUPERORDINATE THEMES		
	A: PERCEIVED PROFESSIONAL IDENTITY	B: PERCEIVED AGENCY	C: PERCEIVED IMPACT ON ECOLOGY
Emerging cross-cutting themes	<i>Emerging theme 1: Incorporating innovation and creativity in educational practice</i>		
	<i>Emerging theme 2: Academic research influencing or informing practice</i>		
	<i>Emerging theme 3: Impact of the educational ecology on practice</i>		
	<i>Emerging theme 4: Research and collaboration within the immediate ecology</i>		
	<i>Emerging theme 5: Research and collaboration outside the immediate ecology</i>		
	<i>Emerging theme 6: Perceived impact on self as a practitioner</i>		

Table 11: Summary table of emerging superordinate themes and emerging cross-cutting themes from the three narratives

Quotations from each transcript are used to highlight points made, and in some cases extra emphasis has been added by use of bold type. This emphasis has been decided to be the key focus of the quotation and has been added in the analysis stage. Extra data comes from the use of historic transcripts of interviews which were conducted by my gatekeeper about the participants' varying research projects, and were therefore not specifically on the topic of their experiences of action research but were focused on the projects they were engaged in. Certain coded quotations from these interviews have been used to illustrate the changing perspectives of the participants throughout their research career.

The transcripts provided rich data and as a researcher, I was happy with the data collected and did not need to contact the participants for further interviews or enlarge the field of participants. In this kind of qualitative data collection and analysis, the data collected informs the analytic process, and the analytic process in turn shines new light on the data. The overall process is shaped by the theoretical and conceptual lens of the researcher, and the researcher's own understanding and experience of the phenomenon being explored will influence the analysis process. Conceptually interpreting the data as a whole (in this case the three narratives) is also an analytical step, as it transforms "the raw data into a new and coherent depiction" (Thorne, 2000: 68). As seen, phenomenological researchers tend to have a deeper understanding and expertise in the concepts of the context than those who study a wide range of data from across the context, therefore in this study I am satisfied with the three narratives, as I feel they provide rich data which resonates with my own experience.

Analysing them through my conceptual lens as a TR will allow me to make judgements on typicality in comparison to each other and to my own understanding of the phenomenon. The data in this study is used inductively, rather than being collected and analysed in order to prove or disprove a theory or hypothesis (Smith and Eatough, in Lyons and Coyle, 2007: 43). A larger sample of data is therefore not required at this stage.

The next step in the analysis process is to begin to extract meaning from the coded themes and discuss the participants' perceptions of their professional identity and agency, and their perceptions of how engaging in action research has impacted on their ecology and impacted their role in their teaching and learning environment. Using a phenomenological approach means that it is their perceptions and beliefs that will be discussed, and though inferences may be made to the perceptions and development of other TRs, it will be necessary to avoid making generalisations based on the data. This will be discussed further in the next chapter.

Chapter 5: Discussion

5.1 Part A: Participants' perceptions of impact on and evolution of professional identity

The three superordinate themes which emerged from the coded analysis of the participants' transcripts are a) perceptions of development of professional identity; b) perceptions of fluctuations in agency; and c) perceptions of how the ecology is impacted by or impacts on the participants' engagement in action research. In part A, I will discuss the concept of professional identity, and examine how the participants perceive their identity to have evolved and changed over their career, and how this development appears to link to their differing levels of engagement in action research. In part B, I will explore the concept of agency, and how the participants' agency both in the classroom and in their conducting of action research projects appears to fluctuate over their career. This fluctuation may be linked to the other two superordinate themes, and this connection will be examined in both this section and in the final section, where I will explore the link with ecology. Part C will therefore combine the first two superordinate themes and link them with the perceived impact on and by the teaching and learning ecology in which the participants are or were involved, and a series of models will illustrate how these three themes connect together in the perceived development of a teacher action researcher. This discussion is essentially a narration of the phenomenon being explored, that of being a teacher action researcher, and its aim is to narrate the perceptions of the participants and allow the reader to put themselves in the place of the TR and attempt to understand the role they believe themselves to hold in education and the impact they perceive the role has and has had on their development as a TR, as a practitioner and as a person.

5.1.1 *Professional identity as a concept*

The dominant superordinate theme that emerged from the analysis is that of perceptions of professional identity. Teachers often identify themselves by the specifics of their profession: primary or secondary, subject, pastoral role, responsibility. The concept of professional identity came through the narratives very strongly and the participants have both clear and vague ideas about their identity as TRs – sometimes simultaneously. Professional identity has a close relationship with teacher agency (Buchanan, 2015; Tao and Gao, 2017) and with the

context or ecology (Flores and Day, 2006; Goodnough, 2010), and its constantly evolving nature impacts on a teacher's self-perception (Akkerman and Meijer, 2010; Beijaard, Meijer and Verloop, 2004; Erickson and Pinnegar, 2017). Sue Lasky (2005), in her work exploring teacher identity and agency in the context of school reform, comments that professional identity is how teachers define themselves both to themselves and to others (p901). Career progression, context and circumstance all contribute to the evolution of professional identity over time. Lasky also believes that identity is just one aspect of a teacher's individual capacity, which includes commitment, willingness to learn and an understanding that learning is ongoing (Spillane and Thompson, 1997), and that this individual capacity encompasses a range of facets including beliefs, identity, values, subject knowledge and pedagogic knowledge (Lasky, 2005: 901).

Two of the participants have moved from school to school, taking with them their individual capacity, professional values, beliefs and knowledge, and an identity that is constantly developing and evolving. This perceived capacity may make them sensitive to their new ecologies, and potentially more vulnerable in a non-supportive or hostile setting. A teacher brings with them their past emotional experiences and these also affect how they react to their new ecology, as through their emotional world, they make sense of reality and relationships, and their position in the world (Day and Leitch, 2001; Lasky, 2005: 908).

The three participants in the study have varying perceptions of their professional identity but are able to elucidate their awareness of their continuing development. However, by examining their narratives, it is possible to interpret how they perceive their role within their educational environments. Buchanan (2015: 704) discusses Rodgers and Scott's (2008) suggestion that there are four assumptions when investigating teacher identity: it is influenced by multiple social, cultural, political, and historical contexts; it is formed through relationships and involved emotions; it is constantly shifting, and therefore unstable; and it involves the reconstruction of stories told over time. These four assumptions link with the cross-cutting themes identified throughout the analysis and connect with the concept of professional identity as summed up by Beijaard, Meijer and Verloop (2004), that "identity is not something one has, but something that develops during one's whole life" (p107).

5.2 Perceived role as a TR and its link with creativity and innovation

What makes a TR identity any different from that of a teacher who enjoys integrating creativity into their lessons? The first theme which emerged from the participants' transcripts was that of a desire to innovate and be creative within their teaching and learning, and a perception that this was an essential element of their role as a teacher and as a TR. This can be explored by examining the participants' comments regarding their views of the differences between TRs and non-TRs, and the importance of incorporating innovation into their role as a TR.

5.2.1 *Trying new things and moving out of a comfort zone*

Liz appears to believe that TRs may be formed almost organically or by accident through their desire to innovate in the classroom, when she says:

"I think there's people who could be teacher researchers almost without knowing it just because they're interested in trying different things" (Liz)

Adapting classroom practice and trying new teaching and learning methods or techniques does not make a teacher into a teacher action researcher. If there is no rigorous and reliable research process, and no reflection or conclusions drawn from findings, then others will find it difficult to replicate their methods. Any conclusions they may make are too weak to be used as evidence to bring about changes to policy or curriculum. Many teachers may claim that creativity or a willingness to try new things is an observable aspect of their personal identity, but when put into the context of a research-led classroom practitioner, it is a valuable aspect of their professional identity. Matt is the participant who has the most observable tendencies towards perceived creativity, and his narrative reveals that he considers himself as someone who moves out of the comfort zone, both personally and professionally. He recognises that he draws on this need to be "uncomfortable" in the classroom, and would not be able to work in an environment which did not allow him the freedom to express his creativity:

*“other people know what they like and know what they want and feel comfortable in that situation so don't, whereas **I feel more comfortable being uncomfortable**” (Matt)*

Matt involves his students in the research process as co-researchers and talks with great enthusiasm about research projects they have undertaken. He sees teaching and learning as a fluid process involving himself, his students as co-researchers, a research element and most importantly, dialogue and discussion:

*“I like that sort of approach to research, being quite honest and open with the kids about it and turning round and saying well this is new, I've heard about this, **we're going to give it a try, let me know what you think** and involving them in the dialogue and the discussion of it and the evaluation process afterwards” (Matt)*

Lasky (2005) believes that a teacher's willingness to blur boundaries in this manner with students is a key aspect of their professional identity and reflects their underlying beliefs about the importance of building relationships with students and seizing “unplanned teachable moments” (p908).

With more teaching now geared towards assessment and driven by data, it is perhaps becoming less common to find a TR like Matt, who is willing to deviate from the curriculum to satisfy his need for creativity and what he perceives as his students' need for an innovative, co-constructed learning environment. The tension between this aspect of a TR's identity and their awareness of needing to meet Ofsted and school policy criteria is difficult for some teachers to manage, but to engage in a research process, a teacher must be willing to innovate and take risks in the classroom. Goodnough (2010: 176) observes that three-quarters of the TRs she studied cited risk-taking as a major part of their action research. As with Matt, her participants' professional identity evolved in ways that created tension and forced them out of their comfort zone, with their research-led practice encompassing critical reflection and new teaching and learning pathways. These teachers perceived themselves in new ways but also felt uncomfortable with their practice at times. (p175-176).

This may suggest that as a TR becomes more experienced and confident in their individual capacity, their willingness to take risks in the classroom increases, and they become more reflective and more aware that failure is not necessarily adverse but can be used as a productive learning opportunity. This is directly linked to their increasing agency and the nature of their ecology, both of which will be discussed in later chapters.

5.2.2 *Developing an innovative mindset*

Teachers may be willing to move out of their comfort zone temporarily to take part in a project, whether linked to professional development or because a class requires a specific strategy, but they may not embrace the opportunity fully, and may return to their former methods immediately afterwards. However, the participants in this study all seem to have been affected by the process of taking risks and engaging in research, and their professional identity has adapted as a result. Liz and Kate both claim to be more open to innovation, more questioning and more reflective than they were at the start of their career. Matt, on the other hand, claims to be a naturally innovative person, and his narrative suggests that his willingness to try new things is a trait of both his personal and professional identity.

“it comes back to that thing are you willing to give something a go [...] and it was by chance, went down, spoke to them, do you fancy doing this, yeah we'll give it a go, and then it's ended up in this. Whereas if it had been another teacher they might have thought, well have I got time” (Matt)

Having the time to take part in action research was not a consideration for Matt, who was “willing to give it a go”. His rationale behind being a TR is heavily influenced by his drive to improve teaching and learning for his students, but also by his desire for variety and change:

“I'd go mental if I had to do the same thing every day [...] for all those years, and not change or not innovate, or try to get better at what I'm doing, it's not what I got into teaching for, and by no means is the way we're doing things now perfect, so it's not like we can just stay standing still” (Matt)

Matt's narrative suggests that he is unwilling to follow a prescribed pattern, and he implies that he would not be happy in a more restrictive environment where he was unable to be his own driver in the classroom. He sees it as his duty to his students to be a TR who innovates, reflects and thinks for himself, rather than slavishly following the prescribed curriculum or implementing new methods because senior management have asked him to:

“if those kids are sitting in a classroom getting bombarded with new teaching and learning strategies every week just because it's done for the sake of doing it they're probably not going to engage, they're not going to enjoy themselves, they're not going to get anything out of it educationally, we're just doing it as teachers because it's the thing that we're being told to do so you have to always be keen to do it” (Matt)

Matt positions himself as a co-constructor in his teaching and learning environment, rather than a passive facilitator or knowledge handler. He may have begun his career as an open-minded and risk-taking teacher, but he feels that his research experience has played a part in further developing these characteristics. By deliberately incorporating inquiry into his classroom practice and becoming a critical and reflective research-informed practitioner, Matt becomes a knowledge creator and his identity will evolve accordingly (Cochran-Smith and Lytle, 1999: 273).

Of the three participants, it could be argued that Matt is the only teacher to truly redefine his identity into that of a TR and use that identity in his daily teaching. The other participants may claim that their work, methods and identity have all been influenced by their research experience, but neither are still actively involved in action research, and both appear to define themselves throughout their narratives by their new roles – academic and headteacher. One interpretation of Matt's narrative is that he has not developed an innovative mindset as a TR but has nurtured and increased his existing capacity for innovation and creativity. He does not imply that his research experience has changed his identity or made him into the teacher that he is today, unlike the other participants, who talk about their research experience influencing their current roles but are no longer active classroom practitioners.

5.2.3 *Discovering an excitement in innovation*

Whether Liz and Kate have truly altered their identity to incorporate their TR experience, there is no doubt that their narratives reveal their excitement in being able to innovate and share their love of innovation and research with others. Their career paths have seen them move from school to school, further up the ladder into leadership and, in Kate's case, out of the school system altogether and into academia. Neither can be defined as a TR in their current role, though both claim that their experience has directly influenced the way that they work in these roles. Indeed, Goodnough (2010: 176) refers to the teachers that she studied as "seeing themselves in a new role placed them on new trajectories of learning." It may be that even if a TR is no longer actively involved in action research, there is a long-term impact on their identity which affects how they view and enact their new role. Their increased self-awareness, possibly an impact of the increased reflection throughout the research process (Casey 2013, Leitch and Day 2000, Postholm and Skrovset 2013), gives them an insight into their professional and personal characteristics: *"I'm not the person that I was" (Kate).*

Kate is no longer an active TR, but her views on education have undoubtedly been moulded by her experience as a practitioner involved in action research. She is aware that her personality, and both her professional and personal identity, have been impacted by her experiences, and her narrative exudes an enthusiasm about the power of research:

"[with action research] there's just an excitement, and there's a hope in a context, in a wider educational context where things are quite scary and quite prescriptive and I think I've always been someone who's stuck her head above the parapet and said, shall we go and see what's over there? And I think research allows teachers to be able to do that, it can give you if you work in a context which affords it, it can give you a space in which you can just explore stuff, and that adds so many different dimensions to your being" (Kate)

Liz and Matt's narratives can both be interpreted as having a positivity regarding teacher action research, and a desire to engage others in their ecologies, whether this is as a colleague, senior leader or academic. Through the confidence and excitement that comes

through their narratives, their professional identity appears to have been shaped by their action research experiences.

5.3 Tensions between research and teaching

TRs not only actively engage in action research but engage in research literature on a regular basis. Leat, Lofthouse and Reid (2014) claim in their BERA study that action research involvement can lead to the emergence of new perspectives, which re-invigorate those who engage in reading others' research, planning a process, seeking evidence, solving problems and reflecting-in-action and on-action (p2). Engagement can encourage practitioner action and reflection (p3) and teachers take on the role of facilitator as opposed to "classroom 'technician'" (Carr, 1995: 33). This means that practitioners must have access to educational research literature and be given support and time to incorporate the ideas and methods into their action research. This theme of using existing academic research to influence or inform their practice emerged from all three participants' narratives.

5.3.1 *Engaging with educational research literature*

An evolving identity from teacher to TR may only be facilitated if the TR is willing to use literature in the field to support their work. As Liz comments, a teacher may well be experimenting with different methods, but if they are not following an action research method and backing up their research with existing evidence or academic research, they will not be taken seriously as a researcher. For this reason, it could be argued that not every teacher could be a TR, as some are not willing or able to commit the time and effort needed to combine academic study of literature with action research. Kate, however, disagrees with this:

*"I think for me, **any teacher worth their salt has to be a teacher researcher**, I get frustrated when, I'm very easily frustrated with teachers who tell me I don't have time to do that or how am I supposed to do that [...] I think for me there are lots of different teachers, there are as many different teachers as there are personalities, but **I'm always wary of the teacher who's not research informed or who's not up to date with current practice, current policy, because that's just how you should be**" (Kate)*

Her comment of “that’s just how you should be” perhaps demonstrates that she has been out of the classroom for a while. Many teachers in the current educational climate are struggling with their workload, and their time is filled with planning, marking and meeting the demands of a data-driven curriculum. Engaging in action research and spending precious free time reading academic literature (often written by academics with no teaching background or experience) is a luxury, rather than a necessity. Kate’s identity may have been shaped by her researcher experience, but her current identity is more academic than practitioner and as such, her narrative here has more of an outsider’s stance than that of a TR.

Kate has had experience of internal tension between the TR aspect of professional identity trying to engage in rigorous, valid research, and the teacher aspect trying to meet Ofsted criteria and perform according to school policy and curriculum. She discusses how she found it difficult to incorporate her values and ideals regarding inquiry and student co-construction into an observed lesson where she felt compelled to attempt to meet the “outstanding” criteria, and how she missed action research when she was in a non-teaching, non-research role. She appears torn between identities, and in her narrative, questions whether distinct dimensions of identity exist and whether a person can switch between them:

“but you see I think the niggle is, teacher researcher, imagine that there's teacher, and researcher, and teacher researcher [...] so how can you not go back if you're straddling the two [...] are there times when you're more teacher than teacher researcher and times when you're more researcher than teacher researcher?” (Kate)

Therefore, does experience as a TR have a profound effect on every teacher who engages, altering their perception of their identity so they view themselves as a TR even when not engaged in action research? Or does it add a different dimension to their identity, allowing them to switch between action researcher, teacher and a combination of the roles as required? In Kate’s case, it could be interpreted that she has different identities which she assumes depending on the circumstances, and this allows her to slot into distinct roles in both academic and educational environments. It may also mean that when she is not actively

engaged in a role (teaching, researching or being involved in the training of others), she feels that this aspect is missing from her identity. This contrasts with Matt, whose TR ideals appear to be always present, and who considers that both the teacher and the action researcher aspects of his professional identity are necessary to his role to make him feel satisfied.

5.4 The impact of a TR's ecology and educational context on their perceived professional identity

As a TR's agency increases and they perceive that they are having an impact on the educational ecology around them, it is reasonable to assume that their identity will develop accordingly. However, that identity will be in part shaped by the ecology they are in, the project they have engaged in, their colleagues' input and the perceived success of the outcomes. As Buchanan (2015) discusses, identity is a way of understanding the professional self and can be considered both a process and a product. It is unstable and changing, constantly affected by past experiences, current circumstances, daily practice and reflection (p704). A TR's ecology will have an impact on how their professional identity develops and evolves, and this theme emerged from all three participants' narratives.

5.4.1 *Incorporating a TR mindset into a school ethos – the effect of environment and circumstance*

A TR's identity may therefore be continually evolving depending on their circumstances and environment. The profound effect that their action research experience has had on their professional self is observable in the narratives, and all three perceive that research experience has impacted in their past and current roles. Liz feels that she incorporates her experience into her school development plan, policies and training opportunities for her staff. Kate talks about "sharing her perceptions of the world" as developed through her research experience to her students and trainee teachers. However, Matt is the most interesting in terms of incorporating his ideology as a TR into his individual capacity. He perceives that his teaching methods and techniques have become not just influenced by his action research experience, but are inextricably linked with his beliefs that innovation in the classroom is fundamental and that his students are not there to absorb knowledge but to co-construct their education:

“if we don't have as teacher researchers if we don't have those conversations with the students who are the users of the service that is education because we are essentially service providers, [...] we need to constantly engage in conversation with the service users” (Matt)

Unlike Kate, who appears to feel that a TR could perhaps switch between researcher and teacher mindsets depending on circumstance, Matt’s professional identity appears more fixed and determined. He clearly believes in the importance of dialogue and co-construction of knowledge, and he constructs his teaching and learning environment with these values in mind. It can be interpreted that Matt would not be able to switch between identities, and would no doubt feel constricted and undervalued if his ecology did not allow him to express his identity.

5.4.2 Conforming to standards within an ecology versus a TR approach

Matt can be perceived as a TR whose identity is clearly defined and who has well-developed characteristics of risk-taking, innovation and self-belief. Other TRs may struggle to develop this level of identity commitment, as their ecology is not as supportive or does not allow them to thrive in the same way. Many TRs end up working alone, with a dual identity – that of a TR in their own classroom, and a conformist practitioner in the staff room. Leat, Lofthouse and Reid (2014: 6) suggest that identifying themselves as TRs can “set them apart; they become lone practitioners, and they are often critical of the models for ‘sharing practice’ in their schools.” An evolving identity that values innovation and creativity in the classroom can be stifled in the current climate of data-driven, assessment-heavy teaching, and it is understandable if a TR conforms to the standards demanded by their ecology to appear to meet criteria, rather than taking risks and leaving themselves open to potential failure and criticism. Teachers are active practitioners, and their actions are impacted by the structural elements of their ecology, their resources, their ecological norms, and external policies (Lasky, 2005: 900-901), regardless of elevated levels of capacity and identity commitment.

Kate demonstrates this when discussing a past role in a school which she felt was not as supportive towards her perceived role as TR. As the interviewer noted in the summary of the

narrative, Kate felt “helplessness” in a school which focused on quality and standards, and where:

“there was a real internal tension for her with regard to reconciling an inquiry approach which reflects a divergent way of teaching with standards and performance.” (summarised historic interview with Kate)

At this point in her career, Kate appears to identify herself as a TR who is unable to fulfil her potential in terms of research and is constrained by her ecology. Buchanan suggests that “accountability for all that happens in a classroom is common among teachers and may lead teachers to resist mandated changes they view as harmful or unhelpful.” (2015: 702). In Kate’s case, she felt she needed to incorporate inquiry into her teaching and felt the “house style” was holding back both her as a practitioner and her students as learners. This led to her leaving the school and moving to a new role. However, this episode impacts on Kate’s identity and her perceptions of both herself as a TR and her school as a teaching and learning ecology that nurtured and supported innovation. As Buchanan (2015) comments, teachers’ actions impact on their identity, and if accountability policies within an ecology constrains these actions, identity can alter (p714).

In an ideal world, Kate would be able to be creative and innovative without the fear of failing to meet complex, unsustainable criteria. In this case, she felt that her identity and the ecology were incompatible and made the decision to leave. The impact that this had on her identity as a TR altered the way that she saw teaching, learning and researching, and the effects continued to impact in her subsequent roles.

5.5 Engaging in collaborative research within the ecology

Kate’s experiences of teacher action research, both positive and negative, have combined with her experiences of teaching, leadership and academic research to develop her views as a practitioner. Leat, Lofthouse and Reid (2014) cite Hall’s (2009: 676) suggestion that TRs contextualise specific research outcomes in the wider development of practitioner or school practices, and it is therefore not isolated but integrated (p4). The theme of collaborating on

action research projects within an ecology with colleagues, mentors or senior management and how this can impact on perceived professional identity development emerged from the three narratives. Based on the participants' narratives, a TR appears to combine experiences of teaching and engaging in action research and incorporates these experiences into their subsequent teaching and action research projects.

5.5.1 *Using embedded experience to help develop others*

Kate has developed strong opinions on the necessity of incorporating research into teaching and learning, resulting from these combined experiences, and believes that her experience is valuable to her when training others. She has, however, slightly idealistic views that all teachers can be research-informed and research-active, and that the barriers to engaging in research are more internal; she perceives that teachers could conduct teacher action research, but a lack of innovation and motivation prevents them.

Has Kate developed into a motivated, innovative practitioner because of her research experience, or were those traits already present? A person who is innovative and creative from the outset can nurture those traits and develop them throughout their career, but professional identity is constantly evolving and dependent on outside factors, therefore a senior leader would not be able to simply force these traits to emerge in their staff. A teacher must want to develop and evolve the characteristics, and certainly being mentored or tutored by an enthusiastic and supportive practitioner would be a positive factor in this development. Kate sees her role now to be that of sharing her experience through her academic teaching, and feels that her own TR experience has moulded her into the academic practitioner that she now perceives herself to be:

“if I hadn't been the teacher that I was, and if I hadn't developed into what I'm calling an educational practitioner, I would never be able to deliver those modules the way that I can deliver them now, and I have a wider understanding of research and research methods and methodologies, as a result, and just being able to develop your own practice in the classroom, you know, asking questions, differentiation, being able to read people an awful lot

better than I could and kind of knowing better what to do in those situations than I would have before” (Kate)

Both Kate and Liz strongly believe in encouraging their staff and students to develop their researcher skills, though they set about the task in diverse ways. Whether the effects are far-reaching is more uncertain. Though Kate and Liz may share their experience, enthusiasm and support with their staff and students, there is a difference between those teachers or students voluntarily or willingly taking up an opportunity to develop new skills and nurture characteristics already present, and those engaging in prescribed CPD or academic modules because it is demanded of them. If the situation is forced, the desired effect on their identity may not be as profound as their mentors imagine.

5.5.2 Perceived visible change in professional identity

Kate discusses her own change in her professional identity mainly in terms of her skill set, which in her view has improved:

“I’m far more curious, I’m far more flexible, I can read more quickly [laughs], I might not be the best writer in the world but I have a confidence [...] I can handle situations [...] I’m genuinely interested in what people have to say, I’m genuinely interested in their stories, and that just didn’t exist before” (Kate)

“I can see that I developed an awful lot of personal and personable skills, you know working with people, trying to understand people, not going in and being clinical about research, listening to people’s stories, which I didn’t particularly have before that either as a teacher or as a researcher or anything in between” (Kate)

These two quotes from Kate’s narrative are examples of her perception of how being a TR has altered her identity, and it would be interesting to ask others who had known her throughout her research career if or how they have seen her changing identity. Certainly, as previously discussed, identity changes and evolves constantly, and Kate’s professional identity would

have altered whether she had continued on a teaching path, taken a more direct route into leadership and remained there, or left the profession completely. What is clear is that Kate feels that these traits have developed as a consequence of her being a TR, and whether she defines herself as such now, she can explain how she perceives herself. She can articulate her professional personality, believing that this is the person she now is because of her experience, and therefore that this is the person that people see her as. Again, it would be fascinating to see if Kate's colleagues agree with her self-assessment, and if they would make a link between her research experience, and the confidence and awareness she feels she has developed.

As well as this increased self-awareness, Kate also discusses the change she witnesses in her students. She feels that she uses her own TR experience in her academic teaching, and that this may influence the students. Kate feels that she has an awareness of how they change and evolve as reflective practitioners, and can recognise when they are becoming more innovative and research-informed educators:

“by the time they get to their third year they're transformed into these creatures who are just totally curious and really knowledgeable and a lot of the qualities that you mentioned before like brave and flexible and give it a go and willing to get it wrong” (Kate)

This links to Wenger's (1998) theory of “community of practice”, as described by Goodnough (2010) as groups of people who share a concern, problem or passion, and who wish to extend their knowledge and expertise by interacting regularly (p168). Kate is effectively chairing a community of practice, inviting her students to engage in social participation communities of innovation, evaluation and reflection, and to “construct ‘identities in relation to these communities’ (Wenger, 1998: 4)” (Goodnough, 2010: 168). Her view of her new role is to utilise her experience in a positive way:

“I'm happy changing, well not changing individuals but just working with people to share my perceptions of the world and to share my experiences of research” (Kate)

In this way, Kate perceives that she is sharing her experience, rather than forcing it onto her students, and helping them to evolve as practitioners.

5.6 Perceived practitioner sense of fitting within an ecology

The tension between researchers, TRs and teachers, and how it can be difficult for a TR to feel a sense of belonging or sit comfortably in a role within their ecology has been widely discussed (Cain, 2011; Crozier, 2009; Denzin, 2008; Berger *et al.*, 2005; Ermeling, 2010). Buchanan (2015) suggests that a TR's identity may or may not fit in with current educational ecology, context or culture, but when there is a close fit, the practitioner feels a sense of belonging. When there is not a good fit, the practitioner feels constrained and their agency in relation to their professional identity will decrease (p708). These constraints can be personal impediments, resulting from confusion over their role, or structural impediments, such as perceived boundaries, which they feel prevent them from 'fitting' within their ecology (Walker and Gleaves, 2016: 74). This theme of feeling like they 'fit' within their ecology and perceiving that they make a visible impact on their ecology (or otherwise) emerged from all three participants' narratives.

5.6.1 *View of others within ecology and the effect on confidence and agency*

As previously explored, Kate has had a fluctuating relationship with her identity as a TR and has encountered what she perceived to be unsupportive ecologies which hindered her agency. She was conscious of what others in the ecology thought of her and how they regarded her identity, and this made her question her role:

"I think my perceived role in school at the time was a researcher who worked for [the] University" (Kate)

Kate did not at this point in her career see herself as a researcher for the university, but as a teacher *"who will seize any opportunity to use research and be involved in research"*. In her interview in 2010, she was aware that her colleagues did not completely accept her role as a TR, engaged in formal academic study but still involved in the teaching and learning of a mainstream school:

“It’s been bad because [when you do] academic study in a school people say “I couldn’t do that” or “you must be really clever”. There is a barrier between research and the use of research in schools and that’s really annoying.”
(summarised historic interview with Kate)

Kate has since left that particular education sector for a more clearly defined role as an academic, so her colleagues were perhaps correct, and she was indeed developing an observable identity as an academic researcher from the university. She discusses her internal tensions in terms of identity as she moved between roles as a senior leader, a student engaged in formal full-time academic study, a TR, and a research project leader. On each occasion, she was left feeling that an element of her identity was not being satisfied. It could be interpreted that she is still perhaps searching for the role that suits her professional identity, but that there are aspects of her current role which she finds fulfilling.

One of the reasons for leaving her teaching role within a mainstream school ecology was the tension between her desire to be innovative in the classroom and engage her students in co-constructing an inquiry-based curriculum (as Matt strives to do), and her need to meet school and government criteria to be classified as an outstanding teacher. In her 2010 interview, she tells the interviewer about a lesson which was *“more divergent inquiry rather than the dominant pedagogy/ transmission model”*, but which needed her to include certain criteria to be graded well. She was torn as she needed a good reference but *“wanted to be true to her beliefs”*. Kate’s disdain for the system is clear when she discusses a colleague’s observed lesson:

“It’s nuts that it is somebody else’s decision how good she is and it’s on a snapshot [...] Someone came in for 20 minutes and made a value judgement and boof. There is no meaningful follow up conversation it’s just you’ve got to do this and this to improve” (summarised historic interview with Kate)

This perhaps gives us an indication of her future path, whereby she leaves the school sector and moves into higher education. Here she may feel more able to use an innovative, inquiry-based style of teaching and learning, without fear of colleagues questioning her identity or

her role or forcing her to assume an identity with which she is unhappy. Buchanan (2015) claims that agency is dependent on whether a teacher can teach in the way they wish to, and that this is “dependent on how closely participants’ professional identities (derived from their career history) fit with their school culture, commitments, and practices.” (p709). Teachers demonstrate two types of agency: stepping up or pushing back. Stepping up is when practitioners seek to go beyond the perceived expectations of their role, and they feel their identity fits with the ecology. Pushing back occurs when teachers do not feel this sense of fitting in (ibid., p710). When a TR is supported and encouraged, and feels an active member of the ecology, as in the concept of the community of practice discussed earlier, they will step up and seek to innovate, introduce inquiry, or otherwise excel in their role. However, when they experience the internal and/or external tensions that Kate experienced, they will instead push back against and reject school policies with which they disagree. In Kate’s case, her way of pushing back was to incorporate her own style and methods (in the form of inquiry and co-constructed dialogue) regardless of the prescribed “house style”. Feelings of powerlessness and disillusionment can occur if practitioners are asked or even forced to implement the decisions of others, and they are less likely to collaborate or utilise new practices or methods if they have had no input in the planning stages (Goodnough, 2010: 169-170).

For many TRs, the struggle to reconcile their beliefs and ideologies with those of an unsupportive ecology may be too difficult, or they may find themselves engaging in research with which they do not agree. The only solution therefore is to remove themselves from the environment, as found by Leat, Lofthouse and Reid (2014), and as demonstrated by Kate. TRs find it more and more difficult to deal with the tensions caused by controversial or contradictory research, so leave the classroom, preferring to keep their distance by working in consultancy, teacher training or other educational avenues (p6).

5.6.2 Hidden development of altered mindset and identity

Perhaps the most interesting aspect of this theme of the impact of the ecology on the development of professional identity, is that whilst an identity is evolving, a person has little knowledge of it. Though Kate and Liz seem very self-aware as to how their identity has been shaped by their experiences as TRs, they have differing opinions of their awareness of this

process as it was occurring. Liz feels that she seized opportunities and was aware that as she produced successful outcomes, other opportunities were offered to her. She progressed quickly up the career ladder and her narrative demonstrates a precise vision of her aspirations and how she intended realising these. Kate has had a much more erratic journey, and does not demonstrate the same level of self-awareness throughout the process:

“I wasn't aware of it at the time, when I was doing my research, did it have an impact on me at the time, I wasn't aware of it [...] I couldn't see impact on me, with hindsight I can [...] at the time I couldn't see it but now I can” (Kate)

The relationship between agency and identity may go towards explaining this apparent lack of self-awareness. Liz could see clear impact of her research actions, and as such her sense of agency was increased with each successful project. Her professional identity developed rapidly – as a teacher, a TR, an assistant head, and finally a headteacher – and unlike Kate, these were all distinct roles, understood and accepted by colleagues. Even her role of TR was a widely accepted role within her supportive ecology, and she shared the action research remit with other TRs which could be said to have formed a “community of practice”. Kate, on the other hand, had a more varied career, and admits that colleagues often struggled to establish her role, and she struggled to establish a clear identity. It is no surprise that it is only with hindsight that she can see the impact that her TR experience had on her personally and professionally, and that she now uses this experience in a potentially more reflective way than Liz, who sees her role as facilitating her staff to maintain the standards that she set herself throughout her career.

5.6.3 Past experience and its effect on developing professional identity

As explored in this chapter, professional identity is constantly changing and evolving throughout a person's career. The participants' identities appear to have been shaped not just through their action research experience, but also through their ecologies, their roles within them, and the reactions and support of their colleagues, leadership team, students and outside agencies, as well as their access to relevant literature, training materials and the research of others. Buchanan (2015) asserts that a teacher's identity begins to take shape before they even enter the classroom, citing Lortie's (1975) work on how teachers construct

an identity out of their own educational experiences. “The ‘apprenticeship of observation’ has a profound influence on one’s understanding of the work and role of a teacher as well as on their own teaching practice” (Buchanan, 2015: 702). Taking this into account, it can be assumed that a teacher’s identity begins to form almost when they are still in education themselves, as they observe their teachers, with their distinctive styles, mannerisms and characteristics. A new teacher entering training will no doubt emulate the style and traits of their preferred or most memorable teachers, as they will act not only as inspiration, but as a model from which they can begin to mould themselves.

Some TRs enter the profession directly from education, and their workplace experience may be limited, therefore their professional identity may develop differently to a TR who has a varied range of experiences prior to entering the classroom. Matt and Liz demonstrate the two aspects, with Liz having begun her career as a newly-qualified teacher soon after her university training and having worked her way up a relatively standard career ladder from teacher to TR, to assistant headteacher, to headteacher, in a period of around six or seven years. She also assumed responsibility roles such as gifted and talented coordinator and SENCO (Special Educational Needs Coordinator) within this time. Her professional identity was potentially therefore developed from her own educational experiences, her formative training and early years as a practitioner, and the subsequent roles that she held. Matt, on the other hand, entered teaching after being involved in various aspects of education:

*“I think because when I first started teaching, **my first experiences were as a teaching assistant then as a learning mentor working with classes with rather challenging students and doing one to one work or small group work [...]** there weren't really any plans that were set in stone for what we would get done or do in that lesson” (Matt)*

Matt’s experiences as a teaching assistant and a learning mentor were entirely different, as he had less responsibility for students’ assessments and progress, and more freedom to work as he chose, with a more nurturing and facilitating aspect to his role. This autonomy combined with his students’ need for a more personalised approach to teaching and a lack of formal curriculum to follow meant that he could use his creativity within his work. He

developed a professional identity that was perhaps true to his personal identity, being creative, innovative and following his own ideas. When Matt became a classroom teacher, it would have been difficult for him to radically alter his identity and become a formulaic teacher, sticking rigidly to a “house style” and prescribed curriculum and policy, but he was forced to adapt his fluid style to follow a curriculum and meet school directives and criteria. Liz was lucky to enter a school which encouraged innovation, and then became a TR in this supportive environment. She therefore developed a strong professional identity as a TR that fortunately she could sustain whilst at her subsequent school, mainly because she had a leadership role and could use her responsibility to maintain her ideals and beliefs about action research. This could demonstrate that early formative experiences are the foundations of a teacher’s professional identity and becoming a TR with its consequent experiences will merely enhance this, rather than creating a whole new identity.

5.6.4 Perception of role within wider educational system

Agency and identity are undoubtedly linked, and as discussed, a TR’s perception of the importance of their role within their ecology will have an impact on their sense of agency and the development of their professional identity. Buchanan (2015) claims that a practitioner’s professional agency is reciprocally linked to their professional identity, meaning that a TR constructs an understanding of who they are within their ecology and then takes actions that align with that construction. These actions, and how others perceive them, assist in developing their identity (p704).

Again, this links back to the concept of involvement in a community of practice, and in a supportive ecology, particularly such as Liz’s early school, where there are several TRs working as a team, a practitioner is more likely to develop a stronger identity as a TR than one who works alone in a more unsupportive ecology, and their sense of agency should increase.

Matt perceives his ecology as a supportive one, and he speaks with high regard of the team involved in teacher action research at his school. He credits both his colleagues and his leadership team for assisting in the success of his ongoing research projects:

“I don't know if this is deliberate on the part of the SLT, it quite possibly is, if it isn't then it's a really happy accident, because of the way the lessons are designed, there's loads of different sort of teaching and learning strategies in there, and I can't take credit for hardly any of them, it's mostly [my colleague] who used to be the curriculum leader before me, she put together the majority of it” (Matt)

He also suggests that due to the way the research process is organised at his school, other teachers are becoming TRs, perhaps in a more organic way than Liz's model of training her staff and engaging them in action research-based CPD. In Matt's ecology, there seems to be a snowball effect, whereby a small core of teachers engages in research, and are joined by a selection of other teachers who change each year, meaning that new teachers are continually exposed to research methods, whilst the former TRs are incorporating the methods into their own practice:

“they were taking loads and loads of different tactics and approaches and methods and ways of doing things off the shelf which exposed people to loads of different ways and then they would, they wouldn't end up teaching it again the next year, there's only about 3 or 4 of us who teach each year, as like a core, and that then has started making its way into their own practice” (Matt)

In being exposed to these research processes, the teachers in Matt's ecology are developing a more complex identity – perhaps not strictly that of a TR, but certainly with a more innovative, research-informed outlook. The ecology as a whole will benefit from both the increased agency of these teachers, and the impact of the research projects on the students. Any teacher entering the ecology will be exposed to this culture of research and may feel drawn to engage with it. Again, this contrasts with Liz's ecology, where staff engage in research as part of their ongoing development and training, and this engagement may not necessarily be voluntary. The context that TRs find themselves in will play a large part in the shaping of their identity, as will the resources and tools available to them and their cultural and historical understanding and experiences (Buchanan, 2015: 704).

Matt's ecology demonstrates this, as the TRs in his school may begin their career as "off the shelf" teachers (in Matt's words), but are exposed to innovative methods and encouraged to engage in research:

"if they were off the shelf teachers then, they were off the shelf but instead of just being fed the same thing off the shelf every single lesson, they were taking loads and loads of different tactics and approaches and methods and ways of doing things off the shelf which exposed people to loads of different ways"
(Matt)

Matt's narrative demonstrates that he believes in using a variety of pedagogical methods and techniques, involving his students and colleagues, and taking risks in his teaching. His professional identity appears to have been influenced by both his past experiences and his current ecology, but his belief system is strong and his professional identity, though evolving, is perhaps less malleable as a result.

5.6.5 Personal identity and professional identity

Each experience as a TR has an emotional aspect, as the teacher may find it difficult to extricate themselves from their inquiry ecology (Day and Leitch 2001, McLaughlin and Ayubayeva 2015, Lasky 2005). Teacher action research is often ethnographic, with the TR enmeshed in the process, unable to step back effectively and look at the ecology as an outsider would. Teachers are, according to Hammersley (1993: 437), both 'in authority' and 'an authority' and cannot relinquish power completely and remove themselves from the ecology due to the need to safeguard their students. As they develop as a reflective practitioner and collect these experiences, they may become more aware of their evolving identity and their role within their educational environment. Identity is multi-faceted, and involves beliefs, values and emotions (Goodnough, 2010; Lasky, 2005), combined with "the complex interplay between personal experience and cultural, social, institutional, and environmental contexts" (Goodnough, 2010: 168). Therefore, a practitioner may develop sub-identities which relate to the different social contexts and relationships that they encounter in different ecologies (Akkerman and Meijer, 2011: 310), which would begin to explain how

Kate was able to switch between identities as she changed ecologies, and how Liz still retains a perception that she is a TR despite no longer being a classroom practitioner.

The participants' professional identity is likely to be linked strongly to their personal identity, and how they define themselves to others. In Liz's case, she uses the phrase "as a headteacher" several times throughout her narrative, suggesting that this is the dominant aspect of her professional identity, and possibly has an impact on her personal identity in terms of her life outside her workplace (working hours and work-life balance for example). Personal beliefs, attitudes and ideals will influence professional identity, and practitioners will differ in how they incorporate these into their professional identity and the value they place on them (Beijaard, Meijer and Verloop, 2004: 122).

Matt appears to be the most self-aware in this aspect, and he seems to recognise that his personality strongly influences his professional identity:

"I think it's probably part to do with personality type, like I've always been someone who jumps around between things anyway [...] I think people can learn to work in that way but I think people have a predisposition to sort of behave in that way" (Matt)

However, he also implies that his professional identity and his personal identity are perhaps separate elements of a person. He does not necessarily define himself strictly as a teacher or TR, and feels that teachers incorporate their personal characteristics into their professional identity:

"I think teaching is only part of a person isn't it, it's their vocation that they've chosen to do but it's only a small element of their personality, we're not just teachers and then we go home and we're nothing else, so yeah I think your own personality traits have a lot to do with how you are in the classroom or how you approach teaching and learning" (Matt)

Along with Liz and Kate, who also comment in their narratives about being “*that kind of person*” (Liz) or “*becoming a different person*” (Kate), Matt demonstrates that professional and personal identities are entwined, and it could therefore be assumed that as professional identity evolves, so does personal identity. Agency is dependent on both internal factors such as perception of identity, motivation and purpose, and external factors such as environment, as will be discussed in the next section of the chapter, and Kate’s comment of how those engaged in research may “*become different people*” can be interpreted in several ways. Professional identity may evolve, and a teacher may feel they have developed a new dimension to their professional role, or they may become a more reflective practitioner and adapt their teaching and learning strategies according to newly acquired knowledge. TRs make choices about which projects to engage in and which not to engage in, and therefore the differing levels of engagement in these projects, as well as their commitment to their identity development and their professional development, shape both their sense of agency and their evolving career trajectory (Billett, 2006; Tao and Gao, 2017).

5.6.6 *Awareness of changes in style, mindset and identity*

Each participant made it clear through their narrative that the experience of being a TR fundamentally affected their professional identity, either as a core facet of their identity that could not be diminished, or as an evolving aspect of which they now have self-awareness. Liz is firmly convinced of the impact that her experience has had on her identity as a practitioner, and uses the phrase “*there’s no doubt in my mind*” twice to emphasise the point:

“there’s no doubt in my mind that my teaching practice, how I did things in the classroom, was different as a result of doing that [research] project and getting that input from guest speakers, from other people doing the project [...] it definitely changed the way I teach” (Liz)

“there’s no doubt in my mind that having that input either from people that we talked to within the [research] project or from guest speakers or people at the uni[versity], changed how I taught and thought about teaching definitely” (Liz)

Being aware of the impact of past experience on professional identity may make a practitioner more aware of the potential impact on their future work, whether that is as a TR or in another field. By being involved in action research, teachers are engaging in internal and external processes which results in teacher identity formation. Practitioners have aspirations of the kind of teacher they wish to be, or do not wish to be, and new experiences such as engaging in action research can allow them to choose a potential future path to follow and make temporary and longer-term changes to their identity (Goodnough, 2010: 180-181).

All three participants are aware of the process they have been through, and all seem aware of how they can incorporate their experiences into their future identities. For Matt, innovation is a fundamental part of his professional identity and he will not undertake a role in a school without being able to express this through his teaching and learning:

“Matt: I've applied for another job and I've written it into the relevant skills, roles and all the rest of it, that that is how I would approach things

[Interviewer: what if they turned around and said that they weren't interested in that kind of side of things?]

Matt: well then I wouldn't want to take the job on”

Kate, though no longer in her original field, still perhaps defines herself as a TR, but given the erratic nature of her career so far, it is understandable that she is unsure of her future career path:

“I consider myself still just a teacher meddling with research, [...] and working towards developing better outcomes for students, making learning more pleasurable [but] I don't know what I do next, I don't know where I go next, it's quite scary” (Kate)

Kate and Matt have been engaged in action research for a long time, and it is such a key part of their professional identity, they feel that they would not be able to work in a field that did not have an element of research, or where they could not incorporate their own aspects of inquiry or innovation. It has been suggested that being engaged in action research over a prolonged period of time can lead a practitioner to become more critical and find less in

common with colleagues who are not engaged (Leat, Lofthouse and Reid, 2014: 7). Matt and Kate appear to be subconsciously searching for supportive ecologies, where they can take on new challenges and satisfy their need for innovation. As natural risk-takers, they appear to be looking for the next challenge, the next project, and the next group of people who will benefit from the impact of their work or experience.

In contrast, Liz has settled into a leadership role where she oversees others' professional development. Her primary concern is from a headteacher's point of view, ensuring that her school provides a high standard of teaching and learning, and in this aspect, her priority has not altered from when she was a TR in the early stages of her career in 2008:

"I believe we owe it to the pupils in our care to find ways of enabling them to succeed and that education is a two-way process, rather than something that is done to children" (historic interview with Liz)

The participants are constantly incorporating their past experiences into their professional identity and reconstructing themselves, influenced by their contexts, ecologies and personal identities. Their identities are shaped by drawing on current self-conceptions, and they are actively constructing themselves as the practitioner they would like to be seen as, and acting accordingly (Buchanan, 2015: 705). A person may therefore adjust their identity to fit the person they wish to be, using their past, current and potential future experiences to influence and guide them. A TR can therefore retain aspects of a TR identity even when not actively engaged in research, as their experiences have influenced their identity and by extension their agency, thus demonstrating that action research experience does indeed have a lasting impact on a practitioner and their practice.

5.7 Part B: Perceived impact of engaging in teacher action research on participants' agency

In educational research, agency has been explored by academics involved in classroom reform and teacher professional development such as Leat, Lofthouse and Reid (2014), Priestley and Miller (2012), Buchanan (2015), van der Heijden *et al.* (2015) and Toom *et al.* (2015). Agency is not simply an action producing an effect, but a phenomenon which occurs through a

combination of an individual's actions and the context in which they find themselves, often called their ecology. Agency will differ from person to person, and from ecology to ecology. A TR may find that their capacity to act as an agent of change is altered when they are placed in challenging conditions, and likewise a lower-capacity teacher may have greater agency if they are given more opportunities and support. Toom *et al.* (2015) suggest that an active professional agent perceives themselves as an active learner, who acts intentionally, makes decisions and reflects thoroughly on the impact of their actions (p616). This section deals with the superordinate theme of agency, specifically the participants' perceived impact on agency when engaging in teacher action research over a prolonged period.

5.7.1 *Educational research into teacher agency*

The concept of agency has been explored in Scotland for several years in relation to the ESRC-funded "Teacher Agency and Curriculum Change" project (Priestley, Biesta and Robinson, 2012; Priestley and Miller, 2012; Biesta, Priestley and Robinson, 2015). In this context, Biesta, Priestley and Robinson (2015) claim that:

"agency [...] is not something that people can have – as a property, capacity or competence – but is something that people do. More specifically, agency denotes a quality of the engagement of actors with temporal–relational contexts-for-action, not a quality of the actors themselves." (p626)

Emirbayer and Mische (1998) define agency as having three elements: iterational, projective and practical-evaluative, and therefore, as Biesta and Tedder (2007) suggest, "it should be understood in a three-dimensional way, with influences from the past, orientations towards the future, and engagement with the present" (p135). Priestley, Biesta and Robinson (2012: 24) expand on this concept of temporal conditions on agency: those with greater past experience may have greater capacity as an agent of change; agency tends to be oriented to the future, and where (or when) people can imagine future changes and pathways, they are more likely to achieve agency; and agency is always directed in the present by the conditions and resources available at the time. A TR with a background in teacher action research, who has a clear vision of what they want to achieve and the action research method they will use

to achieve it, should have a greater capacity for agency. This however is entwined in the ecology in which they find themselves, and the level of support and opportunity in their educational environment:

“human agency is in part an effect of the interplay of the cultural and structural systems – something to be achieved, the extent of which will vary for individual actors from one social setting to the next. However, agency is also subject to human reflexivity and is a cause of further social elaboration” (Priestley and Miller 2012: 105)

Perceptions of agency may therefore differ throughout an individual’s career depending on their context at various times. Though a TR may seem to be predisposed towards heightened agency due to their past experience, their working conditions and context have a strong effect and can strengthen or weaken their capacity to enact change. According to Biesta and Tedder (2007: 137) and Priestley, Biesta and Robinson (2012: 3), teachers (and by extension TRs) act by means of their environment rather than in their environment, so agency is achieved through a combination of habit, judgement, resources, contextual factors and structural factors. Biesta and Tedder suggest that this explains why a teacher can achieve varying levels of agency in different situations, and how agency fluctuates over time (2007: 137). Past experiences (the iterational aspect of agency) can increase levels of agency, but the knowledge gained from these past experiences is used in diverse ways in the present (the practical-evaluative aspect), again bringing fluctuations in agency.

5.8 Innovation and creativity in educational practice and its impact on agency development

Using initiative, being experimental and developing innovation are strong themes that emerge from each narrative. The participants are all vocal in their perception of their ability to enact change by being creative and innovative in their own classroom or environment, and that they were given support and opportunity to do this. When asked if they felt there was a difference between TRs and non-TRs, all three were emphatic that such a difference existed. Agency may be a key factor in this, as a TR may feel they have a remit to be more creative and innovative in the classroom, hence they have clearer visions of the future outcomes they want

to effect, and they make creative use of the resources and conditions at their disposal. This emerging theme of incorporating creativity and innovation into teaching and learning must be explored in relation to the participants' perceptions of their agency in the classroom, as a practitioner and as a teacher action researcher.

5.8.1 Initiative, creativity and experimentation

Liz feels that a TR can be defined as a teacher who is research-informed and has a clear idea of what they want to know and how they are going to share this:

*“a non-TR might be trying things, kind of researching in the loosest term but for me **a TR is you know right I'm going to find this out, I'm doing it for this purpose**” (Liz)*

The word purpose is important here, and is mentioned several times by Liz, who has had a determined and well-planned career path, and credits being a TR so early in her career for her ongoing success. A clear purpose for research gives the teacher more capacity for agency (Priestley, Biesta and Robinson, 2012; Bandura and Locke, 2003), as teachers can “critically shape their responses to problematic situations” (Biesta and Tedder, 2006: 11) by making decisions that are autonomous and reflective. Without this sense of purpose, a teacher is perhaps not fully engaged in an action research method and cannot be truly considered a TR. Liz expands on this:

*“they'll think, yeah I'm going to actually go about finding out which of those things work best in my class or with certain children in my class...so **I think you could perhaps be [a TR] without realising it just because you're that kind of person who wants to try new things and is abreast of the latest developments and is interested in seeing how that applied to their context**” (Liz)*

The suggestion here is that initiative and creativity alone do not make a TR, though a teacher who has ideas and vision may well have the agency to effect changes on their environment. The belief that change can be effected through action research gives an orientation towards

the future and therefore assists in the achievement of agency (Biesta, Priestley and Robinson, 2015: 628).

It should be noted that Liz suggests that classroom teachers are and should be reading the same government literature that she, as a senior leader, is reading, which may be an assumption on her part. Liz also explained how she had worked as a TR with her colleague in the initial stages of her career, using initiative and innovation on a purposeful action research programme to create change throughout the school:

“we had this kind of approach where we would try it out first, suss it out, see if things work, if there was an impact, if this was something that we'd want to do whole school, and then from there we'd then present it to them and it would go through in the classes” (Liz)

This need to incorporate creativity and experimentation into daily classroom teaching comes through strongly in all three narratives, with both Matt and Kate discussing the more fluid, flexible way in which a TR seems to work. A heightened sense of agency may increase the TR's ability to reflect-in-action and reflect-on-action (Schön, 1983), meaning that they can adapt a lesson as it happens and react to their students' varying actions and needs:

“I think I've always seen the lesson as being something that can be quite fluid or should be quite fluid” (Matt)

Again, this leads us to consider the concept of agency not as a facet of an individual, but as a combination of context, environment, purpose and temporal conditions. Though teachers may be reflective and creative, they are enabled or constrained by their contexts and their environments (Priestley, Biesta and Robinson, 2012: 3). Agency can increase as this innovative tendency is given space to flourish, and as support is given to help a TR to fulfil their research purpose.

5.8.2 *Concept of innovation being “extra” to daily teaching responsibilities*

As more of the current curriculum becomes data-driven and assessment-led, many teachers feel weighed down with the pressures of daily responsibilities – planning, marking, giving feedback – and teacher action research can feel like an added chore. Priestley, Edwards, Miller and Priestley (2012: 4) are concerned that low capacity for agency has been impacted by a lengthy period of prescriptive national curricula, rigorous inspection criteria and a data-driven, outcomes-based education system, and of these, outcomes-driven methods have had the most detrimental effect on teacher agency (Biesta, 2004: 250).

Certainly, critically-engaged teachers have been shown to be more likely to improve student outcomes, as Priestley and his collaborators (2012, 2015) later observe when considering recent curricular policy in Scotland. This concept of creativity being an added extra on top of normal teaching responsibilities emerged from the narratives:

*“I think that actually the creativity and the doing things differently and the trying new things and the extras will also give you the impact on the stuff you've got to do, by doing these things we can improve progress because it's about how children learn and how engaged they are etc etc but **it's still introducing another thing, another strategy, another way of doing something**” (Liz)*

“I think a prime example we're asked to do certain things from our role or from our job, things arise or things get added on” (Matt)

In their own research, Biesta, Priestley and Robinson (2015) found a change in role had emerged for teachers involved in school reform, from that of “a deliverer of knowledge to that of a facilitator of learning, and from a subject specialist to a teacher of children” (p631-632). Depending on the professional identity evolving for the TR, they will either embrace the additional role of researcher, viewing it as a complementary dimension of their identity, or opt out of the extra responsibility. One way of circumventing the issue of research becoming an extra responsibility is to combine it with CPD or school policy, as Liz did:

*“we wrote it up and we looked into, you know the reason why we chose to research what we researched although I always linked mine a lot to the school development plan because I felt like we had to because **otherwise it would just be something else we had to do**” (Liz)*

However, as a headteacher, Liz’s view remains that innovative research is an added extra, and she is conscious that sound day-to-day teaching and learning must be priority. Her tone switches between that of a TR who feels research must be an integrated part of education, and a senior leader who recognises that policy and statutory curriculum must take priority:

*“you've got to be in a position as a school where what you're doing on a daily basis works and then ok let's make that work by doing these things instead of the bottom line things, you can merge the two, but **you've just got to be secure that you can prove the impact of the daily stuff before you start you know poking about with the creativity and things, rightly or wrongly**” (Liz)*

Matt certainly demonstrates this need to be an agent of change who incorporates creativity and innovation into his daily teaching, and he speaks with passion and determination throughout his interview about its importance to him:

*“I'd go mental if I had to do the same thing every day [...] and not change or not innovate, or try to get better at what I'm doing, **it's not what I got into teaching for**” (Matt)*

Having agency to constantly improve their own teaching and learning environment is a key reason for TRs continuing to pursue teacher action research, even if the opportunities and support are not always conducive to successfully heightened agency.

5.9 Accessing educational research to inform and influence practice and agency

Teachers may be given little time or opportunity post-qualifying to pursue their own professional development (Godfrey, 2014; Galdin O'Shea, 2015), and are often informed by staff inset and CPD training or teaching networks either in their local area or on social media.

Being a research-informed and research-influenced practitioner was a strong emerging theme from all three participants' narratives, with their perceptions of how it impacted their agency as a TR differing slightly.

5.9.1 *The importance of other peoples' research*

The inauguration of the Chartered College of Teaching and its aim to make available educational research journals to all teachers in the UK offers a new opportunity to those who have not yet been involved in research. This new initiative will give all teachers access to current educational research. Liz is strongly influenced by academic research, particularly in her role as a headteacher and as an organiser of CPD for her staff, and feels that a TR can be defined as

*“somebody who's obviously in a teaching post who is looking into different ways of doing things **with an eye to what other people might have said about it but seeing if that fits in with your context and for your children**” (Liz)*

Each participant has been influenced by academic research throughout their own careers, and feels it was an important part of the process, whether presented to them through CPD, by outside agencies, or as part of their own action research:

*“I think in terms of the options that I had for the CPD that I had on the back of learn to learn was massive, right from the get go, I mean hearing people like Tony Buzan and all of those kind of people at that stage in your career, **you start thinking about things differently**” (Liz)*

*“but once we'd spoken to people who do it under its official title and they'd explained that **there are particular ways to do things that are being backed up by research and then that is more effective** because it explained all those sorts of things it's become even better and stronger” (Matt)*

*“they made us in a sense, because it was part of our assignments, **read stuff, go and try stuff out in the classroom as a result**, and then see how that impacts*

on you as a teacher, not necessarily as a researcher per se, although with hindsight maybe” (Kate)

Referring to available literature is of course a vital aspect of a research process, and without it a teacher is perhaps merely “dabbling” in experimentation. A TR linked to a project managed by an outside agency such as a university or educational consultancy is more likely to refer to literature and reference the research of others in their work, which immediately increases the validity of the research. The three participants were all involved in teacher action research and worked alongside external agencies and academic institutions to produce findings which were published and used to inform policy and curriculum. They therefore had a purpose, and were approaching their research informed by the literature available and the supported by a structured theoretical framework:

*“I’m going to be **looking into these different pieces of research that other people have done** and I’m going to present the findings and write it up” (Liz)*

On the flip side, a TR who has less capacity for agency due to an unsupportive environment or lack of opportunities is less likely to refer to the research of others, and more likely to continue to teach as they have always taught or how they are told to teach. Kate has worked in environments where she had greater agency, and environments where she had less but still attempted to carry out teacher action research due to her strong past experience and her need for innovation. She is conscious that not all teachers have a commitment to keeping their educational knowledge up-to-date and relevant:

*“I’m always wary of the teacher who’s not research informed or who’s not up to date with current practice, current policy, because that’s just how you **should be**, I think there are other teachers who, there is a spectrum, and at the other end you’ve got teachers who are research informed and practitioners and have been involved in projects like the learning to learn project and have, a bit like me I suppose, have become different people as a result of going through the process and who want to be able to share that with other people” (Kate)*

A TR's professional identity and ecology both impact on this trajectory to become more research-informed in the aim of increasing agency. In terms of identity, teachers may believe that they lack the skills, training, time or even intelligence to access educational research, and academics may hinder them further by not making their research accessible enough to non-academic readers (Brown and Zhang, 2016; Hargreaves, 1996; Cain, 2015). In terms of ecology, schools may not allow teachers the time or resources to work collaboratively, conduct trials and studies, or share findings with others (Godfrey, 2014; Brown and Zhang, 2016), meaning a teacher must have a strong sense of identity to work alone, possibly in the face of adversity.

5.10 Impact of ecology and educational context on agency to engage in action research

A teacher who is in a supportive and encouraging environment, conducive to innovation, creativity and experimentation in the classroom, may be more likely to have agency to effect research that has a meaningful impact and can be replicated across other contexts. The three participants have all been in such environments at some point in their research career, and this seems to have made them more determined and confident as TRs. This increase in agency carried over when they moved environments, as each participant implied that they created opportunities for themselves to do research in contexts which were not as supportive, and that they would continue to find opportunities if they were not presented. The theme of the impact the participants' ecologies and educational contexts had on their agency to engage in action research emerged from each narrative.

5.10.1 *Expectations and accountability within a TR's ecology*

Being able to confidently define oneself as a TR in a supportive ecology which allows that definition may lead to increased agency, as suggested by Tao and Gao (2017):

“a heightened sense of identity commitment will more likely lead to a stronger sense of agency (Beauchamp & Thomas, 2009) in the areas of learning, teaching and research” (p354-355).

For Liz, being given a leadership role meant that she felt she had the agency to incorporate teacher action research on a wider scale: she had the opportunity to create what she sees as a supportive ecology where teachers feel secure doing research and are actively encouraged to do so. Liz can take accountability for her actions and offers her staff research projects and ideas which she links to school development plans, to satisfy curriculum and policy requirements, and her subconscious need to innovate. However, there is perhaps an internal tension between the dimension of her identity that believes that teacher-led research is a necessary part of being a practitioner, and the dimension that views her ecology as its headteacher, and needs to create a consistent teaching and learning environment that complies to both internal and external criteria and policy:

*“by that point I was thinking whatever it is we want to find out we can link it to our school development plan, and **if that's what I've got to do in order to be able to do it then I will**” (Liz)*

Consistency was a theme which occurred throughout her narrative, and she is keen to ensure that all staff are given opportunities to be involved with whole school research. It is interesting to note that she observes staff for the techniques that she has given them through training, and her personal relationship between research and curriculum has become the whole school ethos:

*“I mean everything here is about a consistent approach because **these are the things we want our children to have, everybody has to be delivering, it's not optional, this is how our curriculum works, you have the training, therefore when I come and observe you it has to be there, but nobody has kind of oppressing that because we've all agreed we want our kids to have these skills**” (Liz)*

There is an interesting point to observe here, as Liz gives research opportunities to her staff, but has created specific criteria for how this is to be incorporated and demonstrated. In some ways, it may be said that she is as prescriptive as a non-research-influenced headteacher and is still placing limitations and directives on her staff, rather than the freedom to innovate that

she believes she is giving them. She could be interpreted as using the agency she has through her position as headteacher to limit her teachers' agency, so they have no choice but to engage in teacher action research. Again, her professional identity is conflicted, and she is forced to make choices that suit her position within the ecology.

However, Kate feels that there are other schools where the ecology is more explicitly constrained for TRs. In this case, some teachers who are not as experienced in teacher action research may give up, feeling that the environment is too demanding and draining, and there is little point in trying to innovate. Teachers who have a longer history of success with action research may on the other hand have more capacity for agency, despite the unencouraging environment, as they use their experience to their advantage. They may be more confident in believing that, though the path may be challenging, and they may need to reflect and reshape their research through a longer action research programme, there will be an observable impact. In an ideal ecology, the biggest impact of course in this case is on the TR themselves, and they become a more resilient and confident teacher as a result, with greater agency in their context, though the impact is dependent on the individual, their ecology, their circumstances and their aspirations:

*"I don't think very many people get the opportunity to experience that, I think lots of teachers, my perception of other teachers in school is we're going to do action research, so we're going to do this and we're going to see what the impact is on other children and so what, where's the long term plan, **for me the long term plan is in me**" (Kate)*

Tao and Gao's (2017) research suggests that teachers may use increased agency to create learning opportunities for themselves, as Liz and Kate have done. They conclude that teachers will sustain participation in research activities if they have a strong identity commitment to them and are more likely to continue with new teaching and learning initiatives if they have a research connection to them (p354). Again, a clear perception of professional identity leads to increased agency which leads to an increased likelihood of creating learning opportunities and research opportunities even in less supportive ecologies.

5.10.2 Purpose and the power to make a difference

In an ecology which is less supportive or conducive to teachers engaging in research-led practice, the TR must be more resilient and determined to “make a difference”:

*“it's very easy to be that teacher, to be the student outcomes driven teacher, I think it's harder to be the teacher who says yes that's important, but this is important too, and I found in my research that **teachers do have strongly held beliefs about research**, some teachers have strongly held views about research, and **they want to be able to do research, but the environment in which they're working constrains them**” (Kate)*

A teacher can achieve agency through their everyday requirements, providing a solid teaching and learning experience for their students. However, a TR wants to expand on these statutory demands, by engaging in innovative learning, making independent choices, and adapting themselves to the diverse requirements in their ecologies, to build a “relevant, inspiring and constructive environment for their pupils and themselves and their colleagues” (Toom *et al.*, 2015: 615). This demands a stronger sense of professional identity as an evidence-informed practitioner, rather than merely a facilitator of knowledge.

Matt can be interpreted from his narrative as an unconventional teacher with strong opinions on innovation and creativity, and he distances himself from the concept of standard or “off the shelf” teaching. His frustration with the current, predominantly test-driven educational system is clear, and he maintains his stance as an experimental TR.

“I think there are probably some cases or some instances while we've still got a drive for exams and results and all that kind of thing unfortunately being the only measure of success that's sort of acknowledged by employers and the wider world, there's got to be moments where you are just doing that sort of thing and carrying on in that way which is a shame” (Matt)

The expectations on “off the shelf” teachers to plan, teach and assess a lesson in a prescribed manner are, for him, not a realistic or satisfying way of working:

*“[the three-part lesson is] not the be all and end all, and I’m quite glad there’s a shift away from it again, I find it frustrating that there was quite a big shift towards it, I’m glad that things like, really really like heavy duty, intensive planning of work is starting to be acknowledged as something that’s not sustainable, in terms of Ofsted guidelines, maybe do that for a scheme of work, for a term’s worth of work, but to do that for every single lesson, **it only takes one unforeseen moment or hiccup and the whole plan is gone**”*

His purpose in the classroom and his criteria for success are more dictated by his professional identity and his sense of agency, rather than outside forces. Likewise, Kate claims that she needs to have an experimental dimension to her working methods, and this gives her the resilience to continue researching even when there is no specific research remit for her within her role:

*“**I am a teacher who will seize any opportunity to use research and be involved in research**, to allow others, to create opportunities for others or to share with others how pre-existing knowledge can, or how by using pre-existing knowledge and pre-existing methodologies, and by testing that knowledge and testing those methodologies, you can really get people to see the world in a different way” (Kate)*

Her determination comes through clearly, but unlike Liz, who has used her research career to help her climb to Senior Leadership and as such is using her skills to impact her school ethos and her staff from a top-down position, Kate still yearns to make a difference and sees research as a way of empowering her students and colleagues by connecting with them on their level: *“I’m looking for the next opportunity when I can create new ways of thinking, new ways of being” (Kate)*. Her purpose has altered as her professional identity has altered, but she believes that her directive is the same as when she started her career: **“to make a difference” (Kate)**.

Bandura and Locke’s (2003) research concluded that “converging evidence from diverse methodological and analytic strategies verifies that *perceived self-efficacy and personal goals*

enhance motivation and performance attainments” (p87; emphasis added). Teachers who therefore have a self-imposed research remit will feel more empowered, more able to make the difference that they desire, and have capacity for agency as a result, irrespective of the level of support within the ecology.

In an unsupportive environment, a TR may need to feel they have a purpose to continue their research agenda against a tide of discouragement and/or alongside an already heavy workload.

*“The actual teacher researcher thing for me would be someone who is involved in a project, **they've got a purpose behind it, they've got to write it up, there's going to be findings...**the purpose could be being asked to look at it or it could just be right you know things aren't really working for this child, what other strategies can I try, and **just that desire to want to try different things and find out what works best**, whether somebody tells you to do that or you know, whatever the purpose might be”* (Liz)

This sense of purpose illustrates the difference between a TR and a teacher “dabbling” in research, and for Liz, the background, research question and write-up are integral aspects of a TR remit.

5.11 Engaging in and leading collaborative action research within an ecology

The concept of agency takes on a different form depending on the level of responsibility the TR has within their ecology, and the impact may be increased or lessened as a result. Responsibility could take the form of being asked to lead a research project, and as such having the support of senior management but perhaps being more constrained as to the nature of the research conducted and the requirement of findings. The theme of collaborating in or leading action research teams and the impact that this collaboration can potentially have on the development of agency emerged from each of the three narratives.

5.11.1 *Giving and being given action research opportunities*

Responsibility in leading collaborative action research can also take the form, as in Liz's case, of being part of the senior management team, and therefore being able to direct staff towards teacher action research or ensure that CPD is geared towards action research, and that ensuing policies are evidence-informed. Agency will increase amongst staff conducting research if they feel that their work is meaningful and that their findings are being used to inform school policy and curriculum. Teachers will have a greater sense of agency if their right to direct and their responsibility to sustain their professional development is recognised (Johnson, 2006), and if their professional development opportunities enable them to create, innovate and progress as practitioners.

Being given opportunities and accepting them is a common theme amongst the participants, though this factor is of course not limited to TRs. After a string of opportunities at her first school, Liz moved from a role as TR with whole school responsibilities to a different school in a different Local Authority and found that the new school was not as receptive to the idea of action research as she had believed they may be. She perceives that her experience as a TR must have had a positive effect on her job application and interview, and that at that time, her research role was too important a dimension of her professional identity for her to give up. She therefore used her authority as a senior leader to implement teacher action research across the school, making it part of her professional development programme for staff and ensuring that it matched the school development plan to avoid it being "something else to do".

"[at my second school] I was a senior leader then wasn't I, an assistant head, so if we decided that that was what we were going to do then that was what we were going to do... [then at my current school] because of being a senior leader, I could get it in that way, and then here it's just all part of what we want our curriculum to be like and therefore we have input for the staff on all of those things because that's just something that we've agreed our children need" (Liz)

From her narrative, Liz sounds passionate about investing in staff and giving them the same opportunities as she had whilst in her early years of teaching, and therefore she views her CPD programme as focusing on empowering staff and giving them access to other peoples' research and ideas, which they can then develop in their own classrooms through action research projects:

*“you have to invest in staff CPD in order for them to have that toolkit really of strategies, and I'm very lucky, the number of people I've heard speaking at those conferences, you know it's amazing...I want my staff to have opportunities like I did, and they'll either prove themselves or they won't but **I've given them that opportunity because I had it and I'm grateful that I had it and I think it just makes you think differently about what you give your staff**, in return for the massive job that they're doing” (Liz)*

Her ethos is to give them background information or literature, often in the form of an invited speaker so they can hear the new concepts or developments from the source. The staff are then given the opportunity to conduct research in their classrooms, supported by their colleagues and SMT, and findings are evaluated and used to inform the curriculum or whole school policies:

“I'd given them a rough guide, what they wanted to look into more in their classes as a team and that was TAs, different year groups, they went away and tried them, each group had a focus, and then they came back and each group delivered to the rest of the staff, right this is what we picked, this is how we went about it, here's some examples of what we got from it, this is what the kids have said about it, and then they presented it and it was absolutely phenomenal” (Liz)

Liz believes that she has found a way of working with staff's creativity and initiative, and feels she is giving them ownership and a feeling of accomplishment by making policy and curriculum decisions based on the evidence that they present. Again, if this is the case, then it can increase agency and make teachers more likely to involve themselves in action research

at a later date or in a different context. Evaluation and reflection is carried out on a whole school level, so staff should not feel that they are being given extra work to do, or are being imposed upon:

“well if it's not working then we'll stop doing it and we'll try doing it in a different way, we've still got to be doing it but what's the best way of doing that so that it actually gives us the outcomes that we want and we will have those conversations as a staff” (Liz)

Liz believes that this method of involving staff and colleagues can be successful in increasing a sense of agency across the whole school, as teachers who may not have previously thought about taking part in research projects can conduct research with the safety net that comes from the support and encouragement of senior management. Of course, this is dependent on the willing cooperation and participation of the teachers involved; teachers who feel coerced into taking part in the research process will not feel the same heightened sense of agency or see the same impact on their professional identity. This style of incorporating research into a school ethos is rather different to Liz's own past experiences, where she had more freedom and control over the action research process, because it was led by an external agent rather than being a top-down directive, as it is in her current ecology. It is interesting that she feels it is a similar process and feels that her teachers are developing professionally in a comparable way to her own development.

However, teachers who were, as Matt says, “off the shelf” teachers (in that they follow lesson plans and policies without much thought to introducing creativity and innovation into their classrooms), may still find that by engaging in compulsory action research, they are given strategies and tactics that enable them to alter their teaching style with lasting effects:

“they were taking loads and loads of different tactics and approaches and methods and ways of doing things off the shelf which exposed people to loads of different ways” (Matt)

Matt's perception is that all teachers can adopt new methods of teaching and learning if they are exposed to it, and this perpetual learning can continue indefinitely if teachers are

continuously exposed to new methods through constant action research and access to relevant literature.

5.11.2 *Combining research and practice in the classroom*

Constantly using innovative strategies in the classroom is not necessarily the hallmark of a TR or a successful agent of change. There must be a balance between, as Kate points out, “academic expertise” and classroom practice:

“there's a danger that people focus on a certain amount of academic expertise, and I think as a teacher in a school you need to be rounded, you need to have knowledge about education” (Kate)

The ratio between these two aspects may alter in different ecologies, depending on the level of support, workload, SMT direction and other factors, and the level of agency will fluctuate accordingly. A TR must therefore utilise the distinct aspects of their professional identity to become an autonomous, confident practitioner, able to combine their knowledge about education and their academic expertise as required. In some cases, they may be a “lone wolf”, working alone in the classroom on an idea with little support from senior management or engagement from colleagues, and though agency may be increased through autonomy and reflection, other aspects of their identity might be reduced, such as sense of self-efficacy. This scenario is hopefully not the norm, as it can be a very isolating and unenjoyable way of working. All the participants related that collaborating with colleagues, students and outside agencies, and having shared objectives and dialogue, increased the agency they had in the classroom as a TR. Matt is keen to involve his students in the research project, and make them “co-researchers” through conversation and being honest with them about what the project entails:

“we almost have to work as co-researchers with the kids and [...] go down that learning curve with them and it's quite, I like that sort of approach to research, being quite honest and open with the kids about it and turning round and saying well this is new, I've heard about this, we're going to give it a try, let me know

*what you think **and involving them in the dialogue and the discussion of it and the evaluation process afterwards and not jumping two-footed into something*** (Matt)

Matt's perception is that his students are in fact the recipients of a service that he is providing, the service being education. In these terms, the service providers, or school, must maintain constant dialogue with the service users, or students, to engage and enthuse them, and keep them abreast of what, how and why they are learning. In this way, Matt also makes them partners in his research process, and calls them co-researchers.

"we need to constantly engage in conversation with the service users" (Matt)

Fullan (1993) suggests that a professional teacher as a change agent "must become a career-long learner of more sophisticated pedagogies and technologies" who can "form and reform productive collaborations with colleagues, parents, community agencies, businesses and others" (p16-17). For Matt, this means collaborating with outside agencies such as academic and museum professionals, co-creating with his students wherever possible, and working alongside colleagues who may or may not also define themselves as TRs. This contrasts with the concept of the teacher who merely strives to meet targets and tick boxes; indeed, Biesta, Priestley and Robinson (2015) found in their research that in many cases, teacher agency is shaped by "short-term aspirations to tick curricular boxes, deliver enjoyable lessons, keep students engaged and interested, and keep classes quiet and well behaved" (p635).

Certainly, ticking curricular boxes and keeping classes quiet and well-behaved form part of the school's criteria with which teachers feel they must comply to be considered a "good" or "outstanding" teacher, and to avoid being labelled "requiring improvement". A teacher who delivers engaging, stimulating lessons that not only impart the relevant content but allow learners to develop a variety of skills will have a heightened sense of agency, as this is the crux of daily teaching and learning. However, Matt's priority appears to be slightly different to this, and he has an elevated level of reflection on how he can constantly improve teaching and learning for himself and his students. His perception is that his work as a TR enhances his

sense of agency to be able to do this, as does Kate's, who considers that her sense of agency is increased when she is:

“working towards developing better outcomes for students, making learning more pleasurable, [and] getting them to understand themselves” (Kate)

5.11.3 *Collective objectives, input and dialogue*

Fullan's (1993) concept of “change agents” is fitting when describing TRs as it implies that they have personal objectives and aims when using their increased agency to initiate change at classroom and school level, and Fullan gives these “change agents” a list of criteria that he believes an “interactive professional” should demonstrate. Several of these highlight the importance of working with, supporting and trusting other professionals within their ecology (p17). Liz, in her capacity as senior leader, appears concerned with involving staff in any decisions made about policy and curriculum, and as mentioned, believes creating teacher action research teams amongst her staff is an effective way of generating evidence that can be used to inform these decisions. She is convinced that ownership and accountability, and therefore agency, increases amongst staff members when they feel they have a valid input. Liz asks herself and her staff, *“but how can we make this work for us, what are the strategies we could try?”*, to involve them in decisions, and when these decisions are made, she believes that the staff still feel permitted to experiment with new strategies and evaluate them together as a team.

“we formulated that as part of what we want as a school to be able to do, how we want them to learn and we've developed the curriculum with that in mind, and they then had the input along the way” (Liz)

This is Liz's perception of how she is developing agency within her ecology but would need to be corroborated by her staff to draw any conclusions on whether this is indeed the case. Certainly, her own sense of agency has appeared to increase as she has gained more power and responsibility over others. The concept of collective input is effective when senior management is apparently open to innovative ideas and teachers feel supported to be

creative and experimental in the classroom, without fear of failure or derision. However, sometimes the notion of doing something innovative can be too daunting for teachers who are already working hard on the day-to-day teaching and learning, or who are inexperienced. Likewise, senior management teams can appear open to innovation, but can be less receptive to findings if they deem them contradictory, controversial or detrimental to the school and its policy in some way (Lauder, Brown and Halsey, 2009; Sanderson, 2003).

Kate is obviously frustrated by teachers who she views as being unwilling to become more innovative, despite support within their ecology. She is idealistic, however, and sees a TR identity as achievable by all teachers, whereas one could argue that if all teachers eventually identified as TRs, how could agency be increased at teacher level if there were no opportunity or motivation for research? Kate believes she could use her experience to increase teachers' agency by giving them ownership and responsibility of research projects:

"[teachers] always say haven't got time, haven't got resources, ok, what is it that you really want to work on, we will make it possible, we'll let you teach less this year, because I really want you to focus on it, making them responsible for their own time, making them responsible for their own resources, making them responsible for getting off their bums and bothering themselves about something" (Kate)

This returns to the idea of agency being impacted by an evolving professional identity, and the notion that previous experience as a TR gives increased agency as a TR, with or without support. When Kate entered a new school with no research potential, her previous experience gave her the professional confidence to begin an action research project involving inquiry without directive from the senior management:

"I wasn't given any research remit per se, but [...] we did some inquiry" (Kate)

Her professional identity appears to have been shaped by her experience as a TR, and her agency is at a heightened level where she will incorporate research of some type – whether action research or an inquiry-based project – into her daily teaching and learning, as she

believes that it is both powerful and necessary. Her view of education is also shaped by her experience, and she views her future as full of potential not, perhaps, for engaging in teacher action research herself, but for giving teachers and learners the opportunity to experiment with alternative forms of education:

“I would like to be given the freedom to work with other teachers and other students to just mess around with learning and different forms of learning, it doesn't always have to be in a classroom, it doesn't always have to be behind a desk, it can be so many different ways” (Kate)

A heightened sense of agency and a professional identity with an increased reflective and innovative dimension may lead a TR to believe that others will naturally want to follow suit. This is of course not necessarily the case, and though Kate wants to work with others and introduce them to research-based practice, if teachers do not want to incorporate research into their practice, they will not see the same levels of change agency or of professional identity development. The three participants have all experienced increased agency as they had an identity commitment to developing their professional skills as a TR, but their narratives show that they are of the view that all teachers could follow suit. This may not be possible; particularly as new teachers are entering the profession in an entirely different educational climate to that which the participants experienced.

5.12 Collaboration and support in engaging in action research from outside the immediate ecology

One link between all three participants is the fact that they originally became TRs on the request of senior management when each was a relatively new, inexperienced teacher. Liz was asked to become involved in the Campaign for Learning project which was already being undertaken within the school. She was a newly qualified teacher and was asked to assist the lead teacher at that time, and eventually took over as lead teacher herself, with a team of colleagues assisting her. Kate was introduced to the concept of teacher action research at the forward-thinking school which she joined early in her teaching career and decided to further her interest through self-funded formal university study. She was later asked to become involved in a scheme developed by another school in conjunction with the university.

Matt was asked to lead an inquiry research project by his senior management and has helped to develop an inquiry-based curriculum. The theme of collaboration or support from outside agencies in engaging in action research therefore emerged very strongly from each narrative and needs to be explored to see its impact on agency development.

5.12.1 Opportunities and support within the school ecology

Opportunities such as those experienced by the participants arise for various reasons, and not every teacher will have access to such opportunities or be willing to accept them. Previous experience in research, further academic studies or leadership history can make a teacher more likely to be chosen by SMT to lead a research project, perhaps due to the autonomy and independent work that is necessary in teacher action research. But being a new teacher, willing to learn and take on more responsibility, is another reason to be chosen to participate in action research, and Liz, Matt and Kate all fell into this category when they began their research careers. Liz believes that one opportunity will lead to another, and certainly this does seem to be the case when considering her own career path, as she has capitalised on each opportunity presented to move on. This phenomenon may be due partly to the development of networks which give TRs more options to enhance and continue their careers; partly the development of a specific skillset with each project they undertake; and partly their own sense of heightened agency.

“I think because you have the opportunities you link in with a lot of other people and that leads you into other things and you upskill yourself very quickly on the back of what other people are asking you to do” (Liz)

Being in a research-driven environment is a powerful way of increasing agency for teachers who are given information, opportunities and support that not all schools provide:

“when I first started out in teaching, I wasn't really aware of research, but I worked in a school which was very informed by research [...] so when I first became a teacher I wasn't aware of the importance of researching but then the

first school I was in really kind of introduced me to it even though I wasn't aware of it at the time" (Kate)

The participants were fortunate to have some of their early teaching years in schools which were willing to invest in teachers and give them opportunities and support to become research-informed, evidence-based practitioners. The schools used the expertise and innovation of the teachers to help inform the curriculum. This gave the teachers not just increased agency but also a sense of ownership and accountability, making them stronger, more dynamic educationalists. As Liz points out, this is not the case with all schools, and indeed some teachers given this sort of opportunity may not fully embrace or appreciate it:

*"I think some people, you know they don't realise you know **when you've got somebody that invests in you as a professional**, you know there are some schools where that just doesn't happen, you do what you've got to do, there's no adding value or any of that, but, **you know, to get the best out of your people, if they want it as well, because some people don't and that's fine, you know not everybody wants that, but if they want it then, you know, to give them those opportunities is good and then they can see what they get from it"** (Liz)*

Earlier in her career, Kate commented on her view of the relationship between the senior management of a school and the TR:

"The messages that come from the senior leadership are really important – the content of them. If your headteacher says it's ok to do inquiry then it has to be alright to do it and make mistakes. It has to be part of a developmental process which infers an investment of time." (summarised historic interview with Kate)

Like Liz and Matt, Kate feels that her initial school invested time and support in her development, and this kind of support can have a fundamental impact on the growth and strengthening of a TR's professional identity and agency.

5.12.2 Continuous Professional Development (CPD) and the link to action research

Liz talks in depth about how she provides research opportunities within the CPD programme, so that staff are developed as colleagues but also become more research-informed and evidence-driven and have greater agency as individuals and as a team of colleagues. Matt also discusses the CPD provision at his school, and the issue that some teachers are receptive to the idea of being more research-informed, and others “turn their noses up” and prefer to keep taking ideas “off the shelf”, as he terms it:

*“it's like the action research stuff that the school pushes in CPD time, lots of people turn their nose up at it, but you can see it two ways I think, **you can either see it as something that you're being told to do or you can see it as an opportunity to try something out that you wouldn't normally have tried but you've been allowed to do it**, and if it goes wrong and things don't work out quite the way you expected them to, no-one's going to shout at you because you're not meeting targets and all that kind of stuff, there's almost like a safety net there because of it, which is nice” (Matt)*

He feels that teachers who are given permission to be more experimental in the classroom, and try new initiatives or strategies, have a “safety net” if the strategy or initiative does not work as hoped. Senior management may feel they can trial novel ideas and strategies and get evidence and feedback on the success levels, before deciding whether to implement that strategy across the whole school. Teachers may develop a heightened sense of agency if they feel they have the freedom to deviate from the traditional lesson plans, rather than in the Ofsted-driven teaching and learning environments where they may feel constrained and conscious of monitoring progress and raising attainment (Godfrey, 2014; Brown and Zhang, 2016). In this scenario, Matt feels that by sticking to a rigid plan, teachers are in fact

“going against what could be an interesting educational avenue or direction whereas if you're open-minded to those sorts of situations happening, you're almost better placed to jump on them when they do happen” (Matt)

5.12.3 Opportunities and support outside the school ecology

Outside agencies are an avenue that can provide a great deal of support and expertise for TRs, from museums and charities, to universities and private businesses. Schools can connect as a network to work on a project, even if they are from different regions or countries. This may increase an individual TR's agency and may make it more likely that their senior management will provide support and be willing to use findings and evidence to inform practice and policy, if they believe that the evidence has greater validity, reliability or replicability due to the more rigorous approach supported by an external agency. Matt relates his experience working with outside agencies, including other schools, university academics, local museum curators and an innovative American high school:

*“we've been involved with [named] school and [the university], and a particular lecturer, they're really keen on that sort of stuff, and there's the project based learning consortium, so there's others out there, a few other schools who are sort of involved and that's quite good because **there's a range of experience and exposure to project based learning**, there's some people who have never done it before who want to do it, there's other schools like ourselves who are quite happy to do it now” (Matt)*

The issue here is that TRs need to be able to work alongside external agencies but retain the locus of control (Higgins *et al.*, 2007; Weston, 2012), so that agency can be developed within the ecology, rather than handed to an outside researcher who observes and comments in a “top-down” fashion (Groundwater-Smith and Mockler, 2007).

5.13 Impact of ecology on agency to engage in action research

Negativity arose through the narratives regarding reduced or constrained agency for TRs, mainly resulting from a lack of support within the ecology. A sense emerged of research being an added extra on top of normal teaching duties. This theme of the impact that engaging in action research had on the participants' ecologies, and the impact that the participants' ecologies had on their agency to engage in action research, emerged strongly, and is worth exploring in depth.

5.13.1 Lack of support and fewer opportunities within school ecology

The participants talked in their narratives about needing to conform to “house style”, ensuring that the standard teaching curriculum was being fulfilled, and meeting Ofsted criteria, before innovation and creativity could be incorporated. In her historic interview, Kate discussed this notion of house style in a school where she managed to undertake her own teacher action research but without the support of her senior management:

*“The house style is there for a reason – it’s there to raise standards for the head to be able to say, for us to get at least the next best Ofsted grading, he perceives that he has to impose a lowest standard that teachers have to achieve in their lesson. **He believes that by doing that, imposing a framework, he is raising the bar and ensuring consistency [...] It is very structured and top down in terms of approach yet the head thinks it is necessary to obtain a minimum standard.**” (summarised historic interview with Kate)*

This ecology, in Kate’s view, left little room for her to engage in research. Disillusioned, she left the school, with the experience having left its mark on her professional identity. Each experience in a workplace helps determine a teacher’s individual story and their perception of their identity (Reynolds, 2011; Beijaard, Verloop and Vermunt, 2000).

Liz considers herself to be a forward-thinking headteacher, and strives to incorporate creativity and innovation because of her own past experience, but she nonetheless admits that these are an added extra once the daily teaching and learning is considered up to the correct standard:

“but because of the pressures and what we’re measured on you’ve got to be doing all of that stuff first before you can start saying actually we’re going to pick and choose what else we do thank you based on what we think our kids need and what we believe is the right thing, it’s got to be doing everything else the bees knees before you can start rightly or wrongly” (Liz)

The phrase “rightly or wrongly” gives an insight into Liz’s internal tension: as a TR, she believes in the importance of creativity in the classroom for her staff, but as a headteacher, she is answerable to Ofsted, governors, parents and students themselves if her curriculum does not deliver the results and progress needed for an outstanding grading.

Kate was lucky to work in numerous supportive ecologies, but having found herself in an unsupportive school with a different ethos, she recognises the difficulty for many TRs who want to undertake research but feel constrained by their ecology, and must make a decision:

*“Then the decision is am I going to be constrained, am I going to give in to the contract, is my research knowledge, am I going to internalise it and use it in another forum, [...] **there are schools that have been very research friendly, and they've been very receptive to research practices, who or which now are more wary about doing something that is perceived to be a little bit leftfield, because ultimately they've got to be judged by their outcomes, their attainment levels** [...] some schools I know used to be incredibly research intensive [...] and even they now are just being more wary about the capacity that they have to engage with research” (Kate)*

This growing wariness of teachers deviating from standard lesson plans and incorporating creativity is at odds with new initiatives such as the Chartered College of Teaching. Enterprises such as this should in theory create a teaching body which is more research-informed, more able to adapt their practice according to latest findings and ideas, and more receptive to unfamiliar approaches and how they can complement existing techniques and methods. Feeling empowered and having the agency to conduct teacher action research gives, according to Kate:

“hope in a context, in a wider educational context where things are quite scary and quite prescriptive [...] if you work in a context which affords it, [research] can give you a space in which you can just explore stuff, and that adds so many different dimensions to your being” (Kate)

Those TRs with a body of past action research experience are more likely to follow Kate's lead and conduct teacher action research even in a school which is wary, but newer teachers may be less inclined. Hargreaves (2005: 968) points out that teachers are defined by age, career stage and generation, and these impact on their experiences and understandings of educational change and reform. Newer teachers are finding their feet in the classroom, and refining their teaching methods, behaviour management, and relationships with students and colleagues. If their early career experiences run smoothly, they may develop resilience to obstacles and a greater sense of purpose, but if their early experiences are more difficult, or where they are surrounded by older, more experienced colleagues, they are less likely to develop professionally and may abandon their education career (ibid., p971).

Research also indicates that teachers may lose motivation and commitment to change as they get older and more experienced in the classroom (Bloom, 1988), becoming tired, disillusioned with the way their experience is overlooked, or disenchanted with constant educational reform (Hargreaves, 2005: 975). These older, more battle-weary staff who have been through changes in the educational system, are also unlikely to wish to develop as TRs. They have less enthusiasm for making profound change outside their immediate ecology and focus more on providing the best teaching and learning experience in their own teaching and learning environment (Hargreaves, 2005: 974).

Kate's less supportive school had a learning forum to try and encourage teachers to incorporate more innovative methods into their teaching, but she found that although everyone was welcome,

"it is usually the same people who attend, often the ones you really want to be there not the cynical staff or the NQT brimming with ideas for whatever reason. They are tied up with coursework, because they feel they need results"
(summarised historic interview with Kate)

This matches Hargreaves' findings that the newest teachers and the older, experienced teachers are perhaps least likely to wish to innovate or engage in action research. Another

reason for this reluctance to join an innovation forum was the ethos of the school, which had a very traditional and didactic model of pedagogy:

“You do see students still sitting passively as empty vessels trying to be filled with content. [...] For all that the Head says there is a need for independent learning, [I don’t] think there is a fundamental theoretical understanding of what independent could, should look like, sound like feel like” (summarised historic interview with Kate)

When teachers are more concerned with current policy, curriculum reforms or attainment criteria, rather than the bigger picture of teaching and learning, there may be limited room for an innovative, research-led approach and teachers may struggle to act as agents of change as agency requires the combination of influences from the past, orientations towards the future, and engagement with the present (Biesta and Tedder, 2007). Being constrained by accountability systems which prioritise some modes of action over others (Biesta, Priestley and Robinson, 2015: 638) in a less supportive ecology means that a TR must work harder to find the motivation to engage in reflective action research, and thereby see their work impact on their environment, their teaching and learning and themselves.

Of the three participants, Liz seems to see a heightened ability to effect change in her ecology, but this is due more to her role as a senior manager than past experience as a TR. However, van der Heijden (2015: 685) recognises that four typical characteristics can be identified in successful agents of change: lifelong learning, mastery, entrepreneurship and collaboration. Liz’s narrative shows evidence of each of these characteristics, as does Kate’s. Van der Heijden goes on to suggest that teachers who identify as agents of change take initiatives to develop themselves professionally and are curious (p690), open to innovative ideas and emphasise the positive aspects of innovations as opposed to the negative aspects (p692). Indeed, Kate states:

“I’m not the person that I was, I’m far more curious, I’m far more flexible [...] I’m genuinely interested in what people have to say, I’m genuinely interested in their stories” (Kate)

As with Liz and Kate, Matt sees himself as able to effect changes in his ecology through his innovation and inquiry-led methods. His confidence in his ability to experiment is high as he does not simply try new techniques for the sake of it but experiments in a planned and systematic way (van der Heijden, 2015: 692) and collaborates with students, colleagues, management and outside agencies to ensure validity and rigour. Matt's inquiry-based curriculum often cannot be measured in data, but instead:

“it's just a feeling in the room and you can't capture it at the time but you know it's there” (Matt)

The dialogue between Matt, his students (co-researchers) and his colleagues act as his barometer for success, along with the noticeable changes in his students' self-esteem and confidence, their motivation to learn, and his motivation to continue with his innovation. With each success, his professional identity appears to develop, and his sense of agency increases. This is also demonstrated in Lasky's (2005) research, which claims that “agency is always mediated by the interaction between the individual (attributes and inclinations), and the tools and structures of a social setting” (p900). A heightened sense of agency cannot be measured in figures or data and cannot be achieved by an individual acting independently. It is the result of how teachers and TRs act to “affect their immediate settings through using resources that are culturally, socially, and historically developed” (ibid., p900). Each of the participants measures their sense of agency against their own past experiences, their future aspirations, and their present-day ecological context. This concept of ecological context and how it relates to professional identity and agency development will be discussed in the next section.

5.14 Part C: Perceived impact of engaging in teacher action research on participants' ecology, and the perceived impact of the ecology on participants

The final superordinate theme that arose through the analysis of the participants' narratives is the impact and influence of and on the ecology in which the practitioner is based. A strong professional identity as a TR could, as seen in the participants' narratives, increase the sense of agency in the classroom, but this is strongly influenced by the ecology in which the TR is

working (Flores and Day, 2006; Goodnough, 2010). It could therefore be assumed that a TR will aim to have an impact on their ecology, while their ecology will have an impact on the action research being carried out, whether or not the practitioner is aware of it. In terms of Emirbayer and Mische's (1998) concept of agency consisting of three dimensions, the impact of the ecology connects to the practical-evaluative element, whereby TRs make practical judgements about different potential courses of action, to respond to the constantly changing demands and issues that occur in their ecology (p971). Though ecology has a variety of definitions, in this section it refers to the practitioner's immediate and local environment, and the direct educational system in which they are involved. The impact on and of the ecology in which the participants engaged in action research emerged as a strong theme in their narratives. In order to explore this theme thoroughly, it is necessary to examine as a whole their career histories as told in their narratives; the impact of their engagement in action research on their professional identity development; their perception of agency development; and their perceptions of the importance of their role.

5.14.1 Understanding the link between ecology and perceptions of professional identity and agency development

The ecology, like professional identity, is in a constant state of change, depending on the nature of the teacher's students, colleagues, management, policy, and other external factors that the classroom practitioner has little or no control over. A TR's identity and agency will fluctuate in differing ecologies, due to the levels of support offered, the decision to conform to the "house style" and comply with local or government directives, or the opportunity to become involved with innovative, research-informed practice.

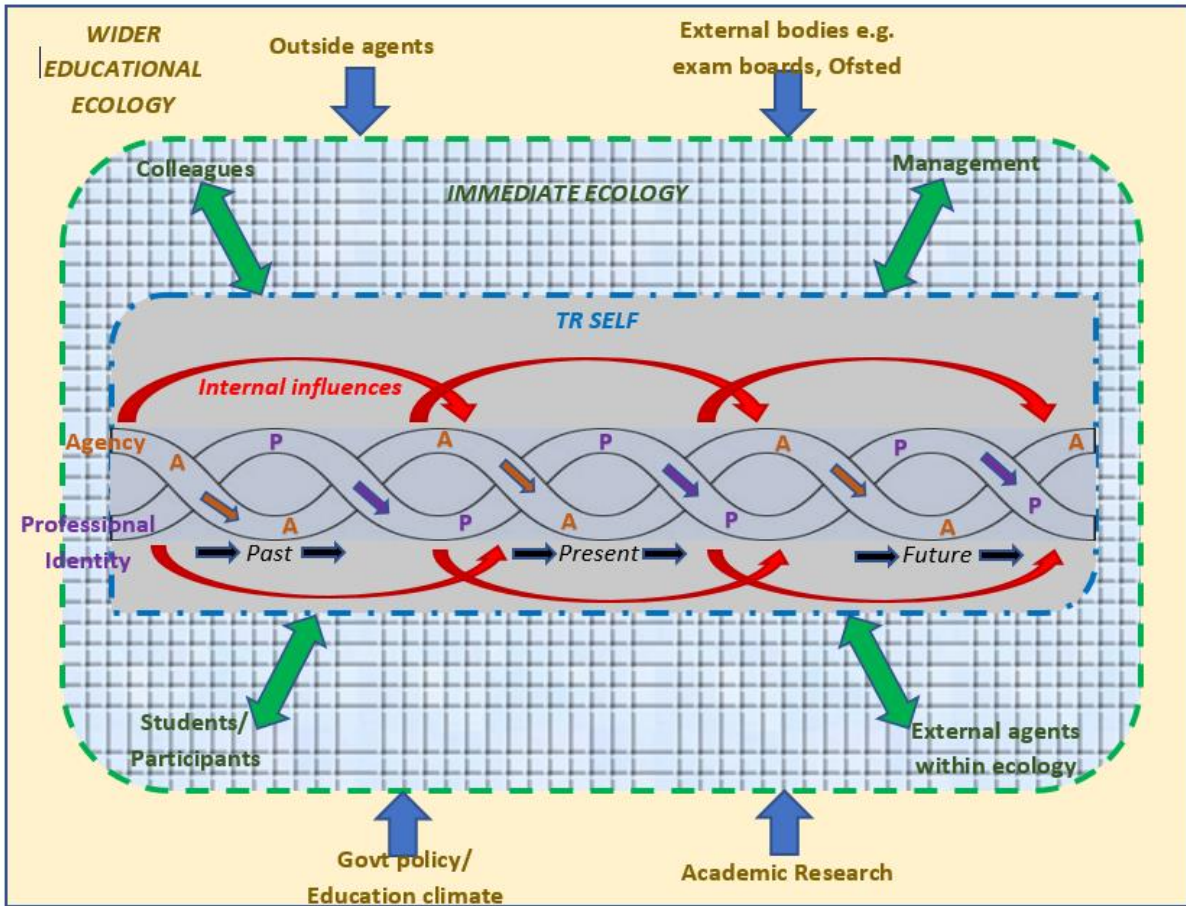
The participants' perceptions of professional identity development and agency, as discussed in the previous sections, can therefore be illustrated in a model which I have designed to show the relationship between the key aspects of professional identity and agency within the TR self, and the perceived impact on and of the TR's immediate and wider ecologies. This model illustrates the themes which emerged from the analysis, corroborated by the literature discussed. The model helps us to understand how the ecology in which the participants engage or engaged in action research is inextricably linked to the other superordinate themes, and is fundamental to each of the cross-cutting themes (a desire to use innovation and

creativity in their practice; using research to inform and influence practice; the impact of the educational context on their TR role; engaging in collaborative research within their ecology; collaborating with outside agencies on action research; and the perceived impact on the participant themselves). The ecology in which the participants engaged in action research has played a part in shaping the way in which they perceive their professional identity and agency to have developed and evolved and has therefore played a part in shaping the TR they believe they have become.

5.20.1 Core model to show relationship between TR self (identity and internal influences), agency and ecological impacts

A core model has been created to illustrate the perceived career path of a hypothetical TR, combining aspects of the three participants. In the hypothetical scenario represented in the core model (Model 1), a TR's agency increases over time as professional identity evolves and becomes more committed, though in real life, and in the case of the three participants, agency may increase or decrease, and professional identity may develop at different rates. Thus the two lines representing these are intertwined, constantly fluctuating, diverging and converging, and subject to reciprocal influence. Personal internal influences such as motivation, ambition, self-esteem, self-confidence and self-efficacy continually impact identity and agency, though at diverse rates throughout the TR's career.

Agency and professional identity can fluctuate depending on ecological and circumstantial influences, and both can increase and decrease independently of the other, depending on the external and internal influencing factors. Ecology can be supportive or unsupportive of research-led practice, hence the illustration of porosity, as they can accept innovative concepts or refuse them.



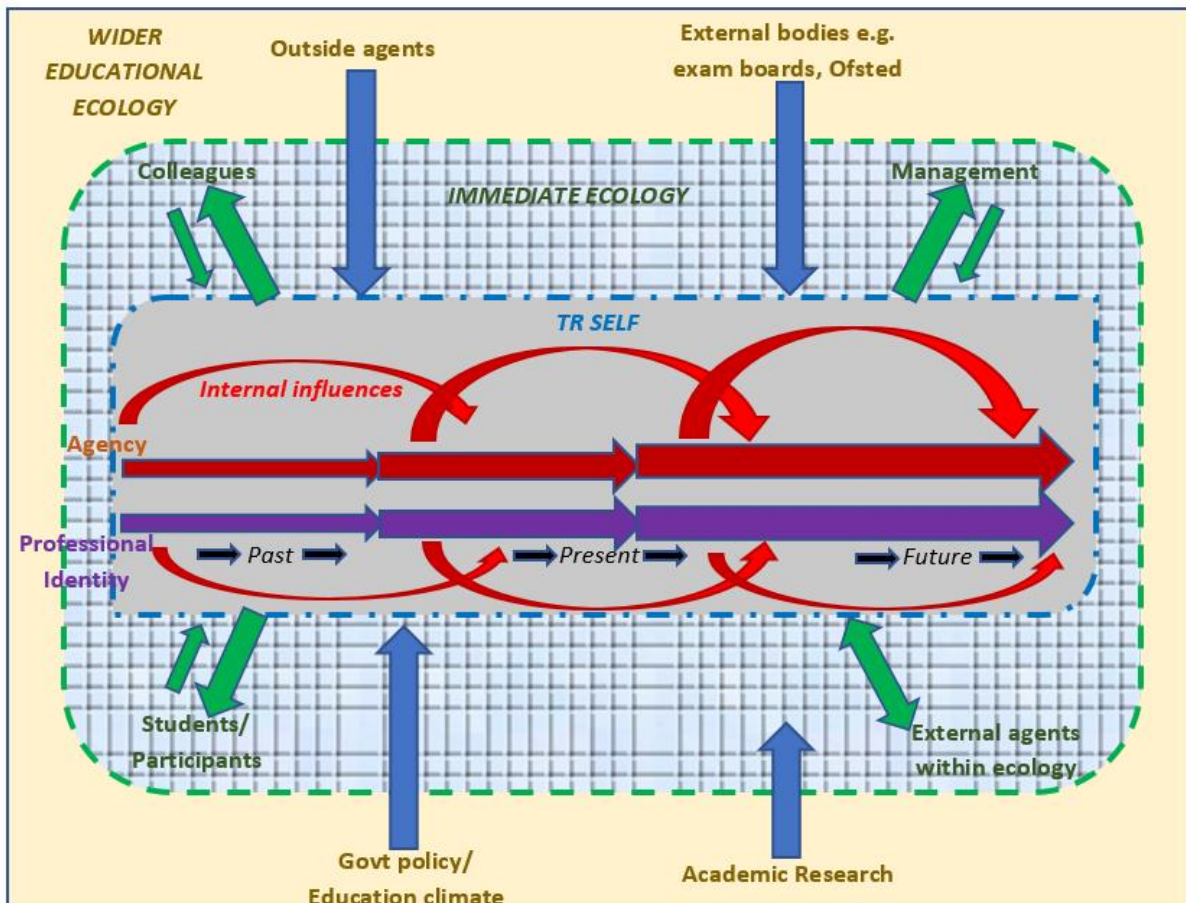
Model 1: Relationship between TR self, immediate ecology and wider ecology.

Depending on time, circumstance and conditions, ecologies will allow differing amounts of influence to impact on the TR self and will allow differing levels of influence from the wider educational ecology to impact on the immediate ecology. Aspects of the ecology both influence and are influenced by the researcher’s increasing or decreasing agency and evolving professional identity.

This core model (Model 1) will now be adapted to illustrate the three participants’ perceptions of their evolving professional identity and agency, and the reciprocal impact of their ecology along with the influencing factors in their various degrees. These models reflect the perceptions narrated in their interviews, and the themes as described above which emerged from these narratives. These models are my own interpretations as a researcher of the participants’ perceptions of the emergent narrative themes which have been discussed throughout this study.

5.20.2 Liz's model

Liz's model demonstrates how throughout her career, her professional identity appears to have evolved, becoming stronger and more committed, though not necessarily as a teacher-researcher. However, this aspect of her identity strongly influences how she acts as a senior manager and how she runs her school and her staff.



Model 2: Illustration representing Liz's changing perception of TR self and ecologies

Liz's agency appears to have become more heightened as her career has progressed and as she has taken on increasingly more elevated positions of responsibility. It could be assumed that this will continue at this level, unless outside forces influence her identity or agency in either a positive or negative way, e.g. a poor Ofsted inspection result or a change in policy which affects her ability to implement a research-led curriculum.

Internal influences have become more pronounced as she has progressed, and she demonstrates heightened levels of self-confidence and self-efficacy in her narrative. She

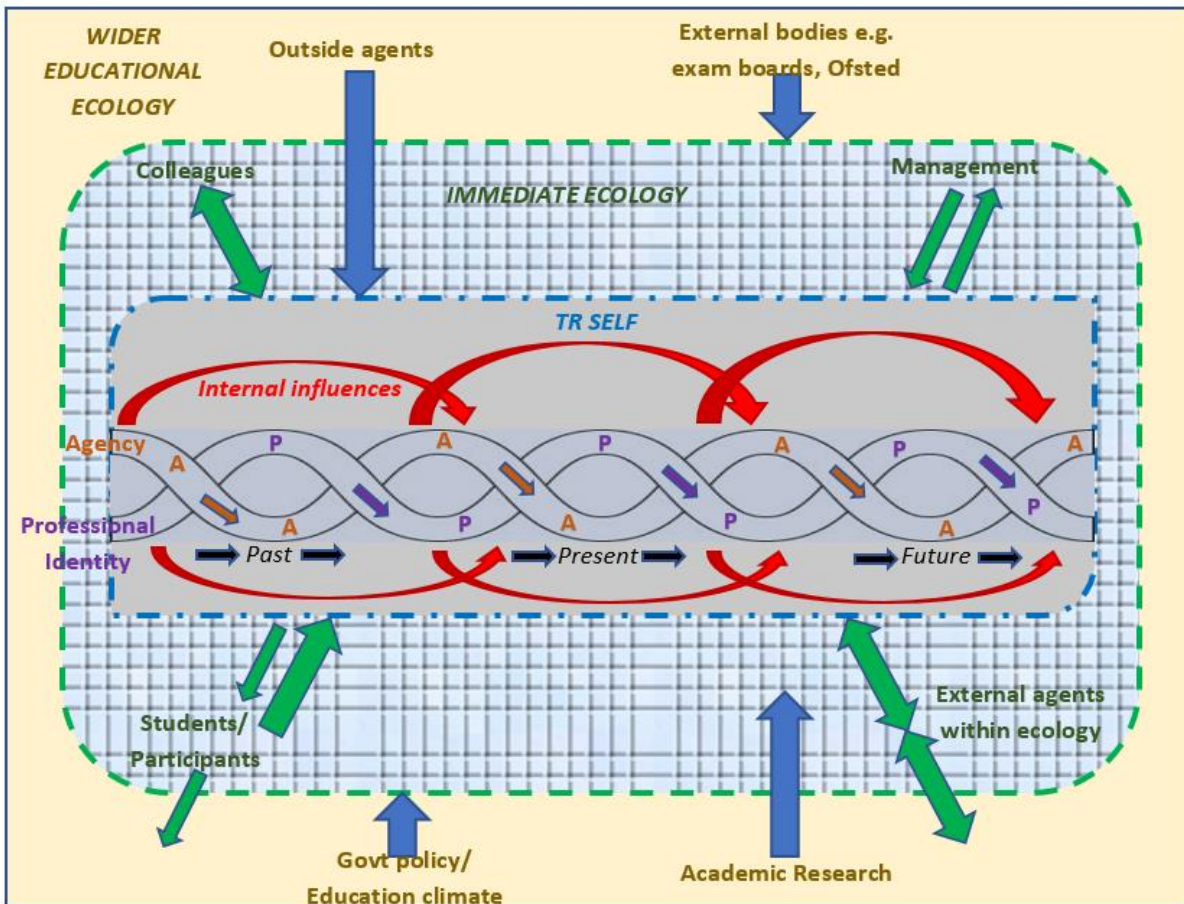
establishes an empowerment to be an agent of change in her narrative, and again, dependent on outside forces, this is likely to continue. Liz may be influenced by her immediate ecology in terms of her fellow SMT, her staff/colleagues and her students, but she exerts greater influence than she accepts. Likewise, she may be influenced more than the other participants by the wider educational ecology, due to her role, and will be more heavily impacted by external bodies such as Ofsted, government policy and other outside agencies.

5.20.3 Matt's model

Matt appears to be influenced by outside agents, such as universities, cultural and non-educational bodies, and his immediate ecology is willing to accept evidence-led teacher action research and encourage research-informed teaching. This means there are various external factors impacting on Matt's agency and professional identity, but these have been strong since his formative experiences in education. He demonstrates a clear sense of his identity throughout his narrative, and his agency remains steadily intertwined, regardless of the ecology.

Matt is enormously influenced by his students and their input into his research is invaluable, with him labelling them as "co-researchers". His students in turn are likely to be influenced by his methods and the outcomes of his research, and they appear to disseminate some of this influence into the wider educational ecology and beyond.

In terms of senior management, Matt's agency and identity appear to be influenced in some part by his senior management's directives (which are in general supportive and encouraging), and he in turn influences his management team, who use his evidence and outcomes to inform their continual research programme within the school.

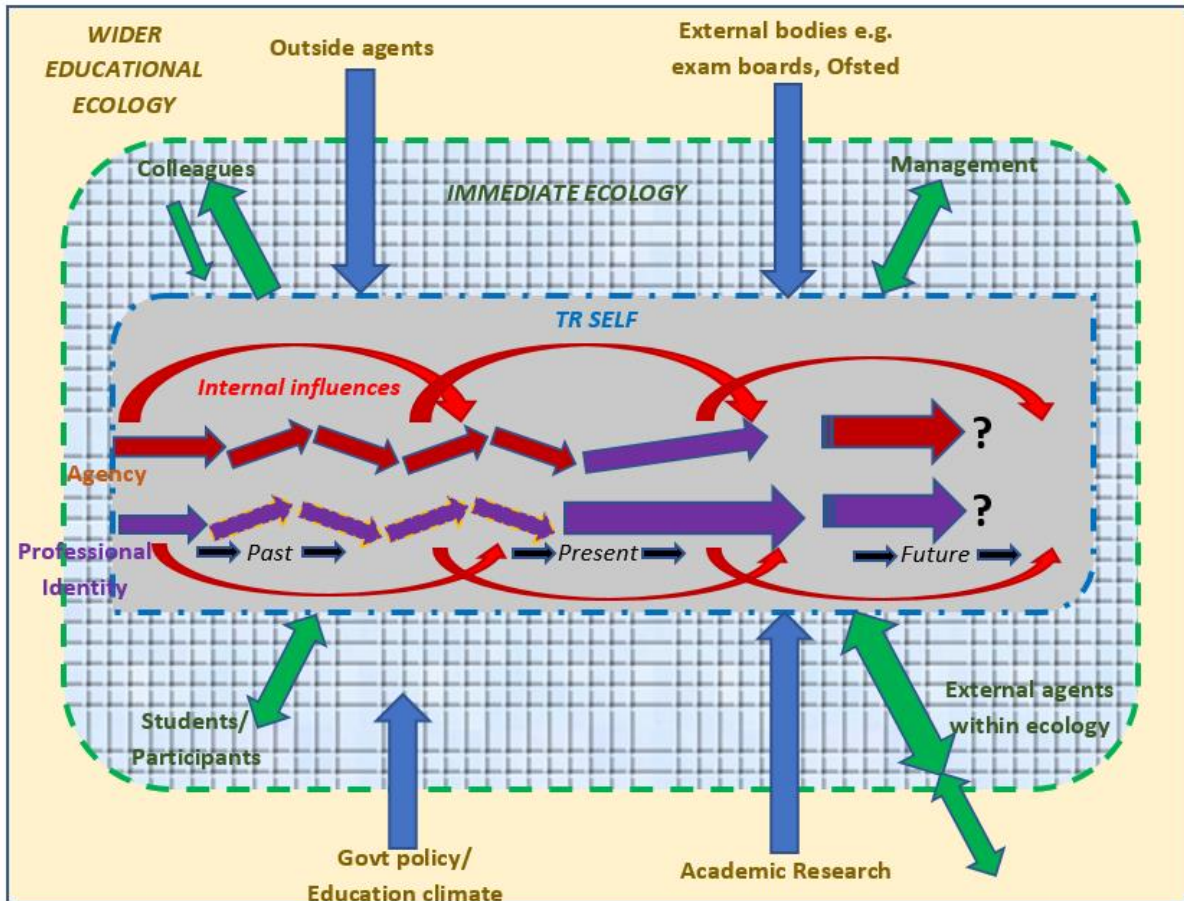


Model 3: Illustration representing Matt's changing perception of TR self and ecologies

Matt has worked with external agents such as a wider network of research-led schools, and there is reciprocal impact there which then impacts on the wider educational ecology due to dissemination throughout the network.

5.20.4 Kate's model

Kate's agency and professional identity have fluctuated enormously over her career. Sometimes she has felt empowered to conduct research, with positive outcomes, and her agency has been heightened. But there have been periods where her ecology was less supportive, or her internal influences such as motivation and self-efficacy have been negative, which have had an impact on her ability to engage in research and reduced her agency. At these points, she admits in her narrative that she struggled to commit to a professional identity, and veered between defining herself as a teacher, teacher-researcher, academic or senior leader.



Model 4: Illustration representing Kate's changing perception of TR self and ecologies

At the moment, she appears to be establishing a more committed identity, and her agency is steadily increasing, but she is uncertain about her future and this could fluctuate once more.

Kate appears more influenced than the other participants by academic research, but is also heavily influenced by external bodies, as she now has an academic leadership role and her own initiatives and innovations are tempered by the needs of the institution and the external bodies with whom she works. The external agents who form part of her ecological network seems to have a reciprocal influence on her TR self, but this influence also spreads into the wider educational ecology as it is disseminated across other institutions and businesses. Her immediate ecology is naturally influenced by government policy on academic education, and as her responsibility increases, she may find her identity and agency are more directly influenced by this factor.

5.20.5 *Applying the model*

The models above demonstrate how the core model (Model 1, p137) can be applied to a TRs' evolving perception of self and professional identity. There are similarities and differences across the participants, but although each started their TR work relatively early in their teaching career, their historic experiences are very different, and this has led to diverse current and aspirational roles and experiences. Modelling the participants' experiences in this way has led to a deeper understanding of the phenomenon, as it clearly illustrates how their perceptions of their internal influences, agency and identity commitment can impact on their role as a TR and their ecology, and how their ecology in turn influences their identity and agency. Each participant follows a different path, but in each case their past experiences strongly affect their current perception of professional identity and agency. Each participant has and has had varying levels of influence *on* their ecology, and experiences or has experienced varying levels of influence *by* their ecology and the wider educational environment, but they cannot escape these influences. No TR can work alone, unaffected by their ecology, and making no impact on their ecology. Though the TRs have different reciprocal relationships with influences from the ecology and beyond, these influences are just as important as internal influences such as motivation, self-efficacy and ambition in building their professional identity and heightening their agency.

The ecology is constantly altering, and each aspect exerts fluctuating levels of influence on the TR, but it seems from the models that if a TR has a commitment to their professional identity and heightened agency, the ecology has less influence on these, and the TR has strong individual capacity. In an unsupportive and therefore less porous ecology, the TR may have less influence, and their impact may be more limited to their immediate ecology, i.e. their classroom, or the specific setting over which they have control.

Matt is the only one of the three participants who remains a TR, and his perception of his identity and his agency is by far the strongest and most consistent. It would be interesting to interview him again now that time has passed, and he has moved to another institution and a slightly different role, to see if his perceptions remain similar. Liz has a strong perception of her identity, but much of this is formed by her role as headteacher, rather than her

definition of herself as a TR. Indeed, throughout her narrative, Liz reiterates several times the phrase “as a headteacher”, showing that subconsciously, this is the role with which she identifies most confidently.

Kate’s professional identity has fluctuated enormously over her career, but she is perhaps settling into a new phase now and may feel more committed to her current perceived identity and role. However, if her past experience continues to shape her future aspirations, she may continue to feel restless and unsatisfied, and begin to look again for increased opportunities to incorporate action research into what appears to be a mainly leadership role.

Overall, it is interesting that the participants appear to perceive that internal influences such as motivation, ambition, self-efficacy and determination can impact a practitioner as much as, if not more than, external influences, such as government policy, academic literature and educational bodies like Ofsted. Professional identity is intertwined with personal identity, and conditions and circumstances in a TR’s everyday life can influence the development of their professional identity and agency. Likewise, the supporting cast in a TR’s life, who are living their own realities and developing their own identities, have a major influence on the TR, and their lives are linked with those with whom they connect, in whatever seemingly minor fashion. It is not possible to remove one factor from the model, and each has its role to play in the development of a TR and their ability to identify as such. The core model (Model 1, p137) could therefore be applied and adapted to any TR in order to test the validity and rigour of the findings of this study and the hypotheses generated.

These models can now help in examining the importance of the ecology as a superordinate theme, and how it is essential to consider the three superordinate themes together if we are to understand the three participants’ perceptions of the phenomenon of being a teacher action researcher. This can now be discussed in more depth, bringing together the three superordinate themes and the existing literature on the phenomenon, in order to conclude if and how the participants perceive an impact of engaging in research.

5.15 Innovation and creativity in action research contexts

The participants concerned in the study all claim in their narratives to have a strong need to innovate in the classroom. According to Cabaroglu (2014), engaging in innovative action research can improve self-efficacy as practitioners have “control over which intervention to make in one aspect of their own teaching in which they felt the need for further improvement” (p86). The theme of innovation and creativity in educational practice has emerged strongly from the narratives in relation to each of the superordinate themes and leads us to think that these factors are an essential part of the development of a practitioner’s professional identity as a TR, and of the heightening of their agency, but that the ecological context needs to nurture this innovation and creativity in order for the TR to make an impact outside their own development.

5.15.1 Fluidity and flexibility: impact in the immediate learning ecology

The notion of impact on ecology resonated with each participant differently. For some TRs, having a direct impact on their students may be a goal, whether that is on their confidence, teamwork skills or self-esteem, or on their grades and levels of progress. For Matt, the driver is the impact on his students and the teaching and learning taking place in the classroom setting. He perceives the effects of his innovative teaching as having an instant impact in the lesson, and that critical incidents that arise from an experimentation or an innovation should be noted and acted upon. A lesson to him is a flexible, two-way process – a co-constructed dialogue between teacher and students - and the TR therefore needs to be constantly aware of their ecology and how their actions are impacting others:

“I think I've always seen the lesson as being something that can be quite fluid or should be quite fluid and for that reason I always come up against and find it very difficult to fit myself into the, or to follow the expectations when it comes to the three part lesson and Ofsted and all that kind of stuff” (Matt)

Matt sees his TR role as experimental, and he reacts to his students throughout the teaching and learning process: they are his audience, the users of his service, and he regards the process as a dialogue between practitioner and audience. His self-efficacy is high as he feels

he is autonomous and in control of his teaching and learning (Ryan and Deci, 2000; Greenbank, 2003). Unlike Liz, he does not feel he needs to conform to certain criteria in his action research, and will happily experiment in the classroom with different methods if he thinks they may have a positive impact on his students:

*“I’ve experimented with [project based learning] in various guises, before, in some cases before we even knew that it was called project based learning”
(Matt)*

Though he has collaborated with colleagues, management and outside agencies on various research projects, it can be drawn from Matt’s narrative that he is confident to innovate autonomously in his own classroom, involving his students as co-researchers. Engaging in collaborative work in this way can lead to a TR becoming more autonomous, less coursebook dependent (Wyatt, 2011) and more confident of how colleagues accept an adapted identity status (Banegas *et al.*, 2013: 194), and Matt is an example of a TR who appears confident in his own identity within his ecology. His model (Model 3, p140) illustrates how his perceived professional identity and sense of agency are relatively stable and constant within his ecology, which suggests that he is confident engaging in action research alone as well as in collaboration with others.

On a classroom ecology level, the impact of action research involvement should be increased levels of enjoyment and engagement for the students. Matt’s narrative conveys his dedication to ensuring that his students progress on an academic level, but also develop a wide range of skills and experiences. He talks about his most recent research project with a great deal of enthusiasm and pride, and he obviously aims to inspire his students to achieve greatness. His first job, where he had freedom to implement his own methods, had a clear impact on his identity and sense of agency:

“because there weren’t really any plans that were set in stone for what we would get done or do in that lesson I think I’ve always seen the lesson as being something that can be quite fluid” (Matt)

Matt shows a strong awareness of what his students need, and how to engage them and develop their own sense of curiosity and wonder. This level of reflection will undoubtedly influence his students. Indeed, Banegas *et al.* (2013) found in their own study that they saw increased practitioner autonomy and motivation to teach as a result of participating in action research. Teachers felt able to make informed, context-responsive decisions, which impacted on their students and in turn, increased their motivation to learn (p198).

5.15.2 Ecological opportunities for innovative teaching and learning

A TR may be aware of the impact of their research on themselves as a practitioner in terms of their professional identity and their heightened agency, but these effects may also impact their students (the recipients of their teaching and learning delivery and potentially the participants in their research), and their colleagues, who may become co-researchers or assist in the research process. The ecology may be impacted by the TR's actions, whether this is directly in terms of a change in curriculum and policy, or indirectly, though a subtle change in the way students respond to innovation and inquiry because of their participation in research. The participants were aware of the opportunities for action research and innovation they had been given throughout their professional life. They recounted critical incidents where they recognised when they had been given an opportunity to be an agent of change in some way, or when they were able to offer that opportunity to others. Liz is conscious of the impact that her research opportunities have had on her career, and is very keen to ensure that similar opportunities are available to her staff:

“I've had a lot of opportunities early on but I think I had them because when you've had one opportunity and you do it well, people think yeah, you can do this, it's safe to ask you to do these things and to lead these things” (Liz)

Liz feels that because the outcome of the first opportunity to conduct action research was successful and had a positive impact on teaching and learning within her ecology, she was therefore given further opportunities. A positive outcome had a significant impact on her sense of achievement, willingness to innovate and capacity for agency in the classroom, and with each successive opportunity, these may have developed further:

“my attitude is I just want as many opportunities as I can, and if you let me do that I'm going to nail it and prove myself, because that's kind of how I work” (Liz)

Liz tone of voice in her narrative is determined and assertive, giving the impression that she is proud of her achievements, and earned each successive career progression through her ability to make a positive impact on her ecology, whether it was initially supportive or not. This is illustrated in her model (Model 2, p138), which shows her increasing professional identity development and her strengthening agency as her career progresses. Her agency appears to be increased partially because of the subsequently more important roles she is awarded, and partially because she is aware of the impact of her research – on her professional identity, on her career path and on her attitude towards teaching and learning. This is illustrated in her model (Model 2, p138). Though she was given opportunities to undertake CPD and work with experts in the educational fields she was researching, the knowledge needed to innovate in her own ecology could only be conveyed by others in a minor way and had to be generated by Liz in her role as practitioner (Zehetmeier *et al.*, 2015: 168). As Zehetmeier *et al.* suggest, this may presuppose an experimental attitude towards practice, and that Liz took opportunities presented to her in her ecology because of her potentially existing professional identity as her perception of an innovative practitioner.

Liz then attempts to impact others in her ecology by incorporating opportunities to conduct research and therefore increase agency on a wider scale:

“I want my staff to have opportunities like I did, and they'll either prove themselves or they won't but I've given them that opportunity because I had it and I'm grateful that I had it and I think it just makes you think differently about what you give your staff” (Liz)

Of all the participants, Liz may have the most observable impact on her ecology as she has the power to direct her staff towards research-led practice, with the plan that they will then use their opportunities to have an impact on the teaching and learning of their students. She shares some traits, however, with the headteacher that Kate encountered in her

unsupportive ecology. Kate perceived this headteacher as believing that incorporating creativity and raising standards in the classroom were mutually exclusive and insisting on teachers following a “house style”. Liz deliberately uses her influence as headteacher with the aim of increasing creativity and innovation in the classroom through encouraging (and perhaps forcing) her staff to engage in action research. However, it has already been discussed that teachers will not necessarily develop a professional identity as a research-informed practitioner and will not necessarily incorporate innovative ideas and methods into their practice once the onus has shifted away from doing so. A true impact on the ecology can only take place when the practitioners actively engage with the process voluntarily and willingly and incorporate the concepts into their practice and therefore their altered identities in their own, individual ways (Biesta, Priestley and Robinson, 2015: 146).

5.15.3 Changing roles within the learning ecology

Liz’s narrative reveals her conviction that she is an innovative, forward-thinking headteacher, and this comes through in the way she describes how she manages her school. In devising whole school policies, she talks about how she ensures there is dialogue with her staff rather than simply presenting them with innovative ideas. She feels that she tries to involve her teachers in a constant action research programme, experimenting with a technique or method, then evaluating and refining it as a whole school:

*“then we monitored it and some people weren't doing certain things, so **we thought right why are we not doing them, it's not working**, right does it need to come out of the policy then, is there anything we are doing that's working better that now needs to go in the policy and **then we'll have a version 2 of the policy and we'll monitor that and see how that goes.**” (Liz)*

In her historic interview, when Liz was just a couple of years into her research career, the impact on her perception of her identity as an innovative practitioner was already visible. She was aware of the importance of involving her students as co-researchers, and of trialling new techniques and methods to improve teaching and learning:

“I’d previously viewed my role as to deliver this this and this and that the children would be learning this, this and this, whereas now I’m thinking more about how can I explain to the children how they’re going to learn about this. I am glad that we have done it at this stage [of my career] rather than have been teaching for 20 years and thinking I wish I had done that earlier as I can see how it has impacted on teaching and learning” (historic interview with Liz)

The iterative aspect of her agency development is clear here, as she is reflecting on her previous experience to inform her current practice, which she will then use to influence her future practice. Committing to a professional identity in this way enables Liz to maintain heightened agency if she moves into a less supportive ecology, which does not offer the same opportunities for research-informed practice or professional development.

5.16 Engaging with academic research to become a reflective TR

Of the three participants, Kate demonstrates the most awareness of the importance of engaging in academic educational research to enhance and strengthen her role as a TR. This theme of engaging with academic research and literature emerged from her narrative in particular and relates to each of the superordinate themes but has resonance to the theme of ecological context.

5.16.1 Impact of ecology on the participants’ development of research-informed and influenced practice

There was an observable impact on Kate’s professional identity and her perception of teaching and learning when she became involved with action research in her early years of teaching. It appears she began to see herself as an agent of change, able to incorporate inquiry and innovation into her teaching whilst adhering to the criteria and standards demanded of her in sometimes non-supportive ecologies. Kate’s career alternated between being a teacher who dabbled in inquiry, being a TR with a research remit, and being an “outsider” – an academic or management role where she conducted research from a more objective standpoint. However, in all these roles within different ecologies, she had the reflective qualities of a practitioner who knew about the impact of educating young people and making a difference to their lives, in whatever subject. In relation to personal and

professional identity, she strived to combine her academic knowledge, her teaching background and her creative, innovative tendencies, and become, as she terms it, an “educational practitioner”. Her ecology has either supported this development, or she has dealt with internal conflict and tension when she has tried to incorporate her research-informed ideas but has met with resistance.

Kate’s views were no doubt shaped by what she perceived as a very positive early experience in a research-focused ecology, but this is perhaps becoming increasingly rare. Brown and Zhang’s (2016) research concluded that more practitioners engage in action research projects than support it as a whole-school policy, mainly due to a lack of research use as an ecological cultural norm, meaning that although teachers may support the idea of action research, they struggle to implement it in their own teaching and learning ecology (p796). There is a danger in a school environment that teachers who undertake research may be seen by non-researcher colleagues as “academic”, and become isolated in their new role, but Kate’s view is that TRs are more rounded, with knowledge of content, pedagogy and research:

*“sometimes when you talk about research in an academic field, there’s a danger that people focus on a certain amount of academic expertise, **and I think as a teacher in a school you need to be rounded**, you need to have knowledge about education [as] an educational practitioner so putting research and practice together” (Kate)*

Engaging in action research can enable practitioners to have an observable impact on an educational ecology as it can help them to understand and imagine their practice differently (Biesta, 2007a: 19), giving them a new view of their professional identity and their purpose in the classroom.

5.17 Making a perceived impact on the educational ecology and context

The theme of making a perceived impact on the ecology they worked in was evident but varied for each of the participants, depending on what role they had and what their driver was in doing research in the first place.

5.17.1 *Integrating research into the ecology of the classroom and educational environment*

Seeing an impact on the whole school ethos and teaching and learning methods used can be a goal, particularly for those TRs who, like Liz, have senior management responsibilities. In her historic interview, Kate commented on the changing educational policy that was beginning to take shape across the UK, with its emphasis on assessment and students making expected levels of progress, and a reduction in the amount of creativity and innovation that teachers could achieve in the classroom. Like many teachers at this time, she felt that ‘spoon-feeding’ and giving the students just enough knowledge to get them through an examination was favoured over reflection or learner-driven lessons:

“There has been such a desperate need for pupils to get C grades or above that there has been shortcutting “just learn this phrase”, but the other thing is that because the curricula are so rammed with content you forget that you have to give the child time to reflect on the feedback that they are given.”
(summarised historic interview with Kate)

Practitioners like Kate who had begun teaching during the 1990s or 2000s and who had been involved in teacher action research may have found the marked change in teaching and learning policy around this point difficult, which goes some way to explain the substantial number of experienced teachers who left the profession during the first half of the 2010s. The impact of years of action research on the practitioners’ professional identity was potentially too great for them to willingly take on board a more prescriptive assessment-driven curriculum with a lack of opportunity for creativity and personalised teaching. More recent research on the educational climate seems to suggest that the current teacher-driven approach, called the “self-improving school-led school system”, has as its core characteristics the concepts that teachers and schools are responsible for their own improvement, and that teachers and schools should learn from one another and from research so that good practice is shared (Greany, 2014; Brown and Zhang, 2016: 782). The creation of the Teaching Schools Alliance was part of this self-improvement initiative, but external accountability is still high, and Teaching Schools can lose their designation if Ofsted fail to award an “outstanding” grade. This can dissuade these schools, which were specifically created to engage in bottom-up

evidence- and research-led practice, from undertaking high-risk action research projects which may negatively impact on their attainment data (Brown and Zhang, 2016: 783).

TRs like Liz, Kate and Matt had found a passion for research and a desire to be innovative in the classroom and managed to combine their curriculum responsibilities with their action research. For a practitioner like Liz, who had begun forming her identity as a TR soon after qualifying due to beginning her research journey so early in her career, continuing to incorporate teacher action research across her school was non-negotiable. Her aspirational comments from her historic interview, just as she was beginning her career, were a clear indication of how she intended to progress, and how she now saw the research dimension as an extended part of her identity:

“in the future, we hope to continue this journey of discovery and we have a duty to do so, as many children, particularly those taught by the lead teachers have begun to see it as the norm” (historic interview with Liz)

As she climbed the ladder to senior management, she integrated her research experience into her new schools, ensuring that there was a noticeable impact on her students and her staff, as well as on her whole school ethos. The driver behind this was the students first and foremost, and it is on them and their progress and success that Liz wants to see the biggest impact:

*“and that's been my role to say right, what do kids at this school need, how are we preparing them for you know the wider world and then how do we make that part of what we do, it has to be, I mean **everything here is about a consistent approach because these are the things we want our children to have [...] this is how we want our kids to be so therefore we have to provide**”
(Liz)*

The dimension of a practitioner’s identity that is researcher must be strong enough to allow them to “follow patterns of interaction in active response to historical situations” (Emirbayer and Mische, 1998: 982); in other words, regardless of levels of agency or ecological structures

and contexts, they have the desire to engage in research-led practice. However, a TR's perception of their professional identity is determined largely by their teaching and school cultures (Beijaard, Verloop and Vermunt, 2000: 753), meaning that ecology impacts on identity shaping.

5.18 Replicating action research across educational settings

To see the impact of teacher action research on a wider scale, it must move out of the original ecology and be replicated across other settings, groups of students or colleagues. Flyvberg (2006) sees this as a necessary component of case study research, as action research frequently is, to give it academic rigour and allow generalisations to be made. There is controversy amongst academics as to whether action research in the form of single case studies can be used to summarize and develop general theories, or whether each case is unique and limited to that ecology. Flyvberg, however, believes that generalisations can be made on the basis of a single case, and that "force of example" is undervalued (p425). For TRs, this means that although their own action research may have an impact on themselves, their students, their own classroom or immediate educational environment and potentially their colleagues, this is not necessarily a lasting impact, as students leave, colleagues are replaced, and new directives and policies alter the educational landscape. When the findings and evidence from research have been assimilated into the teaching and learning of a school, there is greater likelihood of a lasting impact that will continue once the original proponent of the research has moved on. This theme of becoming involved in research within your educational ecology and the resulting impact of collaborating or sharing evidence and findings with others was strongly evident in all three narratives.

5.18.1 *Assimilating research into the ecology through the curriculum*

Matt discussed how he originally worked with a network of schools and experts to develop his inquiry-based research programme, but feels it is now assimilated into the curriculum to the extent that no further external input is needed:

"I would argue maybe that we're alright with it now, given what we're able to do" (Matt)

Though he is the leader of the programme, he has ensured that others have been following the same action research method and using the same techniques. This is important, as the impact would have been lessened if he were the only TR engaged in this project and then decided to move on to another school (which, in fact, has occurred). This team of TRs should cement the impact by passing on the skills to other TRs and embedding the techniques and methods into their daily practice:

“there's only about 3 or 4 of us who teach [this programme] each year, as like a core, and that then has started making its way into their own practice” (Matt)

If innovative teaching can be disseminated across the staff, and work its way into standard practice, there is more likelihood of creating a lasting impact on the ecology. A teacher who engages daily in particular teaching and learning methods shared by other colleagues, is more likely to establish a professional identity that matches that framework and that context (Hong, 2010; Beijaard, Verloop and Vermunt, 2000).

5.18.2 Using responsibility to create impact and change

Both Liz and Kate have used their positions of responsibility and influence as senior managers to increase the chance of a lasting impact within their schools or educational environment. Liz's findings had, she felt, made a positive impact within her first school, and she knew that even though she was leaving that school to move elsewhere, the impact was likely to be embedded within the school ethos and a dedicated team of TRs would continue to work on the same themes as she had been involved in. This success gave her increased agency (as shown in Model 2, p138) as she moved to her next school with elevated status and she was empowered to make changes, which were not necessarily well received:

“Then when I went to Y school [...] saying ooh I've been doing this amazing project and research, we can look at this and look at that and look at the other and aren't you all really excited and they were all like, not really, because they hadn't had the input that I'd had” (Liz)

The team in Liz's new school had not seen for themselves the impact of her previous research, and though she obviously had experience in innovation and teacher action research into Learning to Learn, she could not demonstrate the impact, only try to persuade her new team of its potential. Fortunately, Liz's position of power meant that she could implement action research within the CPD programme, but perhaps without the full support of those who would have entered a research programme voluntarily:

“You had to say right, this is the whole school development we're doing, **these are ways that we can make that happen, those ways happen to be, unbeknown to them almost eventually, learn to learn ways, so they were just doing it because that was what we had to do but I was a senior leader then wasn't I, an assistant head, so if we decided that that was what we were going to do then that was what we were going to do” (Liz)**

The question here is, was the impact at the end of Liz's time at School Y as powerful and lasting as the impact at the end of her time at School X (her original school)? The team at School X was more committed, more experienced, and more eager to engage in research than the team at School Y, who were almost forced into agreeing to adopt an innovative approach on the basis that their Assistant Headteacher was persuading them. Liz believed that her approach to action research was benefitting both staff and students, but by embedding it into the whole school development plan, she both widened its impact across the ecology, and diluted it by constraining the staff in their methods, as they had to follow Liz's own directives.

5.18.3 Impact through continuous professional development for staff

School reform and changes in policy and curriculum inevitably lead to training opportunities for teachers, both in school (in the form of teaching teams, coaching networks and CPD) and run by outside agencies, such as examination boards or private organisations. Reform creates changing conditions for how teachers work and can affect both their perception of their professional identity and their sense of agency (Lasky, 2005: 900), particularly if they disagree with the reform taking place. The participants in this study feel they are helping other teachers to become research practitioners in some way, whether by creating a team to work

on an inquiry project like Matt, or by offering a CPD programme that develops research skills. Liz has an opportunity to have a significant impact on her staff, by incorporating research methods and action research projects in her school's professional development programme. She is aware that her own opportunity for teacher action research is limited, due to not having active teaching responsibilities. Her narrative conveys her determination to involve her teachers in dialogue about the core requirements for their students, and develop policies and curriculum strategies:

“here I'm kind of another stage removed from actually impacting on the kids, so it's harder because I'm impacting on the teachers' impact on the kids, I'm not doing any of the doing any more, I've got to get them to do it, which is harder because you know you can't get involved in the actual doing of it, but therefore we've probably done more work on, ok what do we want our kids to be, what skills do we want them to have when they leave here” (Liz)

Liz identifies as a headteacher who is fully aware of the demands of Ofsted and an assessment-driven curriculum, but whose passion for innovative action research remains. She feels that the best way to make an impact on her ecology is to train her staff to want to make an impact through action research. As discussed, teachers who are forced to engage in research will not achieve the same levels of agency or develop that dimension of their professional identity in the same manner, but there could be a significant impact on the ecology if all staff members are engaging in evidence-led teaching and learning at some level.

5.18.4 Impact on colleagues and school ethos

To meet the replicability criteria discussed by Flyvberg (2006), a TR needs to disseminate both findings and methods with their colleagues, so they can carry out similar research trials in their own classrooms. This is of course easier to implement if a TR has an elevated status within the ecology, as they can disseminate ideas through INSET, teacher CPD, policy amendments and curriculum development. Liz has used her senior management status to disseminate previous research findings through the schools and to encourage teachers to undertake research within their classrooms. The students' progress and achievement comes

across as her priority, and she aims to link all action research to improving teaching and learning:

“everybody has to be delivering, it's not optional, this is how our curriculum works, you have the training, therefore when I come and observe you it has to be there” (Liz)

In Liz's narrative, she implies that her staff are keen to comply with her ideas as she has evidence both from previous schools and from a broader range of research and literature to back up her beliefs. She is attempting to model her staff development on the development that she received as a young teacher, so that they become the TRs that she perceives she herself became, though there are key differences in the educational and political climate of the time, and the agency that she was able to develop as a result of the support she was given. This modelling however is not dissimilar to a headteacher who implements a house style, or who develops standardised lesson plans that all teachers must follow; Liz is setting criteria for her staff and they must incorporate this research-led approach into their classroom teaching and learning.

5.19 Conflict between perceived identity development and perceived impact on ecology

In the current educational climate, teachers are bombarded with conflicting concepts and policies, and may be left confused about their role as a practitioner and about the overall philosophy of education (Biesta, Priestley and Robinson, 2015: 636). An increase in bureaucracy and a less progressive and innovative educational culture leads teachers to feel unsure of their identity and their agency. This theme of involvement in action research having a perceived impact on the practitioner themselves was evident in the narratives, and it is important to consider the link between that impact on the practitioner, and the impact on the ecology, and how these two perceived impacts are intertwined.

5.19.1 Policy versus personality

A key trait of the three participants was the feeling that they want to incorporate creativity and innovation into their teaching and learning as standard, and they want to help others achieve greater agency through using research-informed methods and a more experimental approach. Matt's narrative conveys his view of the difference between his style of working due to his perception of his identity, and the teaching methods that he feels current policy is promoting:

"we're just doing it as teachers because it's the thing that we're being told to do" (Matt)

This is a tension also observed in the other participants, as they need to meet school and government criteria but are keen to incorporate their own agenda in the teaching and learning. In some cases, as discussed, the conflicting conditions in the ecology will not suit the practitioner and there will be a lack of 'fit' which results in reduced agency, a negative impact on professional identity, and a disillusionment that may see the practitioner leave the ecology. In others, they may learn to adapt to the constrained ecology and be able to implement certain aspects of their research agenda, particularly if they have a commitment to their professional identity that gives them heightened agency.

Time within an ecology can be a barrier to practitioners engaging in action research, as within an educational institute time is a finite resource which must be manipulated and organised to meet educational purposes (Hargreaves, 1990: 304). Often, new initiatives will seem to be imposed with little regard for teachers' existing demands and priorities, and this can cause teachers to push back and stretch out the implementation process (ibid., p314). Hargreaves suggests that teachers should be given responsibility and flexibility in their time management, to enable them to have more control over their professional development. In this way, teacher development, curriculum development and action research could be recognised as being closely linked (ibid., p319).

5.19.2 Perception of teacher-led research in the wider educational world

Matt frequently works with others both within his ecology and from outside agencies, and though he conveys a sense that he is content with his research outcomes and how he manages the process, his narrative gives a feeling that he is slightly frustrated by the fact that generally, teacher-led research does not travel far from the classroom:

“people have a perception that knowledge comes from universities and research centres and from science and that kind of practice, I still see and still believe science to be a social construct, i.e. science doesn't happen until people do it, science is an activity done by people like yourself, but anyone who goes out and tests things and tries things, it might not have as much validity, it might not have the rigour, it might not be as reliable in terms of being able to replicate it, but it's not to say that it's not useful or worthwhile or shouldn't inform things that we're doing” (Matt)

Even in a school ecology such as Matt's, which is research-oriented and collaborates with a strong network of external academic, cultural and business agencies, it is still difficult for the TR to garner the trust of those outside the ecology and convince them that the research process is valid and rigorous (Groundwater-Smith and Mockler, 2007; Oancea and Furlong, 2007). However, the clear link between a TR's developing professional identity, their sense of agency, and the ecology in which they are enmeshed, demonstrates that thorough research does indeed start with a thorough understanding of what education is (Carr, 2007: 282). A practitioner such as Matt understands his teaching and learning ecology and can manipulate it whilst still retaining control of the basic needs and processes. The TR puts themselves at the centre of the ecology but is fully aware of their surroundings; they can understand that there are complex systems in place in every ecology and therefore many variables to take into account in every research process (Gorard and Cook, 2007: 311). It is disheartening, therefore, that committed TRs like Matt are not disseminating their work further outside their ecology.

5.19.3 Lack of awareness – the benefit of hindsight

Kate's narrative conveys a paradox: she claims she was unaware of her developing professional identity as a TR and the impact the research was having on her as a person:

"I wasn't aware of it at the time, when I was doing my research, did it have an impact on me at the time, I wasn't aware of it" (Kate)

Her model (Model 4, p141) illustrates her fluctuating perception of her identity development and agency in the early part of her career as a teacher action researcher. However, she was aware of the impact she was effecting on her ecology, in particular the colleagues with whom she was collaborating. These differing levels of reflection suggest that Kate was more concerned at the time about the effect her research was having on her ecology and her colleagues and failed to notice how her own identity was evolving. Only with hindsight, she claims, can she see how the experience changed her.

Emotion is a key factor in a teacher's developing identity, and it is possible that a TR attempts to see their work in a more reflective and rational manner, rather than succumbing to an intuitive, more emotional response. But emotion cannot be removed from teaching and learning, and the very nature of a school ecology is built on relationships: between teachers and learners; those in charge and those in front of the class; experienced and newly-qualified; enthusiastic and disillusioned. Those relationships inspire emotion, and the situations that take place within the classroom inspire emotion. These emotional critical incidents occurring every day will continue to affect a teacher's current identity (Day and Leitch, 2001: 411), perhaps without them being aware of how or why a specific emotional incident was so important in their development. The reflection process may only begin after the TR has completed the research, or left the ecology, and can begin to look back and unpack the process they have undergone, with the benefit of hindsight. In this way, a past experience will continue to impact a practitioner's professional identity long after the critical incident has passed, and this in turn will subconsciously continue to impact within their ecology.

5.19.4 Impact on self as a practitioner – introspection and reflection

The three participants show evidence of self-awareness in terms of the impact action research has had on themselves as educational practitioners. They all refer to increased evaluation, reflection and adaptability, and a desire to share these enhanced skills with others. They are more likely to respond to classroom situations in a rational, reflective way, and require external support for the internal changes to their professional identity (Stenhouse, 1975; Day, 1985).

Liz deliberately set out to implement action research in a school which previously had no real history of teacher action research, but found she had to tread gently because of this:

*“I was coming in saying, ooh I've been doing this amazing project and research [...] aren't you all really excited and they were all like, not really, because they hadn't had the input that I'd had, **it meant I was so up for it but they were like, oh it's something else to do, so you had to be a little more subtle**” (Liz)*

As previously discussed, her elevated status meant that she had more agency in affecting change within her new school. However, she stresses several times that she feels action research is a vital element of her management and of her staff and students' teaching and learning, and she was therefore determined to integrate into her new job:

*“and I think that's why, I mean when I moved to Y school, and I got the assistant head job, **I just wanted it to be part of what we did** [...] we can link it to our school development plan, and **if that's what I've got to do in order to be able to do it then I will**” (Liz)*

Matt, on the other hand, shows awareness of how action research has impacted on his own teaching style and methods. He views the research process as fluid, flexible and almost subconscious, and makes his view clear that teachers should be adopting this kind of approach in their daily teaching, whether engaging in specific action research or not:

*“I would argue that you should be actively adapting your approach and your practice on a day to day basis, and you could even call that research in a way because **you're going out with what you think is a methodology for teaching in a particular subject to try it out, if it works then you may use it again and if it doesn't work then you might adapt it change it or try something completely different, and it's almost like a series of pilot studies**” (Matt)*

Matt's innovative style has had a major impact on his teaching methods but also on the colleagues that he has worked with and influenced, and as discussed, the impact of his research on his students has been, in his opinion, an improvement on their teaching and learning experience:

*“we've been trying to get the projects bigger and bigger and bigger [...] so as we've gone we've adapted the schemes of work and rejuvenated it, **we've got more and more of those key elements in and as we've been able to put those things in, the outcomes have been better for the students, much better**” (Matt)*

As impact becomes more noticeable on both the TR and the students in the ecology, then the TR's agency will also increase, giving them increased possibilities to push their research further. Liz talks about giving her teachers the opportunity to undertake research, but without making it a separate item on the agenda:

“that is just part of how we work here and the staff have had input on that now, not because I've said that it's an amazing product and we need to be doing it, but because we formulated that as part of what we want as school to be able to do, how we want them to learn and we've developed the curriculum with that in mind, and they then had the input along the way” (Liz)

However, this kind of organised, supported teacher action research could mean that teachers are “unwittingly channelled into taking on responsibility for solving problems and conflicts, the sources of which are manifestly outside their making” (Leitch and Day, 2000: 182).

Evidence-led teacher action research that caters to the whims of the school, rather than the curiosity of the TR, is unlikely to have the same level of impact on the ecology, the teacher's professional identity or their sense of agency.

5.19.5 Impact on awareness of others' engagement, enjoyment and progress

In Kate's historic interview, this improved self-awareness, reflection on her past experience, and its impact on her students was demonstrated by a "reflection-in-action" moment during an action research project that she was leading, as summarised by her interviewer:

*"[Kate] thought she was giving them meaningful positive experiences and was helping them to understand the [topic] that they hadn't done before [...]. About half way through she realised that if she had stopped and not helped them and let them work it out for themselves they would have got a lot more out of the experience. **Given her experience at School X she felt she should have known better than to try and intervene and since then she has been far more observant and less hasty to plough in.** For her it was the realisation she had got it wrong. **She had learnt from her mistakes.**" (summarised historic interview with Kate)*

The real impact for Kate from this research project was the relationship change between teachers and students. The reflection on how inquiry, innovation and reflection were impacting them on a personal and professional level was not limited to her as the lead TR, but manifested itself in her colleagues and students:

*"**They have gone through an emotional experience and experiential process so it stays with them.** The other thing is the relationship changes, some people say it's power shifts. **The students and teachers work more closely together, the students work more closely and the nature of the talk changes [...]** she has found that teachers start talking like students and students start giving longer answers to questions posed by teachers but they also ask more questions than they were ever allowed to before." (summarised historic interview with Kate)*

The greatest impact of undertaking action research appears to be an increased awareness of the teaching and learning environment and how it impacts on all the subjects involved. This in turn can lead to increased enjoyment and engagement for students, increased dialogue with colleagues and students, and increased agency for practitioners. A TR begins to understand themselves as a fully-rounded practitioner, capable of implementing change on both a classroom level and on a wider level through the people with whom they connect. On a wider scale, there is a need for pedagogical change to become a more thoughtful, reflective journey of single steps, and for the research community to begin to recognise “the importance of individual trees and not just the significance of the wood” (Casey, 2013: 152) – in other words, to recognise the importance of the research carried out by individual teacher action researchers within their own ecologies.

TRs themselves must therefore develop as reflective, evidence-led practitioners if they are to truly impact on both the immediate and the wider ecology around them. In this way, they can use action research in a way that transforms both themselves and the world around them.

Chapter 6: Conclusion

6.1 The phenomenon of identifying as a TR

6.1.1 *Reflecting on the perceived impact of engaging in action research*

As a TR, I experienced a phenomenon which altered my professional identity, my perception of my role in the classroom, and my pedagogical knowledge. Others I had worked with must, I reasoned, have undergone a similar process of professional development and change through engaging in action research. In choosing to examine their perceptions of their lived realities, I hoped to make sense of my own. My research question of “what is a teacher action researcher’s perception of the impact of engaging in action research?” refers to the concept of being an ‘agent of change’ (Biesta and Tedder, 2007; Priestley, Edwards, Miller and Priestley, 2012; Elliot, 2007; van der Heijden *et al.*, 2015), which I feel is an accurate definition of a teacher action researcher, as in engaging in the research process, the practitioner effects change on many levels. Their research aim is usually to change and impact their immediate educational ecology: students, colleagues, the teaching and learning methods used, the curriculum or even the school ethos and policies.

This impact can often be observable through evidence in the form of data or less tangible effects such as increases in self-confidence, self-efficacy and motivation. The ecology in turn changes and influences the practitioner, and the impact of their research is dependent on the contextual, historic, cultural and social conditions in each ecology in which they work (Biesta and Tedder, 2007). In effecting change in their ecology, the practitioner’s agency is heightened, and their professional identity as a TR is nurtured. My original contribution to the field of educational research regarding classroom-based action research and those who engage in it is therefore the deeper investigation into the perceptions of these TRs and how their experiences have shaped their identities. I have focused on what is particular about a TR’s perception of their professional identity and agency, as opposed to professional identity and agency in general or to that of teachers not regularly engaged in teacher action research. My research has uncovered how TR identity develops throughout the course of a TR’s career both when engaging in research and when they are not able to or choose not to, and how it is related to their ecology, from the narratives of the TRs themselves and their version of their lived experiences in the role.

6.1.2 *Summary of the research study*

The study focused on a small sample of three TRs in a narrative inquiry which explored their perceptions of the significance and impact of engaging in classroom-based action research. To help formulate a research question and establish if there was a potential impact and significance when actively engaging in research on either practitioner or ecology, a preliminary closed questionnaire was used with selected TRs who I had known or worked alongside. Interviews using semi-structured questions were then conducted with three participants, selected from the original sample for the potential variation and their past experience as TRs, and historic interview transcripts were sourced, and permission obtained to give a longitudinal view.

A hermeneutic phenomenological approach was appropriate for this small sample narrative inquiry, and interview transcripts were analysed using Interpretive Phenomenological Analysis (IPA). An interpretivist stance meant that I could analyse data through the conceptual lens of my own experience as a TR. Some measure of bias and empathy was anticipated and allowed because of this experience, to explore the perceptions of the participants in an empathetic manner. Transcripts were coded for emerging themes from each in turn, and these were used to inform the next stage of the process. The emerging themes were grouped into superordinate themes of perceived professional identity, perceived agency, and impact of and on the educational ecology, and a model was created to help explain the important relationship between these three factors.

6.2 Main findings

6.2.1 *Superordinate theme – perceived professional identity*

Professional identity is constantly evolving from even before a teacher enters the classroom, and is iterative – strongly influenced by past experiences, rooted in current circumstances, and shaped by future aspirations. It can be influenced by others, positively or negatively, and can be altered depending on ecology and circumstances (Buchanan, 2015). Perceptions of professional identity are also linked to perceptions of personal identity, hence the suggestion of being “that type of person”, but there is no guarantee that any teacher will naturally become a TR, as other factors need to be present for this to be become a dimension of their

professional identity. Indeed, both the literature and the analysis of the three participants' interviews illustrated Beijaard, Meijer and Verloop's (2004) claim that identity is not simply something that one has, but something that one develops throughout one's whole life (p107).

The three participants' narratives demonstrated many of the traits that define a TR identity, such as a willingness to take risks (Goodnough, 2010), a blurring of boundaries in order to create co-researchers of their students and veer off the lesson and capture 'unteachable' moments (Lasky, 2005), and an awareness of becoming a more reflective, critical practitioner (Cochran-Smith and Lytle, 1999). The concept of reflection is a major part of a research process, and this reflection was clear within the participants' narratives, even if it was not apparent to them at the time how their identity was evolving and how their role was changing (Casey, 2013; Leitch and Day, 2000; Postholm and Skrovset, 2013). With hindsight, the participants were able to acknowledge that their development as practitioners had been strongly influenced by their experiences as TRs (*"I'm not the person I was"* – Kate). They also had increased awareness that the emotional aspects of their experiences (Day and Leitch, 2001), both positive (as in the case of Matt, and his perceived successful inquiry project outcomes) and negative (as in the case of Kate, and her perceived unsupportive ecology), resonated with them long after the critical incident had occurred and impacted on their identity development. Action research is therefore a way for teachers to undertake self-reflective inquiry to improve their understanding and rationality of their practice, and the ecology in which they work (Carr and Kemmis, 1986: 162).

A concept worth exploring further is how aspects of professional identity can be put aside or usurped by others. In Liz's case, her perception of herself as a TR is overruled by her overt definition of herself as a headteacher, and this is how she mainly refers to herself throughout her narrative. Her past experience as a TR exerts a huge influence on the way that she runs her school and manages her staff, but her main professional priorities, as shown in Model 2, are governed by directives from external agencies such as Ofsted and government policy. An area of further study could be to explore the impact on perceived professional identity of taking on senior management roles, and how this impacts on their ability and willingness to engage in action research. Certainly, Liz's reasons and motivation for engaging in action research have evolved as she has moved from teacher action researcher to senior manager

to headteacher. It would therefore be interesting to examine how other aspects of professional identity can create conflict within a teacher action researcher.

6.2.2 Superordinate theme – perceived agency fluctuations

We have seen that TRs with past experience in action research may have greater capacity as an agent of change, as successful research project outcomes can heighten agency. However, unsuccessful research outcomes do not necessarily lower sense of agency, depending on strength of professional identity. A practitioner uses their past experiences, whether positive or negative, along with the conditions and resources available to them in the present. Added to this is an orientation towards the future, and an aspirational view of the future pathways and changes they wish to make. These three temporal conditions give the TR greater capacity for agency (Priestley, Biesta and Robinson, 2012). Liz is a prime example of this heightened agency, and she appears to have reflected on each successive experience to help focus on her future aspirations and used the ecological conditions in which she has found herself to facilitate her development as a practitioner. Her internal influences of self-efficacy, motivation and ambition (Model 2, p138) have helped her develop what she perceives to be an elevated capacity for agency, which has been made stronger still by her responsibility as a headteacher.

A stronger sense of agency can strengthen the innovative and experimental dimension of professional identity, and a committed professional identity can strengthen agency (Beauchamp and Thomas, 2009). Matt demonstrates this through his heightened agency and his committed professional identity, which are closely intertwined (Model 3, p140). A TR such as Matt in what he perceives as a supportive and encouraging environment, conducive to innovation, creativity and experimentation in the classroom, is more likely to have agency to effect research that has a meaningful impact and can be replicated across other contexts. Teachers who feel they have the freedom to innovate, rather than being forced to comply with Ofsted-driven teaching directives which make them feel constrained and anxious, tend to have heightened agency (Godfrey, 2014; Brown and Zhang, 2016). An increased agency can remain stable when moving from one ecology to another, but agency is dependent on environmental conditions (Biesta and Tedder, 2007), and in an ecology which is unsupportive or outcomes-driven, agency can weaken (Biesta, 2004). Kate's professional identity suffered

when she found herself in an unsupportive ecology, but her agency, though weaker than previously, was strong enough to allow her to conduct research without the support of her management or colleagues. In this case, she felt she had purpose to her research, and this was enough to allow her to engage in the process (Priestley, Biesta and Robinson, 2012; Bandura and Locke, 2003). *“I am a teacher who will seize any opportunity to use research and be involved in research” (Kate)*. Kate is an active learner (Toom *et al.*, 2015) whose professional identity development has seen the most fluctuations, but retains a strong TR dimension, despite being no longer involved in teacher action research.

6.2.3 *Superordinate theme – relationship between the educational ecology and identity and agency development*

Ecology has a profound effect on agency and identity development, and according to Beijaard, Verloop and Vermunt (2000), the teaching and learning culture of a school plays a major part in the development of a TR’s professional identity. Indeed, each of the participants illustrate how an ecology perceived as supportive or unsupportive can influence their development as research-led practitioners (Flores and Day, 2006; Goodnough, 2010). Often, a TR is introduced to action research by an outside agency or experienced TR, and guidance or support both within and outside the ecology seems necessary, particularly in preliminary stages of researcher identity development. Voluntary engagement in a research process is more conducive to heightened agency and stronger professional identity development and is more likely to lead to greater impact on the ecology (Biesta, Priestley and Robinson, 2015), and certainly Liz is a good example of this. She engaged in action research, supported by both her school and outside agencies, and developed a strongly committed identity as a result, with heightened agency, and an observable impact on her ecology. Her current role sees her incorporating what she views as an action research programme into her staff’s compulsory CPD, and this may not be as effective in terms of long-lasting impact or identity development.

Most significantly, TRs seem to be most influenced in terms of agency and identity development by a noticeable impact on their immediate ecology and are less influenced or interested in replicability or impact outside their ecology. Agency within the ecology appears more important. An unsupportive ecology does not necessarily lead to lower sense of agency or weaker identity as a TR and can actually do the opposite, if we take Kate as an example.

Even if a practitioner is no longer in an active TR role, professional identity retains aspects of this and has been shaped by past experiences, so it is difficult to extract that dimension of the self. This means that once a TR identity is established, it is difficult to step back into a non-research mindset and teach “*off the shelf*” (Matt). Professional identity is constantly evolving but cumulatively, using past experience to adapt in a practical-evaluative manner to new situations (Emirbayer and Mische, 1998). Being able to confidently define oneself as a TR in a supportive ecology which allows that definition therefore leads to increased agency in both the current and potentially future ecologies.

6.2.4 *Perceived impact on the teacher action researcher when engaging in research*

There are a number of key factors which illustrate the impact that identifying as a TR has, both on the practitioner and their immediate ecology. In terms of the practitioner themselves, engaging in teacher action research can heighten agency, increase motivation and improve commitment to new initiatives (Higgins *et al.*, 2007; Bandura and Locke, 2003; Banegas *et al.*, 2013). This can have consequent effects of increasing the motivation of their students, increasing the potential for collaboration with colleagues or dissemination of evidence across the ecology, and increasing the likelihood of new initiatives being successfully integrated into curriculum and policy.

The practitioner cultivates a professional identity which builds on their previous experiences in an iterative manner, even if those experiences were not specifically whilst in a TR role. Professional identity begins to develop from the very early stages of a teacher’s career, and every experience during that career has an emotional aspect which also adds a dimension to the self and can affect current practice and future aspirations of the teacher they wish to be. Engaging in action research helps a practitioner to understand their practice differently, gives them a new view on their professional identity, and provides them with a sense a purpose in the classroom (Biesta, 2007a). This study’s findings support this hypothesis, and the models help to illustrate how the participants’ perceptions of their professional identity have evolved over the course of their career.

In terms of how identifying as a TR can impact on the practitioner's immediate ecology, there is a reciprocal influence between the conditions of the ecology and the developing professional identity and agency of the practitioner. This fluctuates and alters depending on the constantly changing nature of the conditions of both ecology and practitioner. However, there is the potential for lasting impact on the immediate ecology (and possibly further afield) if the practitioner can use evidence and findings to influence ecological policy, curriculum or student outcomes, or if they can share their findings and disseminate a replicable research theory to others in their ecology or outside in a wider network. Teachers and schools can be encouraged to share good practice and learn from each other through networks of TRs (Greany, 2014; Brown and Zhang, 2016). Liz, Matt and Kate have all had an observable lasting impact on their students, colleagues and school policies as a result of engaging in action research. This has occurred through a combination of an increase in agency and identity commitment; findings generated from their research being used to inform policy or curriculum development; and collaborating, training or leading colleagues to incorporate a research-informed approach into their teaching and learning, therefore disseminating their knowledge and skills across a wider ecology.

The principal impact of engaging in action research is on the TR's professional identity, and it is this impact that then influences their agency and the impact on the ecology, though the three aspects are inextricably linked. The impact of their research experiences appears to continue being a part of their professional identity throughout their career, no matter what their role or if they are engaged in research. This evolution of professional identity is influenced by aspects of personal identity, in the sense of being "*that kind of person*" (Matt's perceptions of his personality); by support and guidance within the ecology (Kate's early experiences); or by support from outside agencies (Liz's work with large-scale external research projects). An observable impact on their immediate ecology can increase agency and strengthen professional identity, but if these two factors are strongly cemented, a lack of observable successful impact does not necessarily reduce agency or weaken identity.

6.2.5 Impact of this research on a personal and professional level

As discussed earlier, true knowledge of a subject requires in-depth experience (Dadds, 2002: 19). My experience as a TR gave me valuable insight into the phenomenon of engaging in action research and allowed me to give a voice more easily to the TR participants in the study. Though I agree with Hammersley (1993) in his claim that there are no real advantages to being an insider or an outsider in educational research, as both have their benefits and uses, I feel that in this study, examining the data through the conceptual lens of my experience gave a different view than if I had had no previous involvement in action research. This work was in many ways a continuation of my action research work in the classroom, and I believe that I was following Baumfield, Hall and Wall's (2008) definition that action research is "a process of beginning with engaging *in* research as the stimulus for engaging *with* research (Baumfield, Hall *et al.*, 2007)" (p122). My engagement in action research gave me experience of a phenomenon that could only be shared and understood by others who had also experienced that phenomenon and likewise, their experience of that phenomenon could be understood and shared by me as a researcher into the phenomenon.

As a researcher, the process has facilitated an increasing awareness of how professional identity develops throughout a career and this will certainly impact on future action research projects. It would be interesting to explore if participating in this study has increased the three TRs' awareness and reflection on how their identity is constantly evolving. It may be that by being prompted to examine their history of engagement in action research, they now consider their involvement in current and future projects by reflecting on their previous experiences. Certainly, it has led me to consider my own professional identity development and how my career has progressed with fluctuations of agency and varying levels on impact on and by my changing ecologies.

6.2.6 Impact of this research in relation to transferability and significance for individual teachers

The findings from this study should firstly reassure those TRs who are working in unsupportive institutions, who are overwhelmed by their workload and may resent being unable to actively engage in research, or who are producing successful outcomes but are unable to see the impact on their immediate ecology or beyond. Defining oneself as a TR has lifelong

repercussions on professional identity but is only one dimension of that identity. Experiences in action research nurture and develop a practitioner's identity and agency, and therefore this study will remind practitioners that engaging in research, either alone or collaborating with others within or outside the ecology, is a worthy use of their precious time and resources, and has the potential to impact on themselves, others and their ecology.

As discussed earlier, too often teacher action research is only disseminated within their own ecology and does not reach practitioners outside their ecology, or the realms of academic educational research. Dadds (1998) makes the valid point that TR action research is not considered reliable enough or does not have enough transferability to be of true value to anyone but the TR themselves and their own educational ecology. However, this study shows that TR action research impacts on a practitioner in ways that then impact on their ecology; their professional identity development and their agency are affected by their involvement in action research which leads to changes in their own teaching and learning and potentially that of others with whom they work.

Cook (2009) defines validity in research as a discipline which forces the researcher to question, critique and engage with data to make them thoroughly explore their understanding (p15), and I feel this also holds true for participants in a research project and readers of a research project. The participants in the project were invited to engage with the process and explore their experiences in a way which could impact on their self-awareness and reflexivity. Practitioners accessing this research project would also be prompted to examine their own experiences and begin to appreciate the critical moments of their action research. As Kemmis (2009) observed, a TR is more likely to grasp the "here-and-now-ness" of a classroom ecology and engage with the whole experience of being a classroom practitioner and a TR (p891). Practitioners involved with action research should find that this study resonates with their own experiences, and this gives a level of validity to the project. In terms of transferability, the themes which emerged from the narratives can be used by researchers or by TRs themselves to examine their own lived experiences, and within communities of inquiry (Cook, 2009: 13), TRs can use the themes of perceived professional identity development and perceived agency development to explore how action research can be used as a positive professional development model. Action research can be used to

improve practice, but it must be implemented with practitioners' full support, as we have seen that enforced engagement in action research does not lead to the same level of professional identity and agency development. This study can therefore be used as an example of the positive impact of engaging in action research on practitioners, and as a tool to explore other TRs' experiences which would lead to a greater understanding of the phenomenon.

6.3 Conclusion

6.3.1 *Contribution and further implications*

This research project can hopefully be disseminated via several different channels. Firstly, the newly formed Chartered College of Teaching has plans to offer educational research from both academic researchers and teacher action researchers, and this project could therefore be made available to practitioners engaged in action research in their schools. Secondly, the project can be made available through BERA conferences, network meetings and their website, and TRs could begin to contribute to a BERA blog to share their experiences and explore the phenomenon together. Thirdly, it is important that new teachers understand the importance of engaging in action research and are given the tools to be able to do this. Initial teacher training, both in university settings and vocational settings, needs to provide training in research methods and techniques in order to improve the validity and reliability of action research, and make it more accessible and achievable for practitioners to become involved. This project could be used as evidence that engaging in action research can and does have a positive impact on both practitioners and ecologies, to encourage new and early career teachers to become involved in action research projects led by outside agencies or of their own accord, and to share their findings with others.

6.3.2 *Next steps*

In terms of further research, there is potential to study a larger sample of TRs to examine the phenomenon in more breadth, or alternatively to use another small sample study to investigate further how professional identity is developed and use critical incidents to explore how particular research experiences as a TR can impact on their evolving identity in both

positive and negative ways. A similar phenomenological study could be undertaken across an educational institution to gauge if professional identity and agency can be heightened and developed when in a supportive working ecology and used to form a research-based professional development programme. Most importantly, action research must develop a reputation as being as valid and reliable as academic research, and for this to happen, the action research being undertaken must have academic rigour and follow recognised research methods. Teacher action researchers must therefore be trained in these research methods; given access to academic research; given time and support within their ecologies to undertake the background reading needed and to give the commitment to formal study; and have contact with communities of inquiry with whom they can discuss the process, findings and implications of their work.

This study stands as a valid insight into the perceptions of those practitioners who engage in action research and can help us to understand the importance of teacher action research to teachers, students and institutions. By investigating how engaging in the process of action research can impact on a practitioner's perceptions of professional identity and agency, I have hopefully paved the way for further research focusing on teacher action researchers and the impact that engaging in action research has on them and their ecologies, as it is they who can transform education from the inside.

Appendix A: Table showing IPA coding of transcripts.

Table 12a: Table showing IPA coding of transcripts for superordinate theme of perceived identity.

	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6
Identity	<p>Being told v. thinking for self</p> <p>Trying new things</p> <p>Learning curve</p> <p>Comfort zone/uncomfortable</p> <p>Willing to give it a go</p> <p>Genuinely interested in others</p> <p>No right or wrong</p> <p>Willing to experiment on/with staff</p> <p>Innovation is important</p>	<p>Engage in research in different ways</p> <p>Choice between T and academic</p> <p>Transitions between T – TR – R</p>	<p>School ethos</p> <p>“Service provider” to students</p>	<p>Passing on TR skills</p> <p>Wants to support T to become TRs</p> <p>TRs become different people and want to share this</p> <p>See people change in short time when engage in R</p>		<p>View of outsiders</p> <p>Others see as R not TR or R not T</p> <p>TR exp has influenced T identity and style</p> <p>Internalised</p> <p>Thinks in TR way</p> <p>Changed mindset</p> <p>Intuitive</p> <p>Learnt behaviour?</p> <p>T in particular way and mindset changes</p> <p>Thinks as R/TR</p>

Codes were taken from all three transcripts and organised into three superordinate themes and six cross-cutting themes.

Table 12b: Table showing IPA coding of transcripts for superordinate theme of perceived identity.

	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6
	Needs to innovate and create Excitement in innovation					TR is within person Reflective practitioner Wasn't aware Recognises role of past experience "That kind of person"
						Many types of TR Creative personality Curious and daring Determination Gives confidence

Table 13: Table showing IPA coding of transcripts for superordinate theme of perceived agency.

	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6
Agency	<p>Using initiative "Extras" on top of daily job Added extra to teaching Experimentation and innovation Enquiry TRs made but naturally curious Trying different things</p>	<p>Influenced by research Backed up by research Teachers should be research-influenced Refer to other peoples' research</p>	<p>R integrated into teaching</p>	<p>Responsibility = more ability Train others as self Involving staff in decisions Giving responsibility Ts can take on something if exposed to it Contractual agency Consider needs of others Working with/for SS Shared objectives Involvement and dialogue Collective input Co-researchers in new innovation Conversation Working together</p>	<p>Wider work with LA Support from outside agencies SDP/SMT request SMT support CPD turns into action research Opportunity Safety net for innovation Opportunities to be involved in new things Freedom to research Autonomy Allowed to be innovative/creative in role Freedom to jump on critical moments</p>	<p>Lack of support from SMT Fewer opportunities available Schools wary about research</p>

Table 14: Table showing IPA coding of transcripts for superordinate theme related to ecology

	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6
Ecology	<p>One opportunity leads to another</p> <p>Recognises opportunities</p> <p>Space to explore if context allows it</p> <p>Research gives framework to bold and curious</p> <p>Constant research cycle as school</p> <p>Fluidity</p> <p>Experimentation</p> <p>Becoming experimental</p>	<p>Putting R and practice together</p> <p>Academic expertise and educational practice</p>	<p>R integrated into teaching</p> <p>Impact on wider level</p> <p>Lasting impact on other teachers</p> <p>Peoples' reactions</p> <p>Students' reactions</p> <p>Increased enjoyment and engagement</p>	<p>Happy to share perceptions</p> <p>Not moving people on but working with people</p> <p>Gives staff CPD opportunities</p> <p>Wants to train staff as self</p> <p>Supports staff CPD/TRs</p> <p>Passing on TR skills</p> <p>TR experience affects how teach others about research</p> <p>Assimilated into school</p> <p>Observes others for evidence of own TR skills</p> <p>Empower students</p>		<p>Unsure of impact</p> <p>Can't measure true impact</p> <p>TR research not considered reliable</p> <p>Constantly evaluating</p> <p>Constant attempts to improve</p> <p>Aware of impact on other Ts/colleagues</p> <p>Integrated part of self</p> <p>Adaptation and rejuvenation</p> <p>Empowerment</p> <p>Data v. impact on SS/Self</p> <p>Start slowly to ensure impact</p> <p>Outcomes</p> <p>Retention by students</p>

Appendix B: Examples of transcript excerpts for each participant's feedback

Once transcripts were coded and themes identified, quotations were extracted which illustrated the participants' perceptions of each cross-cutting theme within each superordinate theme. These were sent to participants for feedback, and they had the opportunity to agree or disagree with how their narrative had been interpreted.

Transcript excerpts for participant LIZ

Superordinate theme A: AGENCY

Theme 1: Innovation and creativity in educational practice

Using initiative

we had this kind of approach where we would try it out first, suss it out, see if things work, if there was an impact, if this was something that we'd want to do whole school, and then from there we'd then present it to them and it would go through in the classes

"Extras" on top of daily job

we wrote it up and we looked into you know the reason why we chose to research what we researched although I always linked mine a lot to the school development plan because I felt like we had to because otherwise it would just be something else we had to do,

I think that actually the creativity and the doing things differently and the trying new things and the extras will also give you the impact on the stuff you've got to do, by doing these things we can improve progress because it's about how children learn and how engaged they are etc but it's still introducing another thing, another strategy, another way of doing something,

you've got to be in a position as a school where what you're doing on a daily basis works and then ok let's make that work by doing these things instead of the bottom line things, you can merge the two, but you've just got to be secure that you can prove the impact of the daily stuff before you start you know poking about with the creativity and things, rightly or wrongly

Experimentation and innovation

so I think you could perhaps be one without realising it just because you're that kind of person who wants to try new things and is abreast of the latest developments and is interested in seeing how that applied to their context

Trying different things

a non teacher-researcher might be trying things, kind of researching in the loosest term but for me a teacher-researcher is you know right i'm going to find this out, i'm doing it for this purpose, i'm going to be looking into these different pieces of research that other people have done and i'm going to present the findings and write it up

Figure 1: Examples of participant quotations in coded themes (Liz)

Transcript excerpts for participant MATT

Superordinate theme C: IDENTITY

Theme 1: Innovation and creativity in educational practice

Being told v. thinking for self

if those kids are sitting in a classroom getting bombarded with new teaching and learning strategies every week just because it's done for the sake of doing it they're probably not going to engage, they're not going to enjoy themselves, they're not going to get anything out of it educationally, we're just doing it as teachers because it's the thing that we're being told to do so you have to always be keen to do it

Learning curve

I like that sort of approach to research, being quite honest and open with the kids about it and turning round and saying well this is new, I've heard about this, we're going to give it a try, let me know what you think and involving them in the dialogue and the discussion of it and the evaluation process afterwards and not jumping two-footed into something as well if someone presents something,

Comfort zone/uncomfortable

just as an example or genres of films where like you say other people know what they like and know what they want and feel comfortable in that situation so don't, whereas I feel more comfortable being uncomfortable

Willing to give it a go

it comes back to that thing are you willing to give something a go then meeting with [named colleagues] in the first place from the university was just by chance because of a meeting that they were having with an ATT teacher about make do and mend, it turned out that what we were doing was actually more appropriate to what they were doing, and it was by chance, went down, spoke to them, do you fancy doing this, yeah we'll give it a go, and then it's ended up in this. Whereas if it had been another teacher they might have thought, well have I got time

Needs to innovate and create

I'd go mental if I had to do the same thing every day for the next, well if the current government have their own way, till we're 68, and the rest, like if I had to do the same thing every day for all those years, and not change or not innovate, or try to get better at what I'm doing, it's not what I got into teaching for, and by no means is the way we're doing things now perfect, so it's not like we can just stay standing still,

Figure 2: Examples of participant quotations in coded themes (Matt)

Transcript excerpts for participant KATE

Superordinate theme A: AGENCY

Theme 4: Collaborative research within the immediate ecology

Contractual agency

you're in a contract with your environment, and you'll do what you think you can get away with or you do what, so you might be the teacher who has their door shut and be doing all kinds of thinking skills and all that etc etc or you might say I've got to do this anyway because it's what I believe in as an informed educational practitioner not necessarily researcher, but an educational practitioner so putting research and practice together

there's a danger that people focus on a certain amount of academic expertise, and I think as a teacher in a school you need to be rounded, you need to have knowledge about education

Working for Students

and working towards developing better outcomes for students, making learning more pleasurable, getting them to understand themselves through metacognitive techniques etc

and there again I wasn't given any research remit per se, but I got a real stinker of a year 9 languages class and you could just feel the bristle as they walked into the classroom, there was no way on earth I was going to be able to teach them languages so we did some enquiry

I would like to be given the freedom to work with other teachers and other students to just mess around with learning and different forms of learning, it doesn't always have to be in a classroom, it doesn't always have to be behind a desk, it can be so many different ways, and the thing that I really liked with enquiry and we didn't get that far through it would be what happens if you give kids complete freedom to learn what they want to learn, almost like being home schooled, not kind of

Working together

the same with teachers, because again they always say haven't got time, haven't got resources, ok, what is it that you really want to work on, we will make it possible, we'll let you teach less this year, because I really want you to focus on it, making them responsible for their own time, making them responsible for their own resources, making them responsible for getting off their bums and bothering themselves about something, that's the job that I would want, doesn't exist yet though

Figure 3: Examples of participant quotations in coded themes (Kate)

Appendix C: Pilot study questionnaire.

PLEASE RESPOND TO THE FOLLOWING QUESTIONS BY SELECTING THE APPROPRIATE ANSWER(S).

Please give extra details where necessary. Responses will be used to help structure a potential follow-up interview. The next phase of my research is to follow up individual teacher-researcher journeys. If you are happy to be contacted about this please provide me with your contact details in the consent section below.

- 1) Do you consider yourself to be a "teacher-researcher"?
 - YES
 - NO
 - SOMETIMES

- 2) Do you consider yourself to be an "agent of change"?
 - YES
 - NO
 - SOMETIMES

- 3) Are you /have you been able to conduct research within your current or previous educational setting(s)?

YES, frequently (please give details)

YES, but it was dependent on certain factors (please give details)

YES, but only for a particular project or reason (please give details)

NO (please state reasons)

- 4) Do you feel that your research has / has had a lasting impact on the education setting in which you work?
 - YES
 - NO

- 5) Do you feel that you have contributed to the field of educational research?
 - YES
 - NO

- 6) What are/were your reasons behind doing research? (Select all that apply)
 - PERSONAL INTEREST IN EDUCATION
 - PERSONAL DEVELOPMENT (EG VOLUNTARY UNIVERSITY COURSE TO ENHANCE/CHANGE CAREER PATH)
 - PROFESSIONAL DEVELOPMENT / SCHOOL-BASED CPD
 - REQUIREMENT DUE TO COURSE/SCHOOL RESPONSIBILITY/REQUEST FROM SMT

OTHER _____

- 7) What do/did you hope will/would be the impact? (Select all that apply)
- IMPACT ON STUDENTS AND/OR LEARNING
 - IMPACT ON TEACHING METHODS/STYLES
 - CHANGE IN MINDSET OF SELF/STUDENTS/COLLEAGUES/SCHOOL
 - WIDER IMPACT ON WHOLE SCHOOL ETHOS/POLICY
 - WIDER IMPACT ON LA/GOVERNMENT POLICY
 - WIDER IMPACT ON EDUCATIONAL RESEARCH
- OTHER _____
- 8) What do/did you perceive to be the actual impact? (Select all that apply)
- IMPACT ON STUDENTS AND/OR LEARNING
 - IMPACT ON TEACHING METHODS/STYLES
 - CHANGE IN MINDSET OF SELF/STUDENTS/COLLEAGUES/SCHOOL
 - WIDER IMPACT ON WHOLE SCHOOL ETHOS/POLICY
 - WIDER IMPACT ON LA/GOVERNMENT POLICY
 - WIDER IMPACT ON EDUCATIONAL RESEARCH
- OTHER _____
- 9) Do you believe that teachers/teacher-researchers can actually improve educational practice through classroom-based research?
- YES
 - NO
 - SOMETIMES
- 10) Do you believe that over the last decade TRs|across the UK have had an impact on:
- a) their own practice YES NO DON'T KNOW
- b) their own classroom/learning environment YES NO DON'T KNOW
- c) their department/faculty/circle of colleagues YES NO DON'T KNOW
- d) their current school management team YES NO DON'T KNOW
- e) their whole school ethos and teaching and learning methods YES NO DON'T KNOW
- f) a wider circle of colleagues and/or schools YES NO DON'T KNOW
- g) LA or government policy YES NO DON'T KNOW
- h) educational literature via academic journals etc YES NO DON'T KNOW
- i) the UK education system as a whole YES NO DON'T KNOW

NAME: _____ CURRENT/ MOST RECENT EDUCATIONAL ROLE: _____ I consent to my responses being used as part of a research project and I understand that I will remain anonymous in all transcription, analysis and discussion. YES / NO I would like to take part in further research and can be contacted at (email/phone): _____ <p style="text-align: center;"><i>Thank you for taking the time to complete this questionnaire.</i></p>

Figure 4: Pilot study questionnaire

Appendix D: Interview Schedule.

The interview schedule was decided using the pilot questionnaire responses as a guide. The responses showed that there was merit in asking participants to narrate their perceptions of being a TR and of the impact their research had had on themselves and their ecologies.

The schedule of semi-structured questions was emailed to participants in advance and thus they had time to prepare their answers. However, the nature of the co-constructed conversation meant that there were deviations in the schedule, and I as the interviewer was able to probe points with extra questions and allow participants to go into detail where necessary.

Interview Schedule:

- 1) What does the term “Teacher-researcher” mean to you? Do you consider yourself to be a TR? If yes, why? If no, why?
- 2) Do you feel there is a difference between TRs and non TRs? Why?
- 3) Do you think your research has had an impact on your immediate ecology, i.e. your teaching and learning environment? Why/how?
- 4) Do you think your research has had a long-lasting impact on your ecology? Why/how?
- 5) Do you think your research has had an impact on the wider context outside your immediate environment? Why/how?

Figure 5: Interview schedule (Feb 2015)

Interviews were conducted by telephone (one participant) and then in person (two participants) in February 2015. Following a phenomenological process, each interview informed the consequent interviews, and there were variations in probes, though the five principle questions were posed in each interview. Interviews were recorded using a portable device and full transcripts made.

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