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Action research as a Model for the Professional Development and Learning of Teachers: A case-study
of the implementation of the R&D Programme in an Essex independent school.

By

Sophie St Clair Jones

A thesis submitted for the degree of Doctor of Philosophy

School of Education

Durham University

2024

Abstract

This thesis explores the use of action research as a method for the professional development and learning (PDL) of teachers. There are several reported benefits to practitioners engaging in action research and as a teaching practitioner, I experienced these benefits first hand when conducting action research within my own classroom. However, neither in my practice or in the existing literature did I find much advice on how to implement a whole school PDL programme underpinned by action research. As such, this study aims to investigate the barriers and enablers to the implementation of just such a programme.

To explore this topic, I completed a systematic review of the existing literature. I followed the PRISMA protocol to identify relevant literature and Reflexive Thematic Analysis to synthesise their findings. This provided a breadth of understanding of the current state of knowledge in this field. To gain a depth of understanding and explore the intricacies of how an action research model for PDL can be implemented, I also completed a case study of the implementation of a programme of action research for PDL in the school in which I was working. My case study adopted a single, embedded case design and I used Reflexive Thematic Analysis to identify themes in the interview, survey and field note data sets I collected. As a practitioner-researcher, reflexivity was key throughout the completion of my research to ensure its trustworthiness, transparency, and ethicality. I identified several items which, depending on how they are managed, could be either a barrier or an enabler to the implementation of action research for PDL in a school.

Action research can be a powerful tool for PDL, but close attention needs to be paid to implementation to ensure its sustainability and efficacy. Through considering existing frameworks for implementation in conjunction with the barriers and enablers identified through my research, practitioners can use the knowledge I present in this thesis to inform the design, development, and implementation of their own action research model for PDL.

Keywords: Action research, Professional Development and Learning, Practitioner Research

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List of Abbreviations

TIDieR - Template for Intervention Description and Replication

NQT – Newly Qualified Teacher

ECT – Early Career Teacher

SLT – Senior Leadership Team

PGCE – Post Graduate Certificate of Education

R&D – Research and Development

PDL – Professional Development and Learning

STEM – Science, Technology, Engineering, and Maths

EFL – English as a Foreign Language

PE – Physical Education

Declaration

I declare that this thesis is my own work. No material contained in this thesis has previously been submitted for a degree in this or any other institution.

Statement of Copyright

The copyright of this thesis rests with the author. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledged.

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Thank you to my parents for your constant encouragement and unwavering belief in me.

Thank you to all the practitioners who contributed to my case study research through the design and development of the R&D Programme and the completion of questionnaires and interviews.

Dedication

This thesis is dedicated to the eldest and youngest members of my family. To my Granddad, David. I submitted this thesis on your 97th birthday, as I promised I would. Your kindness and curiosity have always been an inspiration to me. To Jasper, my son, you are 5 months old and snoozing on my lap as I write this dedication. I hope that you too find joy in learning.

1. Introduction

I am first and foremost a practitioner having worked my whole professional life as a secondary school science teacher. As a practitioner, like many in my profession, I have often felt time poor and, especially at the end of the winter term, tired. As such, at my core is an impatience for activities which I feel to be inefficient, superfluous, and performative. I understand that there are external pressures for schools to tick certain boxes and meet certain standards but I cannot help but feel affronted when I am asked to do something I cannot see the benefit of for my students - marking books for the sake of marking books, the frantic preparation of a school ahead of an inspection, the forcing of a new initiative on a school because it has worked well somewhere else. Do not get me wrong, I like to think of myself as open-minded, I like to think that I give due consideration to proposed new initiatives, but I also desperately want to see the evidence of their impact, not just at the point of instigation but throughout their implementation. As a product of this disposition, I have always maintained research alongside my practice, first through the completion of a master's degree, then through the completion of various action research projects for my own interest, and now through the completion of this thesis.

In this thesis, I explore the use of action research as a model for professional development and learning (PDL). In my career to date, action research is the model for PDL which has most intrigued me as it provides evidence of impact. My thesis explores the existing literature on this topic and presents my learnings from the implementation of a Research and Development (R&D) Programme for PDL based on action research which I led in the school I was working for all 200 practitioners. In this first chapter I present my rationale for this thesis, the aims and significance of my research, my research questions, my positionality, and an overview of the rest of my thesis.

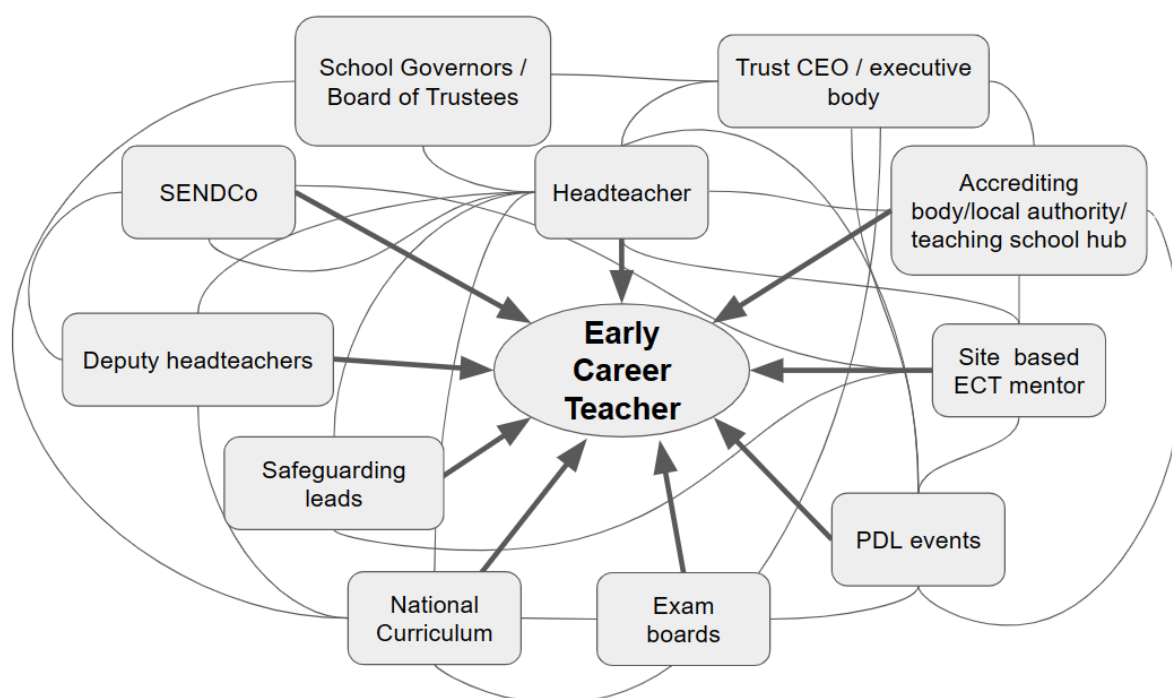
Through completing this thesis, I have continued my journey from 'practitioner' to 'practitioner-researcher', but I have not yet arrived. The whole-person development of a researcher which happens through the research process (Attia & Edge, 2017, p. 41) means that, to me,

‘practitioner-researcher’ is an evolving state. My hope is that what I present in these pages can be used, developed, and expanded upon by practitioners, researchers, and practitioner-researchers alike.

1.1 Rationale

My interest in effective PDL arose early in my teaching career, from my experiences as a newly qualified teacher. I felt bombarded by information on how to be a good teacher and which tools and techniques to use in my classroom. Sources of information were numerous, and I did not know which advice to listen to and which to ignore. I would trial a new approach one term but, by the next term, would be onto something different, having never satisfactorily realised my first big idea. In my reading, I found an illustration of the ‘blizzard of guidance’ which many new teachers report experiencing in the USA (Bryk et al., 2015). I felt the messy diagram Bryk et al. presented summarised the situation I found myself in, Figure 1.1 is my adaptation of the ‘blizzard of guidance’ to illustrate my experience as a new teacher in the UK.

Figure 1.1 - *Illustration of the blizzard of guidance experienced by me, a new teacher in the UK*



In the earlier years of my career, my experience of PDL in the workplace had been predominantly lecture-based. While interesting, often these lectures were not tailored to my specific needs, nor did they provide me with continued support and guidance. More broadly, I had noticed a lack of enthusiasm surrounding PDL among practitioners in all three of the schools I had worked in suggesting that my own experience may have reflected a deeper disengagement with PDL. While this observation was anecdotal, these were three very different schools – a comprehensive in County Durham, an international school in Almaty, Kazakhstan and an independent school in Essex - yet the same atmosphere of disenchantment towards PDL seemed present in the practitioner body of all of them. To me, PDL was often viewed as a ‘bolt-on’, standalone session or event to tick a box and not necessarily a high value use of time.

When attending a series of lectures by Kate Wall during my master’s degree at Durham University, I was introduced to the idea of using action research as a tool for implementing new initiatives in the classroom and improving practice. I felt action research could provide me with the framework I was looking for to properly implement improvements to my practice and evaluate their impact. In the 2015-2016 academic year, I planned and carried out an action research project in my classroom for the first time. It delivered a whole host of unexpected rewards. I chose one focus from the ‘blizzard of guidance’ and created an evidence-informed innovation to my practice which felt highly relevant to me, the stage I was at in my career, and my development goals. I was seeing an initiative through to a satisfactory end point while obtaining continual feedback which allowed me to evaluate whether my innovation to practice was benefitting my students. I had explained and shared the process of my action research project with my students and as a product, I found them to be very involved with the process and more engaged in my lessons than usual. Ultimately, it felt like a more democratic and productive learning environment had been established. This action research project gave me the knowledge to trial other innovations to my practice in a similar way, adopting a systematic approach. Where necessary, it also gave me the confidence to say ‘no’ to new initiatives

which could be a distraction from my existing work. I felt this process to be efficient, engaging, and relevant, transforming my own experience of PDL.

This empowering personal experience motivated me to investigate the role of research in schools more generally, building on the theoretical frameworks I had studied in my master's course. Specifically, I wanted to know more about how PDL programmes were being informed by research evidence and how they may be structured more effectively to provide practitioners with bespoke opportunities to engage in meaningful learning and development. This led me to the topic of my thesis in which I first systematically review the existing literature on the use of action research for PDL in schools before presenting my case study of the implementation of my own model of action research for PDL known as the R&D Programme.

1.2 Aim and Significance

It has been found that high-quality teaching can add significant progress to student outcomes (Hanushek & Rivkin, 2010) moreover, effective teachers can reduce the attainment gap of students from less privileged backgrounds (Major & Higgins, 2019). Quality of teaching 'is the single most powerful influence on achievement we have some control over' (Hattie, 2003, p. 4). Within a school there are several variables which might impact teaching quality for example, initial teacher training, recruitment and retention, or school environment. However, with limited control over many of these variables, one obvious way a school could nurture high quality teaching is through its provision of PDL opportunities. However, 'there is still an ongoing debate on what constitutes effective teacher professional learning and what impact it has on teaching practice' within the literature (Dunn et al., 2018, p. 288). This lack of consensus has led to varied guidance on how best to run PDL in schools and could therefore have contributed to my experience of what felt like incoherent PDL provisions. There is, however, a growing body of literature on the use of practitioner enquiry and specifically action research for PDL in schools, my thesis aims to explore this further.

There is a lot of advice in the existing literature on how action research could and should be used in the classroom by practitioners, groups of practitioners or learning communities (Dana & Yendol-Hoppey, 2019; DuFour & DuFour, 2013; Lofthouse et al., 2012; McNiff, 2016; Mills, 2017). These offer step by step guides through the action research process from identifying a development need and planning an investigative question, to data collection and analysis, and reporting findings. The aim of my thesis is not to add to this instead, my thesis is concerned with the implementation of action research as the framework for PDL within a school, for all its practitioners. Often, not enough attention is paid to the implementation of initiatives, to the detriment of their efficacy (Fixsen et al., 2005; Major & Higgins, 2019; Rogers, 2003). As such, through a two-pronged approach, my thesis aims to explore the implementation of action research for PDL further. First, I consider in detail the existing literature on action research; both its theoretical aspects (Chapter 2) and the accounts of real-life implementation of action research as a model for PDL through a systematic review (Chapter 3). Second, I present a two-year case study of the implementation of a specific model of action research for PDL, the R&D Programme (Chapters 4-6). The aim of my findings is to contribute to the existing knowledge on the implementation of action research as a model for PDL in schools.

1.3 Research Questions

Before beginning my PhD research, I believed that action research could be used to provide a clear framework and structure for teacher PDL, something which I observed to be lacking in my PDL experiences to date. I argued that engaging in action research would allow teachers to implement changes to practice in a planned, organised and sustained way while making evidence-informed judgements on impact and student outcomes, the pinnacle of good PDL (Guskey, 2002). This belief stemmed from my own experiences of using action research as a powerful tool for classroom change during my master's degree, hearing and reading about initiatives such as the learning to learn programme (Wall et al., 2010), which systematically encouraged teachers to engage in action research and reading about countries such as Australia and Scotland where practitioner enquiry, often in the form of action research, forms an integral part of mandated continued PDL for teachers.

Despite the many examples in the literature of the benefits of engaging in action research for PDL (Cochran-Smith & Lytle, 2009; Dana & Yendol-Hoppey, 2019; Lofthouse et al., 2012; Timperley et al., 2017; Zeichner & Noffke, 2001), I had not experienced the systematic use of practitioner enquiry or action research in any of the schools I had worked in up until this point in my career. I also had not read or heard of many examples of action research being used to underpin a whole school's PDL provision; often it would be used by a small group of highly engaged and motivated individuals working in a research group. Therefore, when the opportunity arose for me to input into the design of the PDL provision in the school I was working in, I proposed a model based on action research. It was accepted by governors and senior management, and I was given permission to use its implementation as a case study for my PhD. This provided an opportunity for me to implement the programme in an evidence-informed and systematic way and explore the barriers and enablers to its implementation. As such, the central research question guiding my thesis is;

What are the barriers and enablers to the implementation of action research as a model of PDL in schools?

Answers to this question will support ongoing PDL in schools and help in the planning and development of future programmes. However, to fully answer this exploratory research question, I wanted to bring together findings from both the existing literature as well as my own primary research. This meant that two secondary research questions were developed, and two different methods were adopted to answer them. The first of the secondary research questions was;

Through the lens of Diffusion of Innovations theory, what is understood about the implementation of action research for PDL in schools?

The aim of this question was to identify, evaluate and summarise the findings of all relevant individual studies pertaining to this topic. To answer it, I carried out the systematic review presented in Chapter 3. To give a robust account of implementation I draw on Diffusion of Innovations theory (Rogers, 2003) which looks at why, how and at what rate innovations successfully imbed themselves

in organisations and wider society. As the focus of this review is on implementation of action research for PDL, Diffusion of Innovations theory was used as a lens through which to analyse the literature I identified in my systematic review. The use of a systematic review to synthesise existing research evidence about barriers and enablers encountered during the implementation of action research as a model for PDL will prove useful for practitioners and create a platform for future work to build on (Higgins & Green, 2008). It also serves to frame and situate my own primary research into the implementation of action research for PDL for all teaching practitioners in a primary and secondary school. The second of my secondary research questions is;

What can be learnt from a case study of the implementation of the R&D Programme in a school in Essex, UK?

In answering this question, I wanted to test and challenge my preconceived belief that action research could be an effective model for teacher PDL on a whole school scale, beyond small groups of already research engaged practitioners. The R&D Programme is a PDL programme based on action research which we designed and implemented in our school and which I conducted a two-year case study of. A full description of the programme can be found in Chapter 4. As highlighted in my systematic review, action research as a whole school approach to PDL is one of its less well documented uses and so my case study provides a rich, detailed, and contextualised understanding of the implementation of a programme which does that.

To answer this research question, I describe the design, implementation and development of the R&D Programme and explore the barriers and enablers encountered during the implementation process. In the true nature of interpretivist, social constructivism, the findings of my case study are considered to have been co-constructed between all who have been involved in the development of this programme. As such, it would be remiss of me to not explicitly include a variety of perspectives in my findings. I emphasise experiences of participating in this programme and use illustrative narratives to add different voices and perspectives. This makes my findings tangible and relatable as

it allows me to present experiences of the programme from the perspectives of participant, facilitator, and implementor. Through exploring these experiences, I hope to highlight some of the barriers and enablers to engagement with the programme and provide examples of how such a programme could be implemented in a way that will ensure its sustainability.

In summary, my systematic review provides findings with increased generalisability and reliability by providing a comprehensive overview of the existing research on the implementation of action research for PDL in schools. My case study provides a comprehensive, contextual, deep understanding of the implementation of one example of an action research model for PDL in a school. This enables me to bring the findings from my two secondary research questions together in the discussion and conclusion chapters of my thesis to answer my central research question on the barriers and enablers to the implementation of action research as a model for PDL.

1.4 Positionality Statement

To acknowledge that 'educational research cannot be value-free' (Greenbank, 2003, p. 798) and that true objectivity in research is something to strive for as opposed to achieve, through a positionality statement, a researcher must explore their world view in order to begin to make biases explicit and maintain the integrity and transparency of their research process (Holmes, 2020; Mills et al., 2006). My positionality statement serves to set my research within a system of ideas which subsequently dictate my methods for data collection, interpretation and ultimately knowledge generation (Fossey et al., 2002). Traditionally, a positionality statement might appear in the methodology chapter of a PhD thesis. However, both my case study and my systematic review required data collection, interpretation, and knowledge generation and so my positionality is relevant to both of these parts of my thesis. My positionality will also have impacted the design, implementation, and development of the R&D Programme and so I present my overarching positionality here, in my introduction, to make it explicit from the beginning. I then revisit relevant aspects of my positionality throughout my thesis as needed.

It is challenging, or perhaps impossible, to emphatically categorise one's positionality: 'social behaviour is fluid and how we think or behave cannot be completely compartmentalised with clear-cut boundaries' (Kivunja & Kuyini, 2017, p. 29). Many writers on the topic now advocate for a degree of plurality when considering positionality (Mills et al., 2010; Ormston et al., 2014) as consideration and knowledge of a variety of schools of thought allows for increased creativity through a better understanding of differing points of view. As such, in my positionality statement, I do not preclude the cross-over of ideas from other schools of thought, but I attempt to make them explicit. I aim to achieve 'empathic neutrality' which Ormston et al. (2014) define as

Strive[ing] to avoid obvious, conscious, or systematic bias and to be as neutral as possible in the collection, interpretation, and presentation of data... [while recognising that] this aspiration can never be fully attained – all research will be influenced by the researcher and there is no completely 'neutral' or 'objective' knowledge (p. 22)

To do this, I now outline my personal biography, philosophical assumptions, and my role as a practitioner researcher. My values, attitudes and beliefs about the world have been shaped by my personal biography, learned experiences, and thinking patterns (Saldaña, 2021) so I explain the importance of adopting a reflexive stance throughout my research. Through a continuous process of self-evaluation and critical reflection, I will enhance the credibility, rigour, and ethical standards of my research (Groundwater-Smith & Mockler, 2007).

1.4.1 Personal Biography

A positionality statement should include characteristics of the researcher which have the potential to influence the research by forming the lenses through which data is viewed and interpreted (Denzin & Lincoln, 2005; Holmes, 2020). What follows is a brief personal biography detailing elements of me as an individual and researcher which could influence my research.

My early exposure to research was through my undergraduate studies of Biology with Education where I was exposed to both positivist and interpretivist research paradigms. Initially the

positivist paradigm sat more naturally with me, and I had to work to become comfortable with, for instance, writing in the first person and drawing subjective conclusions from small sample sizes.

I completed my teacher training in the northeast of England where I taught science in two secondary state comprehensive schools and one sixth form college. After that I taught science in an international secondary school in Almaty, Kazakhstan for two years before moving back to teach Biology in a private school in the east of England where I conducted the research for this thesis. I was in my late 20s when I worked with a team of colleagues to set up and oversee the implementation of the R&D Programme, this made me one of the younger members of the practitioner body.

I now teach Science in a large secondary state academy in the southeast of England. I have always maintained research alongside my practice first through the completion of my master's degree, then through the completion of action research projects for my own interest and now as a doctoral candidate, I have always found it to be of benefit to my practice.

1.4.2 Philosophical Assumptions - Paradigm, ontology, and epistemology

While the spectrum of research paradigms is dynamic and multidimensional, simplistically, it could be said that research paradigms range from Positivism (the belief in absolute, objective, generalisable, replicable truths) to Interpretivism (the belief in context dependant, socially constructed, experiential truths). Initially, it was challenging for me to pinpoint where I sat on this spectrum due to my background in both traditionally positivist disciplines such as biology, chemistry and maths and disciplines which lend themselves to interpretivist methods such as psychology and education.

This characteristic played out in my research design. My rationale for including a systematic review, and the framework I used to identify relevant records, have positivist characteristics. However, the data I synthesised was largely qualitative and I made use of Reflexive Thematic Analysis, both of which are more characteristic of interpretivist research. My case study design sits

firmly within the interpretivist paradigm. However, in its initial design, I tried to include more positivistic methodologies such as generating baseline and outcomes data, which could be statistically analysed to determine significance in changes of attitude among the research population. Due to variables outside of my control, such as changes of management and the COVID-19 lockdowns, it was not possible to collect the necessary paired data to achieve this. However, it became clear to me that a better approach to my case-study research would be to lean into its 'Big Q' qualitative nature and embrace a fully qualitative approach to my data collection and analysis as opposed to trying to include a positivist methodology within an interpretivist framework to alleviate my anxiety as a novice 'Big Q' qualitative researcher. This is an example of how my research has not only been shaped by my philosophical assumptions but how I, as a researcher, have also been shaped by the research. This is a common occurrence and thought to be unproblematic if the researcher is aware of it and adopts a reflexive approach throughout the research process. Both the research and the researcher are on an iterative journey of change and development throughout the course of the study and to neglect appraising this journey is akin to neglecting a key element of the phenomena being studied (Attia & Edge, 2017).

Towards the end of my research, as I finalised my thesis, it was clear that I had evolved to identify most closely with the interpretivist paradigm, reflecting that 'knowledge is relative to particular circumstances—historical, temporal, cultural, subjective—and exists in multiple forms as representations of reality' (Benoliel, 1996, p. 407). This complements the qualitative nature of my primary research which, for example, extensively uses interviews as a data collection tool which can be viewed as a co-construction of knowledge between two individuals (Stake, 2010) thus satisfying the interpretivist belief that 'objective reality can never be captured, I only know it through representations' (Denzin & Lincoln, 2005, p. 5). However, I operate with flexibility and embrace paradigm plurality which allows me to comfortably borrow from more positivist methods such as the use of Cohen's Kappa to establish inter-rater agreement during the screening stages of my systematic review.

To pinpoint my personal paradigm more specifically, it is also helpful to consider social constructivism. Interpretivism and social constructivism, are sometimes used interchangeably (Kivunja & Kuyini, 2017) however, social constructivism is wedded to the traditional Vygotskian (1978) theories of learning through interaction and individuals constructing a sense of meaning between them. It follows the notion that learning precedes development and that through scaffolding, an individual can be guided through the zone of proximal development (ZPD) to the ultimate goal of knowing and being able to do more (development). The idea of providing scaffolding to guide an individual through the ZPD, not coincidentally, sits at the heart of the design and development of the R&D Programme which is the case for my case study research. Interpretivism and social constructivism lend themselves to my research as they aim to understand perspectives, following the notion that the research is conducted 'with' and 'for' not 'on' the participant (Morrison, 2012b). This thesis is an illustration of my belief that in collaboration with others and through the consideration and interpretation of their perspectives, I will be able to gain a better understanding of the nature of things. Through the sharing of the knowledge I have gained in this thesis, I show that my research is for others to use.

As is often the case for individuals who identify with the interpretivist and social constructivist paradigms, I follow a relativist ontology and believe that we know through social interaction, dialogue, and language. Ontology can be defined as 'beliefs about how things are' (Lofthouse et al., 2012, p. 172). The relativist ontology posits that reality takes multiple forms, each uniquely in line with the knower's interpretation of their experiences. This implies that there are multiple interpretations of reality, each specific to the individual. In a case study of an organisation like the one conducted for my primary research, there are as many realities as there are individuals in the organisation. Dialogue, interaction and communication are the key tools to explore and tentatively understand someone else's construct of reality. Again, this complements the qualitative nature of my primary research as the case study design allowed me to collect a variety of participant points of view which I could use to challenge and refine my own understanding of the case. This

reflects my belief that I can only understand the success of a particular intervention through the perspective of the practitioners engaging with it. Relativism also underpins my desire to complete a systematic review which synthesise the existing knowledge relating to my topic. In my systematic review I aim to provide a representation of a variety of experiences of the use of action research for PDL. In doing so I highlight that I am not starting from first principles, rather I am starting from existing research and experience, and positioning my work in that context.

Epistemology is 'a way of understanding and explaining how I know what I know' (Crotty, 1998, p. 3). In this research I follow the subjectivist epistemology, which states that we can only know in a subjective manner 'always filtered through the lenses of language, gender, social class, race, and ethnicity' (Denzin & Lincoln, 2005, p. 21). So, while I hope to capture the wide variety of unique interpretations and understandings of the case within the organisation which is the subject of this case study and from the data collected for my systematic review, I also understand that any representations of other people's experiences presented within my thesis, have themselves been subjected to a reinterpretation of facts through my unique filters and lenses. Through making my personal biography and philosophical assumptions explicit as I have just done, while appreciating that I will still be unaware of some elements of my character (Savin-Baden & Major, 2013), I hope to go some way in adopting a reflexive stance at all stages in this research process and, as far as possible, reducing or making explicit my research biases.

1.4.3 Practitioner Researcher

My role as both a practitioner and a researcher introduces unique opportunities and challenges in my research. On the one hand, my insider perspective allows for a deeper understanding of the context and intricacies of the use of action research for professional development, especially so with regard to my case study of the R&D Programme. On the other hand, it is essential for me to maintain objectivity and reflexivity throughout the research process to mitigate potential biases and ensure its validity, reliability and ethicality (Attia & Edge, 2017; Groundwater-Smith & Mockler, 2007; Lofthouse et al., 2012).

Reflexivity is an in depth and revealing process. It is 'more than reflecting on an experience; it involves questioning the bases of our interpretations, our ways of doing and, thus, of self' (Corlett, 2013, p. 455). The process of reflexivity is in part metacognitive considering the ways we think as a researcher and the ways in which thought patterns change throughout the research process so that we can better understand our interpretations (Hall & Wall, 2019). I accept, for example, the inevitability of my identity influencing what I observe in the field as 'we tend to interpret others' experiences based on our own' (Saldaña, 2021, p. 11). I, as the primary data collection instrument and a practitioner within the research setting, must be aware of biases I might bring to the presentation of this research and its findings. It is for this reason that I chose to write my thesis in the first person as it situates me as the researcher at the centre of the work and reminds the reader that all interpretations have been made through me as the main instrument for data collection.

Throughout this piece of research, I strive to maintain transparency and reflexivity by critically evaluating my assumptions, values, and positionalities. In my case study in particular, I actively seek diverse perspectives and feedback from stakeholders to enrich my data and enhance the credibility and relevance of my findings and ensure that my research is ethically sound. In my case study methodology (Chapter 5), I explore further the duality of my insider-outsider status and the advantages and disadvantages associated with it. Through embracing reflexivity and transparency, I aim to contribute to the advancement of knowledge and practice in the use of action research as a model for the PDL of teachers while remaining mindful of the ethical considerations and responsibilities of a practitioner researcher.

1.5 Challenges

I came across several challenges in the structuring of my thesis. One, the location of my positionality statement has already been addressed earlier in this chapter. Further challenges arose relating specifically to my primary research, a case study of the R&D Programme.

The practitioners engaging in the R&D Programme conducted action research projects for the purpose of their PDL and I used a case study methodology to study the R&D Programme. The fact that I was doing research about people doing research has the potential to lead to confusion as I consider two different methodologies throughout my thesis. As such, it is important to highlight the distinction between the use of these methodologies at an early stage. I used a case study design to study the implementation of the R&D Programme. In the R&D Programme, practitioners were carrying out action research projects for the purpose of their PDL. The changes we made from the first to the second year of the case study of the R&D Programme were not based on the rigorous analysis of the data I had already collected, instead, they were based on professional judgement informed by our experiences of designing and implementing the first year of the R&D Programme.

The second challenge was surrounding terminology, specifically what to call the practitioners engaging in the R&D Programme. Many labels applied to them, they were 'practitioners' at my school and my 'colleagues'. They were 'participants' in my case study carrying out research for the purposes of their PDL, so they were also 'practitioner-researchers'. I considered calling them 'practitioner-researchers' to give them credit for and ownership over their research but for some reason this did not feel quite right. Through the completion of this thesis, I realised that this was because some of them were very reluctant 'researchers' who stood opposed to the maintenance of research alongside practice. As such, I do not feel they would have appreciated the label 'practitioner-researcher', the tensions surrounding the role of practitioner-research are further explored in my findings (Chapter 6). Considering this, I settled for the label 'practitioners' which is defined as 'a person engaged in the practice of a particular skill, art, or discipline; a person experienced at or trained in a skill or occupation' (OED, 2023). I feel this label to honour the skill and training of a teacher but does not attribute label to the practitioners which they may or may not want.

1.6 Overview of Thesis

As a guide for the reader, I now present a brief overview of each chapter of my thesis explaining what can be found in each.

Chapter 2 presents the theoretical framework which underpins this thesis. It considers ideas surrounding PDL and the use of research in schools before considering action research as a model for PDL. It introduces Diffusion of Innovations theory and proposes how this will be used within my research to establish the barriers and enablers which might be encountered while implementing action research as a model for the PDL of teachers.

Chapter 3 is a systematic review of the existing research into the implementation of action research for PDL in schools. This systematic review synthesises the findings of 31 original studies into the implementation of action research for PDL within a school. It draws on Diffusion of Innovations theory to establish some of the barriers and enablers to its implementation.

Chapter 4 describes and explains the design, implementation and development of the R&D Programme which forms the case for my case study. It uses the Template for Intervention Description and Replication (TIDieR) framework for the better reporting of interventions to ensure all relevant features of the R&D Programme are presented. It gives a chronological overview of the implementation of the R&D Programme in its first year to provide context. It then explains the developments made to the R&D Programme in its second year.

Chapter 5 presents the methodology for my case study of the R&D Programme. It justifies the embedded, single-case design, defines, and bounds the case, and gives a description of the site and its participants. It also considers how my positionality will impact this element of my research and the ethics of my case study. My data collection tools and methods for data analysis are also outlined and justified here.

Chapter 6 presents the findings of my case study under three themes. Learning from Colleagues, Relationship with research and Cultivating practitioner centred PDL. Time was an overarching theme which ran through each of these themes.

Chapter 7 concludes my thesis by briefly summarising the finding to each of my secondary research questions before bringing them together with existing theory to answer my central research question. I present the barriers and enablers to the implementation of action research as a method for PDL and outline implications of my findings for practice and research.

2 Theoretical Framework

As my thesis aims to explore the use of action research as a model for PDL in schools, it is concerned with two central concepts: professional development and learning (PDL) and research use by schools and practitioners. Subtle differences in the notions surrounding these central concepts arise from different schools of thought and can lead to overlapping and sometimes confusing terminology. In this chapter, I unpick this terminology to clarify meaning and select and justify the vocabulary that I use throughout my thesis.

In defining PDL, I emphasise the difference between ‘development’ and ‘learning’ and the importance of this distinction. I argue that PDL should be viewed as an umbrella term which encompasses the two separate branches of ‘learning’ and ‘development’. I explain how action research for PDL falls under the learning branch of PDL. I then argue that ‘research’ in the context of education should have a broad and inclusive definition which values everything from large scale RCTs to practitioner enquiry. Large data sets generated by RCTs are valuable in providing an evidence-base for what can work in education while small scale practitioner enquiry can establish ‘how’ something might work in practice. This brings me to the distinction between an evidence-based and an evidence-informed approach to change within schools. Practitioner research, such as action research, gives practitioners the scope to merge knowledge from the wider evidence-base with professional, local knowledge in an evidence-informed approach to change. I address the challenges which might be encountered when attempting to promote an evidence-informed approach to change in schools by considering research accessibility and research literacy among practitioners. I then illustrate how my two central themes, PDL and research use in schools can be brought together through action research as a model for PDL. This provides a scaffold for practitioners to incorporate research findings into their practice in an evidence-informed approach and promotes research literacy.

As the goal of my thesis is not to establish effectiveness of action research for PDL, extensive work has already been done on this subject (Cochran-Smith & Lytle, 2009; Dana & Yendol-Hoppey,

2019; Lofthouse et al., 2012; McNiff, 2013; Timperley et al., 2007), but to evaluate the barriers and enablers that might be encountered when implementing action research as a model for PDL, I consider Diffusion of Innovations theory. This is a sociological theory which looks at why, how, and at what rate innovations successfully imbed themselves in organisations and wider society (Rogers, 2003). This theory has been influential in the development of the implementation science movement in medicine (Bauer & Kirchner, 2020) and education (Kelly & Perkins, 2012). I draw on this theory in particular when considering the findings of my systematic review but it also informs my approach throughout my thesis. I conclude this chapter by outlining where my thesis sits within the theoretical frameworks, I have outline and so the contribution my research will make.

2.1 Defining Professional Development and Learning

How the concept of PDL is defined, what it looks like, and how it can be evaluated is still the subject of debate (Dunn et al., 2018). This ongoing debate is reflected in the associated terminology. Often professional 'development' and professional 'learning' are conflated, and sometimes the prefix 'continued' or 'continuing' is added. Most commonly, in schools, I have heard it referred to as 'CPD' – continued professional development. However, in my thesis, I have chosen to refer to it as professional development and learning (PDL), I now explain why.

Earlier definitions favoured 'development' over 'learning', for example, Day (1999) who calls it professional 'development' and defines it as consisting of;

all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school, which contribute, through these, to the quality of education in the classroom. It is the process by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purpose of teaching; and by which they acquire and develop critically the knowledge, skills and emotional intelligence essential to good professional thinking, planning and practice with children, young people and colleagues throughout each phase of their teaching lives. (p.4)

This definition encompasses activities ranging from a formal, didactic lecture, to an informal passing conversation with a colleague in the staffroom. In their definition, Earley and Bubb (2004) also use professional 'development' and intermittently use the qualifier 'continuing' in front of it which highlights that it is an ongoing process. They agree that it happens 'individually and with others' and emphasise that the goal of PDL is to 'enhance pupil outcomes' (p 4). Filges et al. (2019) use similar phrasing and remind us that most often, it is in reference to facilitated learning opportunities which take place once the professional has completed their basic training. These definitions encompass the many varied, but equally powerful, forms PDL can take. However, they conflate 'development' and 'learning', the semantics of which are becoming more explicit when considering the wider literature (O'Brien & Jones, 2014). I argue PDL should be used as an umbrella term to cover all the 'development' and 'learning' opportunities outlined in the definitions I have just considered and that within PDL there are two branches, one for 'development' and one for 'learning'

The beginnings of a consensus can be seen amongst the academic, researcher and practitioner communities that professional 'learning' is different to professional 'development'. Professional 'learning' programmes should be less didactic and more collaborative, they should harness a grassroots approach to change within the school community through being more personalised and self-directed (Clarke & Hollingsworth, 2002; Cordingley & Bell, 2012). O'Brien and Jones (2014) state:

There is a significant difference between the systematic career progression associated with professional development and the broader, more critically reflective, and less performative approach to professional learning. It is argued that developments in education are not linear, so a degree of flexibility is required if professionals are to look critically and constructively at change – and the term professional learning is a better way to epitomise

the key characteristics of reflective practice, critical evaluation, and continuing learning.
(p.684)

To further understand what professional learning might look like, it is helpful to consider Hattie's 2009 evaluation of productive learning environments. While this research focuses on student learning experiences, Hattie's summary of the key characteristics of a productive learning environment is relevant to all learning environments. He states that 'learning was not always loud and heated, but it was rarely silent and deadening, and it was often intense, buzzing and risky' (p. 26). Hattie emphasised that participants in the learning process were rarely passive which recalls the saying attributed to Benjamin Franklin; 'tell me and I forget, teach me and I remember, involve me and I learn'. This is engrained in the teaching of school age students, but something which seems to be less considered when it comes to adult education such as PDL. Wall reminds us of the grinding cliché, which many teachers will be able to relate to, of professional development 'about, for example, interactive pedagogy, taught in the most didactic and un-interactive way' (Wall, 2017, p. 1). Didactic and un-interactive are characteristics often associated with 'development' which has become somewhat synonymous with the notion that it is done to an individual, in a top-down approach to professional change, with senior leaders developing their practitioners perhaps in a didactic, traditional, lecture formats (O'Brien & Jones, 2014). Historically, PDL seems to have been delivered more in the vein of 'development' (Wall, 2017) but a focus on 'learning' allows teachers to proactively adapt and change as their individual needs are put at the centre of their PDL (Easton, 2008). Learning allows for trial, error, and experimentation thus affording schools and practitioners the opportunity to look more critically at changes to practice.

The characterisation of development is not an entirely negative one as utilising channels of mass communication can convey messages quickly to many people (Rogers, 2003). When delivering non-negotiable information, for example surrounding safe-guarding policy or changes to protocol, a lecture might be an effective format for delivery. To totally disregard strategies associated with

development would be to throw the baby out with the bath water. However, there is a growing consensus that more space should be made for professional ‘learning’ which facilitates increased opportunities for reflection and autonomy amongst professionals through asking them to play an active role in their PDL (Easton, 2008; GTC Scotland, 2020; Hall & Wall, 2019; Hilton & Hilton, 2017).

The R&D Programme, the case in my case study, sits firmly on the ‘learning’ branch of the PDL definition, as it promotes active participation, reflexivity, and evaluation of impact. Despite this, I have chosen to use the combined term of professional development and learning (PDL) throughout my thesis rather than just ‘professional learning’ for two reasons. First, while the distinction between development and learning is helpful and relevant to consider, through using an umbrella term which encompasses both, I hope to convey my view that one should not replace the other. Second, while in some areas of education, there has been shift away from the use of the term professional ‘development’ towards the term professional ‘learning’ (Hilton & Hilton, 2017), this is not reflected in the schools I have worked in. From my experience, terms such as CPD are more commonly used amongst practitioner and so my hope is that including ‘development’ in my terminology will keep my research situated within the lexicon of practitioners.

2.2 The Use of Research in Education

Engagement with research and evidence is now commonly regarded as central to school reform and improvement in England and elsewhere (Greany, 2015; Walker, 2017). There has been a proliferation of organisations and initiatives which are dedicated to the promotion of educational research, for example Teachmeet (2010), the Education Endowment Foundation (EEF) and their Teaching Toolkit (2011), ResearchED (2013) and Chartered College of Teaching (2017). This is supported at the governmental level with the 2016 White Paper, Educational Excellence Everywhere, pledging to ‘increase teachers’ access to and use of high-quality evidence, ensure teachers are trained in understanding and applying evidence, and support the establishment of a new, peer-reviewed British education journal’ (Department for Education, 2016, p. 37). The 2022 White Paper, Opportunity for All, announced the re-endowment of the EEF stating that this will

allow it to 'continue its crucial work to build the evidence base. Crucially, it will provide actionable and accessible guidance and support to schools and act as a 'guardian of evidence' to ground education policy in the very best evidence' (Department for Education, 2022b, p. 41). These initiatives are premised on the belief that the move to a culture of evidence-informed practice will lead to 'professional independence' (Goldacre, 2013) allowing the education profession to become a self-improving system, in which everything, from the individual teacher to the whole education system, self-evaluate and improve through professional reflection and enquiry (BERA-RSA, 2014). However, tensions are found in the intersection between research and practice. In the application of research findings to practice, nuance can be lost and often due diligence is not paid to implementation (Major & Higgins, 2019). If not managed carefully, data-driven school improvement could support a reductionist, technical view of what is a multifaceted and unpredictable profession (Lofthouse, 2014). To explore this further, I now consider how research is defined in education before exploring the differences between evidence-based and evidence-informed practice. I then consider the challenges practitioners might encounter when using research evidence to inform their practice.

2.2.1 Defining Research in Education

BERA-RSA (2014) offers the following 'deliberately inclusive and wide-ranging' definition of what counts as research in education;

Any deliberate investigation that is carried out with a view to learning more about a particular educational issue. This might take a variety of forms and be concerned with a range of issues, for example: the secondary analysis of published data on school exclusions, interviewing a range of colleagues about examination performance in the English Department, taking part in a national Randomized Control Trial concerned with the teaching of Mathematics, responding to a survey about teachers' use of the internet to inform curriculum planning, working with a university department of education on a study into teachers' use of new technology (p. 40).

As this definition appears to place equal value on everything from a small-scale practitioner enquiry to a national Randomised Control Trial (RCT), it might sit uncomfortably with some paradigm purists. However, it effectively illustrates the wide variety of valid forms research can take. Working with such a broad definition of 'research' means that it is crucial to be clear on the purpose of the knowledge generated when undertaking it (Bennett, 2015). Different forms of research serve a particular purpose and holds significant potential, provided their aims and objectives are clearly aligned with that purpose.

When considering the role of teachers in research engagement, we again run into difficulty as we hit the border between academics or researchers and practitioners. Too often, researchers are viewed as the 'knowers' and practitioners as the 'doers' (Bryk et al., 2015). Hattie is cited as saying that research is a particular skill which takes years to gain and so should be left to academics (Stewart, 2015) while Goldacre (2013) makes it clear that he is not calling for every teacher to be a researcher. He states that:

Many teachers pour their heart and soul into research projects which are supposed to find out whether something worked; but in reality, the projects often turn out to be too small, being run by one person in isolation, in only one classroom, and lack the expert support necessary to ensure a robust design (p. 17)

These observations risk conflating the distinct purposes of different types of research. Practitioner research is not aiming to establish 'what' works for generalisability, if such a thing is even possible, it seeks to establish 'how' research findings work in a particular setting (Bryk et al., 2015; Lofthouse et al., 2012). If the wider profession prioritises the improvement of research literacy among practitioners, then this type of research can be of 'robust design' and high value. As a profession, we need to move away from the concept of academic as 'knowers' and practitioners as 'doers' and move toward a cohesive view of both being 'improvers' with different but equally valid contributions to make to knowledge (Bryk, 2015). To think otherwise is to be operating on a very

narrow definition of what counts as ‘research’, making it the exclusive purview of academics and running the risk of missing out on the wealth of knowledge which can come from practitioners.

The role of the practitioner in collaborative knowledge generation is to be research engaged so that they can critically apply research findings to their own practice, in consideration of their own contexts in an evidence-informed approach to improvement. While I advocate for the publication and celebration of practitioner research, I recognise its limited generalisability which favours its use on a local scale rather than for contributing to public, general knowledge (Enthoven & de Bruijn, 2010; McLaughlin, 2008). However, it is helpful to move away from a binary framework of either ‘generalisable’ or ‘local’ when considering the purpose and applicability of practitioner research. It is more pertinent to consider what lessons can be drawn from practitioner research to serve suggestions and research questions to academics for further study.

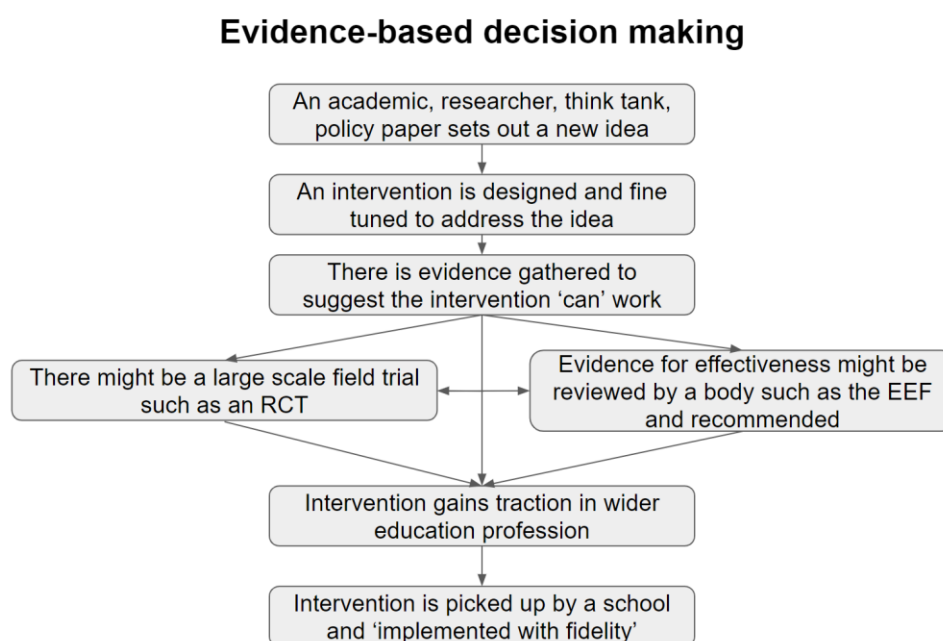
The role of the academic researcher in collaborative knowledge generation is, in part, to be committed to the generation of larger scale data sets to establish ‘what’ can work (Bryk, 2015) and ensure a robust evidence base for practitioners to work from. But also, academics should work with the interests of the practitioner in mind when selecting the topics for study, the method for publication and accessibility of their research (Goldacre, 2013). To explore how this research knowledge can then be applied to practice, I now consider the distinction between evidence-based and evidence-informed approaches to change within schools.

2.2.2 Evidence-based vs Evidence-informed

Due in part to increased investment from the government, in the UK there has been an increase in the number of large-scale research projects in the field of education. Organisations such as the EEF have received large government grants with the mandate to further build the evidence base in education. The EEF uses this funding to commission independent evaluations of programmes and interventions to establish their effectiveness, predominantly using an RCT design. It also synthesises the best evidence available and present it in a format accessible to practitioners (Edoald & Nevill, 2021). Through this, the EEF aims to generate robust data sets which provide a

solid platform from which to recommend the administration or application of new initiatives. They have been branded as establishing ‘what works’ in education and schools have been encouraged to operate from the evidence base produced by such organisations (Department for Education, 2022b). Figure 2.1 illustrates this approach of ‘basing’ practice on evidence, I have adapted it from an example presented by Bryk 2015 which was developed to explain operation from an evidence base in a US context.

Figure 2.1 - *An illustration of evidence-based decision making*



Issues arise when adopting an entirely evidence-based approach to decision making. Historically there has been a lack of rigor in evaluating evidence bases which has led to the misuse and misapplication of research findings in schools (Roberts, 2015). Research findings gained popularity despite weak evidence bases leading schools to devise entire student learning programmes around concepts such as Fleming and Mills (1992) VARK Learning Styles, before realising that the evidence base on which they had been created was inadequate (Coffield et al., 2004). Recently, organisations such as the EEF have dedicated themselves to the evaluation of the strength of evidence bases however, interventions which have been branded effective by the EEF have still been misapplied or applied beyond their original intention (Major & Higgins, 2019).

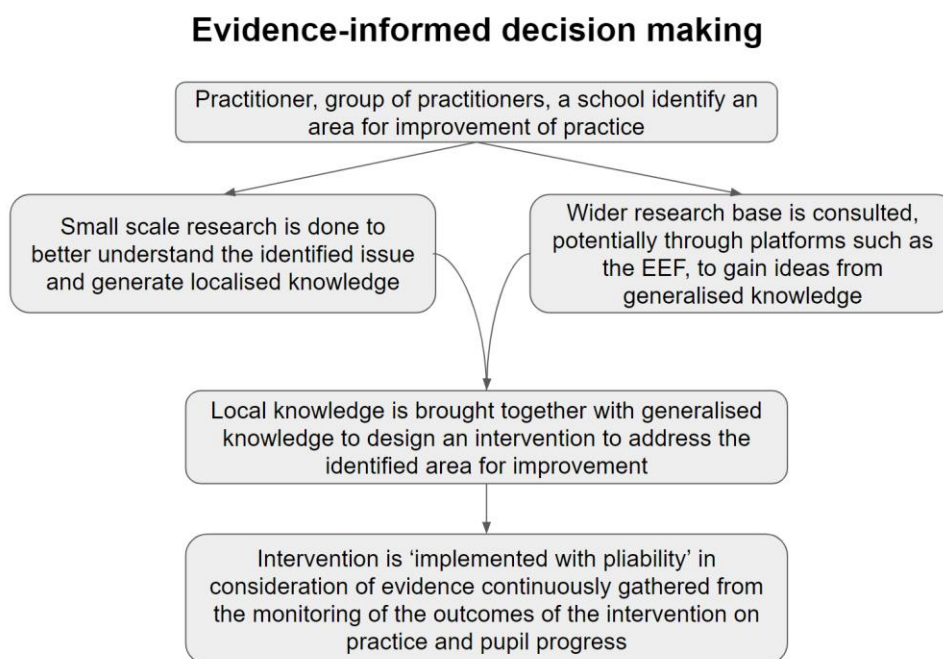
Predetermined initiatives based on research evidence were often disseminated in schools during PDL time with the key decision being made by only a powerful few within an organisation (Saunders, 2015). This led to a lack of context specificity which decreases the chances of successful adoption of any new initiative and the fact that key decisions were taken by a small team reduces its sustainability as if a key stakeholder were to leave, the initiative might not be maintained (Rogers, 2003). This has led to fragmented and often incomplete PDL initiatives which, at times, have even had detrimental impacts on student learning. Examples of this include the Growth Mindset phenomenon (Dweck, 2008), a powerful learning tool but the misapplication of which has seen detrimental effects on student outcomes and wellbeing (Dweck, 2015).

Scaling up initiatives across multiple schools and eventually incorporating them into policy, encourages schools to 'add' initiatives to their practice. However, 'The school as a place is embedded in context and cannot be detached from it. It is simultaneously 'context derived' and 'context generative' (Thomson, 2002, p. 73). As such, vigilance, context specific knowledge and research literacy are all required as nothing is ever just 'added' to a functioning system. An innovation will interact with the existing strategies and initiatives in the school, the existing demands on teacher time, the pre-existent composition of practitioners and pupil body and many more variables besides (Bryk et al., 2015; Rogers, 2003). Adjustments must be made to any innovation so that it complements and is compatible with its novel setting (Rogers, 2003). This can only be done by drawing on professional expertise (Nelson & Campbell, 2017) and so we begin to see how evidence should only ever 'inform' practice, rather than direct it and attention must be paid to the implementation process as well as evidence bases.

Considering Figure 2.1, it is the 'implementation with fidelity' of innovations which is problematic. It does not give space for the modification of innovations to include context specific knowledge and professional expertise which would increase the compatibility of the innovation to a

specific organisation and improve its successful implementation (Fixsen et al., 2005; Greenhalgh et al., 2004; Rogers, 2003). It would better read ‘implementation with reflexivity’. Figure 2.2 is my proposal for the evidence-informed approach to educational change.

Figure 2.2 - *An illustration of evidence-informed decision making*



Evidence-informed change allows for the integration of professional expertise with the best evidence from the research base in a synergetic drive to improve practice (Nelson & Campbell, 2017). Simply, Brown (2017) summarises evidence informed practice as ‘the process of teachers accessing, evaluating and applying the findings of academic research in order to improve their teaching practice’ (p. 25) highlighting the personal relevance of the process.

Some governments actively encourage evidence informed practice for example in Australia using and carrying out research is key criteria for the government backed accreditation of ‘highly accomplished lead teachers’ (AITSL, 2017). Some frameworks exist to facilitate this process, Scotland for example has a framework embedded into the state mandated PDL model drawing on Practitioner Enquiry (GTC Scotland, 2020), which was also called for by Goldacre (2013) and BERA-RSA (2014).

But this is something which would only really be achievable with a degree of research literacy among the implementers. At the very least the senior management of each school should understand a research informed strategy for implementation which would allow them to input their professional expertise into the process. Even better would be if practitioners at all levels had the necessary skill set and were given the autonomy to be able to do this, this would lead to distributed decision making which would distribute ownership of an innovation across an organisation and so ensure its sustainability (Rogers, 2003)

While organisations such as the EEF are working to comprehensively address the issue of incomplete and inadequate evidence bases with initiatives such as their toolkit and, through the re-endowment of the EEF, it can be seen that this too is a government priority (Department for Education, 2022b). We need to be mindful of the application of findings from evidence as without due considerations, it could lead to the top-down administration of initiatives from a position of unchallengeable authority (Hendrick, 2017; Nelson & Campbell, 2017), which should be avoided if meaningful and sustainable change is to be achieved (Rogers, 2003). While organisations such as the EEF in the UK and the What Works Clearinghouse in America aim to review existing evidence and make it's finding more accessible to teachers, accessing, evaluating, and applying research findings will require a degree of research literacy among frontline teachers. Greater research engagement should help reduce the misapplication of fashionable, broad stroke initiatives in individual schools and classrooms (Hendrick, 2017).

2.2.3 Challenges to Evidence Informed Practitioners

'It is not yet as easy as it should be for teachers to find and use evidence to improve their teaching practice because the evidence base is patchy, difficult to access or to translate into action. Too little research is directly driven by the priorities of teachers and schools; too little is sufficiently robust in quality' (Department for Education, 2016, p. 39). Work is being done here, academics produce the research and intermediaries such as the EEF and Chartered College of Teachers are now working to make it more accessible to teachers. Between them, organisations such as EEF,

teachmeet, Chartered College, and researchED work to collate research into themes, evaluate its usefulness and/or go on to present it in a format accessible to teachers. These platforms are a welcome relief for teachers who strive to be evidence informed but who are already overwhelmed by the hectic everyday workload associated with the teaching profession. But we need greater commitment at the source for example through the publication of accessible research (Brown, 2015) and a commitment to building and resourcing these intermediaries (which is happening). Goldacre suggests the need for greater research literacy among teachers, the Charter College of Teaching call for the professionalisation of teaching making it a master's level profession. Indeed, a number of initial teacher training programmes now have practitioner research units at the heart of them (Burn & Mutton, 2015). However, teachers who have been in the profession for 45 years (for example) did not receive the same training and if we think back to Day's definition of professional learning, we are reminded that it is something teachers are committed to 'throughout each phase of their teaching lives'. As such, we can't wait a whole generation for all practitioners to become more research literate through a natural changing of the guard. To empower practitioners to be evidence-informed, they need to be research literate. Many practitioners are not research literate (Enthoven & de Bruijn, 2010) and so there is a call for consideration of what research looks like when it is maintained alongside practice (Wall, 2017). In an attempted response to this question, I now argue that we can use and action research model for PDL to promote research literacy.

2.3 Action research as a Model for Professional Development and Learning

The idea of engaging the teacher in research can be traced back to Dewey (1904) and is a concept which the education profession has long been engaged with. Stenhouse (1975) brought together the notion of the teacher researcher with the underpinning methodology of action research, propagating the use of action research as a model for PDL in schools in the 70's stating that 'It is not enough that teachers work should be studied: they need to study it themselves' (p 143).

In England, there have been repeated attempts to bring practitioners into the research process and simultaneously allow them to become more research literate. In 1996 the Teacher Training Agency launched a 'Teacher Research Grant Pilot Scheme' in which 27 practitioners were granted an average of £2000 to conduct small scale research into effective classroom practice (Foster, 1999). Between 2000 and 2003, the Department for Education and Skills ran the Best Practice Research Scholarship programme which granted around 1000 scholarship per year to practitioners. These scholarships were up to a value of £3000 each and aimed to enable serving classroom teachers to engage in school-focused research (Furlong & Salisbury, 2007).

However, in a 2013 government paper, Goldacre claimed research literacy among teachers to be lagging behind that of practitioners in other professions such as medicine. In light of this, the 2016 and 2022 White Papers pledge to improve the research literacy of teachers. This renewed commitment to improving research literacy amongst teacher is also reflected in the 2019 Early Career Framework for teachers in England which requires trainee teachers to 'learn from educational research', 'engage critically with research' and 'discuss evidence with colleagues' (p. 24). However, while research literacy is being emphasised in contemporary teacher training programmes, a large section of the teaching body still has limited research literacy (Nelson, 2017).

'To be research literate is to 'get' research – to understand why it is important and what might be learnt from it, and to maintain a sense of critical appreciation and healthy scepticism throughout' (BERA-RSA, 2014, p. 40). Creating a body of practitioners who embody that skill set will allow for the wider adoption of an evidence-informed approach to change in schools. Guidance on how to improve research literacy with professionals no longer in their initial training phase is limited but I propose this can be achieved through the promotion of practitioner research through PDL programmes specifically based on action research. Engaging in practitioner research allows the individual to live the process of evidence-informed change, developing a deeper understanding of it

and appreciation for it and so seeing an improvement in research literacy and skills (Hilton & Hilton, 2017).

I now define practitioner research before giving a brief overview of what action research is and where it has evolved from in the context of education. I argue that models for action research need to be context derive and, as an example, present the model used for the R&D Programme which forms the case study for this thesis. To demarcate the definition of action research I use for this thesis, I then explain a few things that action research is not. Specifically, I consider the concepts of learning communities and lesson study which are often not clearly defined or conflated with action research.

2.3.1 Practitioner Research and Action research

Practitioner research follows the ontological belief that practitioners can know about their work through their participation in it (Lofthouse et al., 2012) as they can bring professional expertise to the Table (Nelson & Campbell, 2017). It can provide us with ‘practice-based evidence’, generated by educators, to be added to the existing evidence base, giving us a unique insight into the formative application of initiatives to support the profession and improve student outcomes (Bryk et al., 2015). The ontology of practitioner research can be paired with the epistemological stance of practitioner enquiry which assumes that questions generated by practitioners are best explored through a systematic investigation of their practice (Lofthouse et al., 2012). This is a powerful tool as it allows the practitioner to put their own student needs and improvement of student outcomes at the centre of their enquiry (Timperley et al., 2007).

However, to make widespread engagement in practitioner research across the education sector a reality, it is important that requirements for research engagement placed on practitioners are not too far removed from day-to-day practice as otherwise they will feel unachievable and unmanageable (Wall, 2017). Innovations which appear overly complex and time consuming to the individual are less likely to be adopted (Rogers, 2003). It is important to help practitioners realise that engaging in practitioner research should not increase their workload, instead it should provide

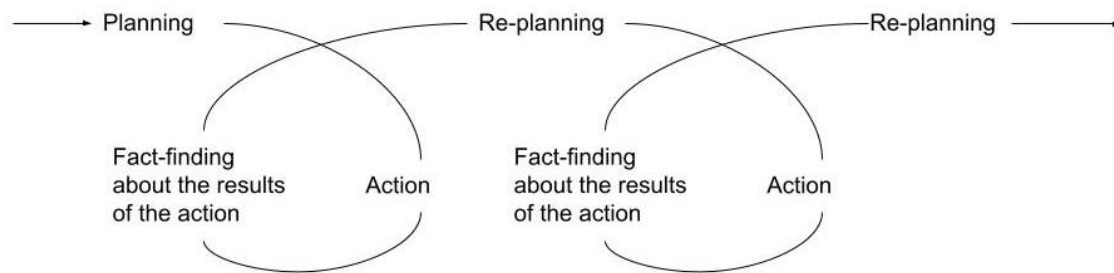
them with the opportunity to work in a different and ultimately more efficient way, so that they can achieve evidence-informed, reflective practice within the constraints of their normal working day. Relevance is also key as only when the benefits of linking research and practice are observable, will teachers 'truly engage in meaningful and productive practitioner research' (Hilton & Hilton, 2017, p. 80).

As such, a methodology commonly adopted for practitioner research is action research. Kurt Lewin (1946) first defined action research as 'a spiral of steps each of which is composed of a circle of planning, action, and fact-finding about the result of the action' (p. 38) which allow for continuous, evidence informed and sustained improvements to practice. This maps well onto the plan, do, review cycle that is commonly already employed by teachers (Lofthouse et al., 2012; Wall, 2017) but allows for more rigorous 'iterative testing to guide the development, revision, and continual finetuning of new tools, processes, work roles, and relationships' (Bryk et al., 2015, p. 9). It is a form of research which aims to 'help the practitioner' (Lewin, 1946, p. 34) by providing a framework to trial new initiatives in the classroom and gather evidence of impact on student outcomes (Brydon-Miller et al., 2003). Not only does this improve relevance but evaluating the impact on student outcomes is also the pinnacle of good PDL (Guskey, 2002). Action research promotes collaboration between teachers, students and colleagues as through making systematic enquiry public, it becomes a shared process (Stenhouse, 1981). Action research has the potential to be highly relevant and efficient as it allows practitioners to refine their understanding of current problems, stop inefficient or detrimental practices, and through starting small, practitioners can quickly establish what works in their own classrooms and schools and scale up from there in a manner which continually reflects on context (Bryk et al., 2015).

2.3.2 Creating a Context Derived Model for Action research

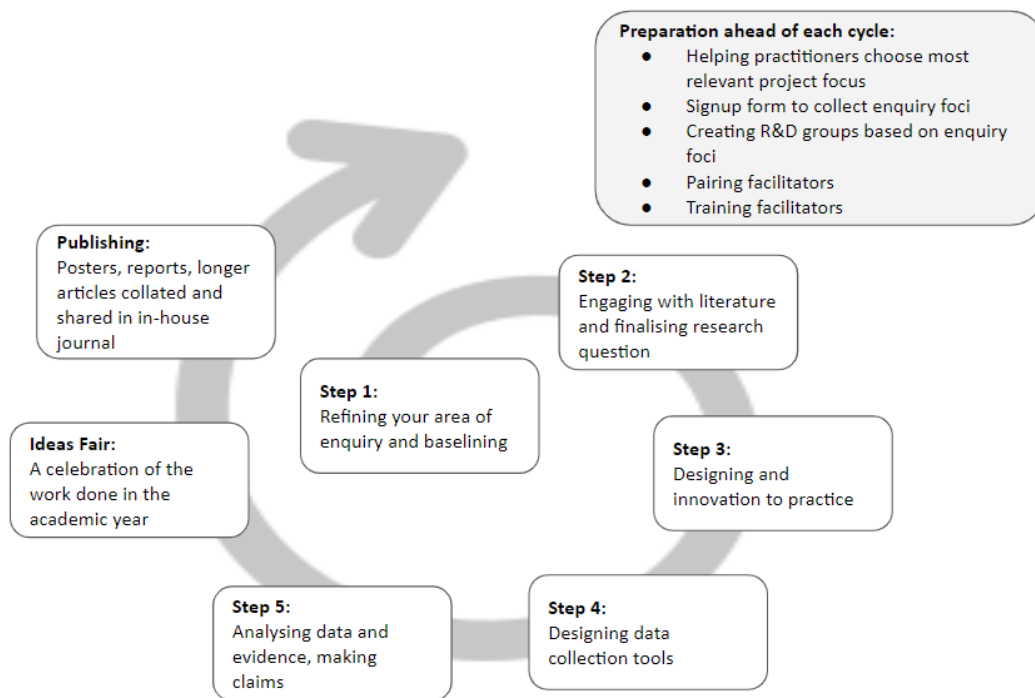
From Lewin's 1946 original definition of action research, I created Figure 2.3 as an illustration of the simplicity of the process.

Figure 2.3 - *Simplified action research cycle created from Lewin's description of the process*



This simplicity has allowed for Lewin's foundational model to be built upon and adapted to education in many ways (see for example (Carr & Kemmis, 1986; Cochran-Smith & Lytle, 1999; Dana & Yendol-Hoppey, 2019; DuFour & DuFour, 2013; Jacobs et al., 2015). Lofthouse et al. (2012) distilled the key element of the action research cycle into a cycle which has a real focus on making the process actionable for a practitioner, promoting research design and reflective practice which will allow practitioners to maintain research alongside their practice. If action research as a model for PDL is to be run effectively in a school, then it needs to be tailored to fit the workings of that school and its practitioners as innovations to practice which are not context derived are less likely to be successfully adopted (Rogers, 2003). As an example, Figure 2.4 shows the action research cycle we developed for the R&D Programme which forms the case study section of my thesis.

Figure 2.4 - The action research cycle developed for the R&D Programme



This model aims to capture the relevance to the practitioner of the Lofthouse et al. (2012) model while maintaining the essence of Lewin's original definition, in particular the notion that action research is a series of spiralling steps. We then used our professional knowledge of the context in which it was to be implemented to tailor it to our bespoke needs for example by using context specific vocabulary such as the 'Ideas Fair' and the name of the in-house research journal although that has been anonymised for the purpose of this thesis. We chose to present the model as a series of steps to be met to allow for flexibility. Models for action research can and should be tailored to specific settings.

2.3.3 Distinctions Between Action research and Other Methodologies

To further demarcate action research and how the methodology is used in this thesis I now consider some of the associated terminology which, unless addressed, can cause confusion in meaning. While considering the literature, especially while undertaking my systematic review, the concept of the Professional Learning Community (PLC) appeared frequently alongside practitioner research and action research. Often, it was hard to unpick how the author was defining a PLC, if the

practitioners within the PLC were using practitioner research and if so, if the methodology for practitioner research was action research or something different.

The definitions of PLCs vary, but DuFour's work is often quoted as a theoretical framework for PLCs. For DuFour et al. (2010), a PLC is:

An ongoing process in which educators work collaboratively in recurring cycles of collective inquiry and action research to achieve better results for the students they serve.

Professional learning communities operate under the assumption that the key to improved learning for students is continuous, job embedded learning for educators (p. 11).

By this definition, action research should be adopted as a methodology within the PLC however, other definitions for PLCs such as 'working collaboratively in school-based groups to examine student and school data in order to take collective responsibility for students' learning' (Cochran-Smith and Lytle, 2009, p. 49) and teachers engaged in 'focused, deliberate conversation and dialogue...about student work and student learning' (Dana & Yendol-Hoppey, 2008, p. 13), have less of a clear emphasis on the use of action research as a methodology. As such, it cannot be assumed that all PLCs use action research as a methodology. Indeed, as discussed when considering the inclusion and exclusion criteria for my systematic review (Chapter 3) there are several examples in the literature of PLCs not using action research as their methodology.

Regarding the R&D Programme which forms the case study for my thesis, some features of the R&D groups echo those of PLCs. Summarising the existing literature on the topic, Stoll et al. (2006) defined a PLC as 'a group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning oriented, growth promoting way, operating as a collective enterprise' (p. 223). This could be a description of the R&D groups practitioners worked in during my case study. However, to realise their full potential, PLCs need to be explicitly and deliberately constructed in consideration of existing guidance on PLCs (Timperley et al., 2017). We did not do that in the R&D Programme, so I have opted not to call the R&D groups PLCs to avoid

confusion. Despite significant overlaps between PLCs for PDL and action research for PDL (Dana & Yendol-Hoppey, 2008) for the purpose of this thesis, they are considered as two different concepts.

A methodology different to action research often used in PLCs and sometimes conflated with action research is lesson study. Lesson study is fast gaining in popularity as a method for PDL (Hanfstringl et al., 2019). It is a method for practitioner inquiry which does utilise a cyclical process, but which operates within a strict and rigid framework. Teachers must work in triads to plan the lesson to be studied with an emphasis on developing a thorough lesson plan and predicting how pupils will react to the lesson (Fujii, 2019). This lesson is then delivered by one teacher with the other two observing and generally paying close attention to a few target students who were pre-identified. The triad then meets to reflect on the lesson and plan subsequent lessons. While lesson study is sometimes cited as a subset of action research the demarcation between the two methodologies is somewhat under explored (Hanfstringl et al., 2019). Lesson study has been an integral part of Japanese teaching methodology for over a century and has been exported to other cultures with varying degrees of fidelity (Fujii, 2016). As such, to claim Lesson study to be a subsection of action research would be to ignore its origin. Lesson study is more astutely viewed as an alternative methodology to practitioner enquiry which has arisen in parallel to the western tradition of action research with any similarities between methodologies being the product of convergent evolution. Moreover, despite its cyclical nature and some parallels to action research, the rigid framework for lesson study removes a degree of autonomy from the process of professional learning.

While lesson study is a powerful methodology for practitioner research, in this thesis it is considered as a different methodology to action research. Moreover, lesson study had previously been trialled, unsuccessfully in the school which is the case study for my research. It proved challenging to organise the time needed to employ it as a model for PDL not least because it

generated a lot of lessons which needed to be covered while practitioners were observing in their triads.

2.4 Diffusion of Innovations Theory

The final piece of the theoretical framework underpinning my thesis is Diffusion of Innovations theory. As my thesis aims to study the implementation of action research as an innovation to in-school, job embedded PDL, I draw on Diffusion of Innovations theory (Rogers, 2003). Roger's Theory has informed implementation science in medicine (Bauer & Kirchner, 2020) and education (Kelly & Perkins, 2012). These movements look to bridge the know-do gap through the successful implementation of evidence informed innovations. It is widely accepted that no matter the quality of an innovation, unless due care is taken during its implementation, it is likely to fail (Fixsen et al., 2013). Fixsen et al. (2007) found that using active methods to ensure the success of an innovation resulted in 80% success over a 3-year period. In contrast, Balas and Boren (2000) found that without the use of specific implementation strategies, there was only a 14% success rate over 17 years. Focusing on the characteristics of the innovation and how it interacts with the existing structures within an organisation is valuable in predicting the reaction people might have to it and so increasing its rate of adoption (Rogers, 2003). Diffusion of Innovations theory refers to the individuals instigating the change in an organisation as 'change agents' a term which I also use throughout my thesis. The theory presents five variables which help determine the rate of adoption of a specific innovation. These are:

- 1) the perceived attributes of an innovation
- 2) the type of innovation-decision
- 3) the nature of communication channels diffusing the innovation
- 4) the nature of the social system in which the innovation is being diffused and
- 5) the extent of change agents' promotion efforts in diffusing the innovation

While Rogers' original theories have been built on by himself and other over in the intervening years between initial publication and now, it is pertinent to go back to his original categories as they still resonate today as can be seen by the large number of citations of his work (142000 on Google Scholar). Moreover, research in the intervening years has not substantially added any other categories to his variables. For example, Kearns (1992), proposed 25 characteristics to explain the rate of adoption of innovations but as well as having significant overlap with Roger's original five characteristics, these were only found to be 1% more effective in predicting the rate of adoption of an innovation than Rogers' five categories (Rogers, 2003). Looking specifically at the characteristics of the innovation, a systematic review by Greenhalgh et al. (2004) adds five characteristics to Rogers' original list. The five additions are; 1) *Task Issues* - If the innovation is relevant to the performance of the intended user's work and if it improves task performance, it will be adopted more easily. 2) *Knowledge Required to Use It* - If the knowledge required for the innovation's use can be codified and transferred from one context to another, it will be adopted more easily. 3) *Risk* - If the innovation carries a high degree of uncertainty of out-come that the individual perceives as personally risky, it is less likely to be adopted. 4) *Fuzzy Boundaries* - Complex innovations in service organizations can be conceptualized as having a 'hard core' (the irreducible elements of the innovation itself) and a 'soft periphery' (the organizational structures and systems required for the full implementation of the innovation); the adaptiveness of the 'soft periphery' is a key attribute of the innovation. 5) *Augmentation/Support* - If a technology is supplied as an 'augmented product' (e.g., with customization, training, and a help desk), it will be assimilated more easily.

These are useful to consider but also have a significant overlap with the five original categories and could be encompassed in those. For example, task issues, Knowledge Required to Use It (the innovation), Risk and Fuzzy boundaries could fit under Rogers' perceived attributes of the innovation. While augmentation/support could fit under the nature of the social system and the extent of change agents' promotion efforts. In this thesis these additional categories will be used to refine thinking within the original five presented by Rogers which will be used to help identify the

barriers and enablers which might be encountered when setting up action research for PDL within a school.

It is pertinent here to emphasise that this thesis is also not concerned with the individual characteristics of people in the adoption of action research for PDL, lots of research has been done into individual differences which might make people more open to change. According to Rogers, people can be categorised into five categories 1) Innovators, 2) Early adopters, 3) Early majority, 4) Late majority and 5) Laggards. These categories are helpful when discussing individual differences in adoption and I use them for this purpose in my thesis, however they do not describe the success or failure of an innovation in an organisation.

2.5 The Contribution of my Thesis

While writing my theoretical framework chapter, I developed Figure 2.5 which helped me ascertain where my research sits within the existing body of knowledge. I have included it here as a graphical summary of what this chapter is aiming to communicate.

Figure 2.5 - An illustration of where my research sits within the theoretical framework

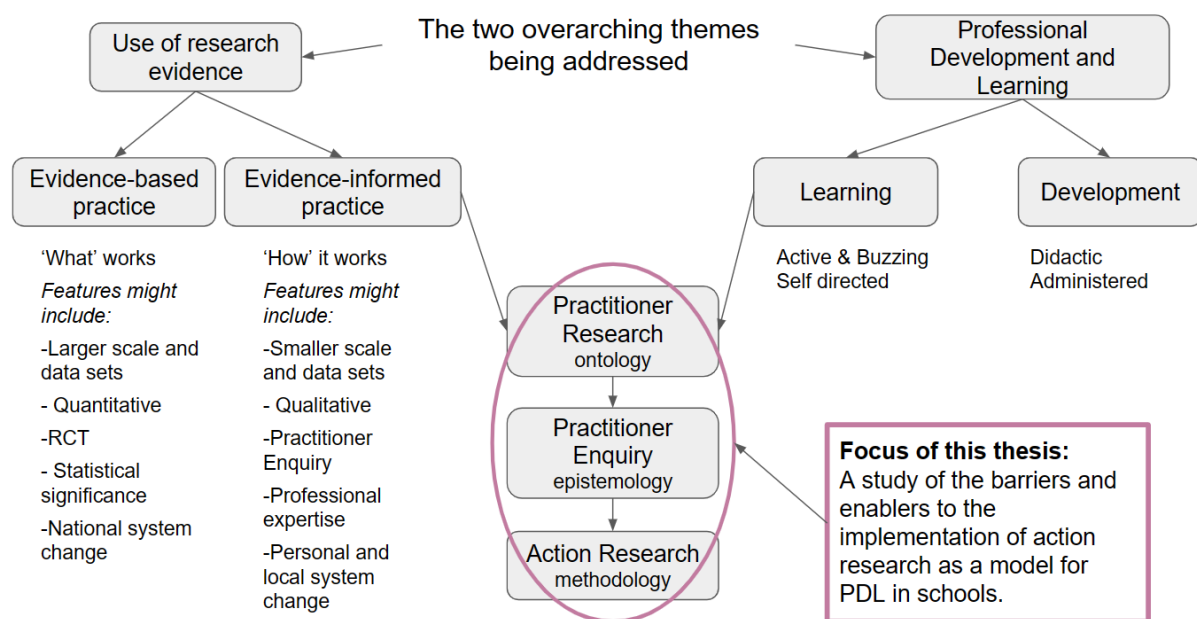


Figure 2.5 illustrates where action research for PDL sits between the two central concepts; research use in schools, and PDL. It is situated on the learning branch of PDL drawing on the ontology of practitioner research as outlined by (Lofthouse et al., 2012). The focus of my research is to explore the barriers and enablers to the implementation of action research as a model for PDL in schools. It is known that attention needs to be paid to implementation if an innovation hopes to succeed, and generalised advice on successful implementation exists within the literature (Fixsen et al., 2005; Rogers, 2003; Sharples et al., 2024). However, I could find little advice on the features of action research in particular which need to be considered during implementation, this is especially true for action research being implemented for PDL for all practitioners within a school.

You can often see small groups of practitioners in school, working in research groups. The EEF has conducted a number of pilot investigations for example Rochdale Research into Practice (Speight et al., 2016) and Ashford Research Champions (Griggs et al., 2016) both of which are examples of PDL models promoting research engagement but both of which have focused on a small number of practitioners becoming research engaged and not the whole practitioner body. In their suggestions for further research, both of these projects say that a synthesis of existing models needs to be done to see what works best.

While school wide programmes for the delivery of PDL based on practitioner enquiry do exist (Gladin O'Shea, 2015), an NFER & EEF survey in March 2016 found that 'research has a relatively small impact on teachers' decision making' (Nelson, 2017, p. 2). Within the literature there is not as much practical advice on the intricacies and practicalities of setting this up as a whole school model for PDL (Roberts, 2015). Many books, for example, 'Action research: a guide for the teacher researcher' (Mills & Buttrick, 2014) are geared towards the individual practitioner as a researcher, highlighting the case often seen in schools that carrying out research to inform practice is the exception of a few individuals as opposed to the norm of the whole practitioner body.

So we can see that more needs to be done to highlight existing studies of schools with a whole school research focus (Handscomb & MacBeath, 2003; Sharp, 2005) and given that there are 'relatively few evaluations of specific strategies for mobilizing evidence to improve practice' (Greany, 2015, p. 11) more needs to be added to this existing body of evidence. So, it is here that I hope this thesis will make a contribution to knowledge, through a systematic review which synthesises current practice, through a case study of the implementation of a model for PDL based on action research and, and finally through producing a list of barriers and enablers to the implementation of action research as a model for PDL.

2.6 Chapter Summary

In this chapter, I defined PDL and emphasised the importance of the distinction between 'development' and 'learning'. Learning encompasses the more active, reflective, practitioner centred element of PDL. It draws on teacher experience and experimentation to create the potential for an environment which, as Hattie suggests should be the case, is 'intense, buzzing and risky'. It should nurture the lifelong learner and ignite the spark of empowerment which comes from autonomy over practice. I explained how action research for PDL sits within the learning branch of this definition.

I then considered the role of research in education and argued that a definition of research which is deliberately broad such as the one proposed by BERA-RSA should be used so that it can include everything from practitioner research to RCTs. This is because there is a difference between research which establishes 'what' can work and research which establishes 'how' something works. Establishing 'what' works is more in the domain of the academics or bodies such as the EEF which have the time and funding to conduct large scale research such as RCTs, which generate large data sets which can be subjected to statistical analysis which allows for the generation of broad, generalisable conclusions. Findings of 'what' can work can then be recommended to schools and practitioners who can establish 'how' they might work in practice by taking these findings and incorporating them into their practice with reflexivity as opposed to fidelity. Practitioners can draw on their professional knowledge to work out exactly 'how' something might work in their setting

adopting an evidence-informed approach as opposed to an evidence-based one. As such, and despite many stakeholders using evidence-based and evidence-informed interchangeably, it is helpful to draw the distinction between the two. To implement an imported package with fidelity is to work purely from an evidence-base and ignores the unique characteristics of the educational setting in which something is being implemented and so reduces its chances of successful implementation. An entirely evidence-based approach to change can run the risk of neglecting the many other factors which should influence the decision making of educational practitioners for example, context of the school, timetabling and time allocations, personal knowledge of students and the use of professional judgement (Bryk et al., 2015; Nelson & Campbell, 2017; Thomson, 2002). Evidence-based practice could lead to the prescription of changes to practice from unchallengeable positions of authority which will increase the chances of the misapplication of research findings (Hendrick & Macpherson, 2017; Nelson & Campbell, 2017). By contrast, to be evidence-informed is to implement with reflexivity and it requires a degree of research literacy to seamlessly bring together knowledge from research evidence and professional judgement. It can also be used to generate evidenced research questions to be fed up to academics and worked on at a larger scale to establish what can work.

However, research literacy amongst educational practitioners is something which has not be prioritised. Using action research to underpin a model for PDL can promote research literacy and so reduce the misapplication of research findings. Moreover, action research for PDL can give practitioners the chance to choose their own lines of enquiry thus making PDL relevant, bespoke and interesting by affording practitioners the opportunity to draw on their professional expertise. Action research formalises and adds rigor to the already commonly used plan, do, review method for improvement, therefore does not need to become an extra and onerous burden on time. Action research allows practitioners to stick with one new initiative for a longer period therefore making PDL truly continuous and it has the potential to be a model for grassroots change which allows for the practitioner to be an active agent in their PDL.

I then set out the key principles outlined in the Diffusion of Innovations theory so that the theoretical frameworks presented in this chapter can pave the way for the next chapter, a systematic review of the existing literature which uses Diffusion of Innovations theory as a lens through which to explore the barriers and enablers to the implementation of action research for PDL.

As the teacher is one of the variables which has the greatest impact on classroom outcomes (Hattie, 2008), it follows that as a profession, we should be committed to the continued improvement of our practitioners if we wish to improve student outcomes and educational experiences. A 2019 systematic review found there to be no clear evidence that CPD in education improves student academic outcomes (Filges et al., 2019). However, this review only included studies of quasi-experimental design with adequate control group conditions and as such might have missed some of the more nuanced benefits of PDL initiatives to professional practice and student outcomes. The rigorous evaluation of the impact PDL has on pupil outcomes is viewed as the pinnacle of successful PDL (Guskey, 2002), but affective evaluation of PDL is something which has been hard to do (Goodall et al., 2005) and typically hasn't been done with much rigour (Filges et al., 2019).

As discussed in this chapter, definitions of PDL can be nebulous and varied, identifying many different variables within the process which would be hard to standardised and measure by quantitative, experimental means. But there is a belief that 'an institutional approach incorporating practitioner enquiry(...) will raise standards of teaching and learning and generate the best possible outcomes for learners in a learning community where the development and retention of practitioners and the sharing of professional expertise are the bedrock of the process.' (Lofthouse et al., 2012, p. 170). As such, the contribution I hope to make through the completion of this thesis is to present a thorough evaluation of the implementation of action research as a model for PDL.

3 Systematic Review

Title: Using Diffusion of Innovations theory to understand the implementation of action

research as an in-school model for teacher professional development and learning: a systematic review.

3.1 Abstract

This systematic review aims to better understand the barriers and enablers to the implementation of action research as a model for professional development and learning (PDL) through the lens of Diffusion of Innovations theory. Action research for PDL is interpreted as deliberate and documented cycles of enquiry used by a practitioner to improve an element of their practice. This broad scoping definition allows for this review to capture the varied interpretations of action research used for PDL within schools. Diffusion of Innovations theory (Rogers, 2003) is used to better understand the characteristics of action research which make it likely (or unlikely) to be successfully adopted by a school as an innovation to PDL. An online search of 12 databases identified 31 original studies pertaining to the research question guiding this systematic review. Reflexive Thematic Analysis of the data set in consideration of Diffusion of Innovations theory identified several barriers and enablers to the implementation of action research as an innovation to PDL within a school. These are presented under three themes: the malleability of the model, democratisation, and reflexivity and experimentation. The conclusion of this review offers advice to change agents looking to implement action research as a model for PDL within their school.

Keywords: action research, teachers, practitioners, practitioner research, professional development and learning, Diffusion of Innovations, schools

3.2 Introduction

There have been repeated calls for the education profession to become more research and evidence informed (BERA-RSA, 2014; Department for Education, 2016; Goldacre, 2013; Stenhouse, 1981), as research and evidence engagement are commonly regarded as central to school reform and improvement in England and elsewhere (Greany, 2015; Walker, 2017). In England, this is

evidenced by the content of the 2016 White Paper, 'Educational Excellence Everywhere', and can be seen in action with the emergence of organisations such as Teachmeet in 2010, ResearchED in 2013, The Chartered College of Teaching in 2017 and the recent re-endowment of the Education Endowment Foundation (EEF) and their Teaching Toolkit in 2022. These organisations are dedicated to the promotion of research and evidence informed teaching in a quest to professionalise the education sector. It is believed that the move to a culture of evidence informed practice will lead to 'professional independence' (Goldacre, 2013) allowing the education sector to become self-improving, in which everything from the individual teacher to the whole system, self-evaluate and progress through professional reflection and enquiry (BERA-RSA, 2014; Brown, 2015). This increased emphasis on evaluation and reflection has the potential to ensure the avoidance of faddy, misapplied initiatives in individual schools and classrooms (Hendrick, 2017).

3.2.1 Professional Development and Learning (PDL)

PDL refers to the 'conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school, which contribute, through these, to the quality of education in the classroom' (Day, 1999, p. 4). This broad definition encompasses a variety of activities however, a 2012 international review found that the most effective PDL allows teachers to become 'active agents' of their own professional growth (Schleicher, 2012, p. 73). A 2012, National College for School Leadership UK government review explored how teachers can become 'active agents' of their own development and found that among other things, 'effective professional development uses action research and enquiry as key tools' (Stoll, 2012, p. 3). As such, this review assumes that action research is an effective model for PDL and so investigates its intentional use, by a school or the individuals within it, as a method for PDL with the goal of using research and evidence informed innovations to practice to improve the educational experience of students.

3.2.2 Action research

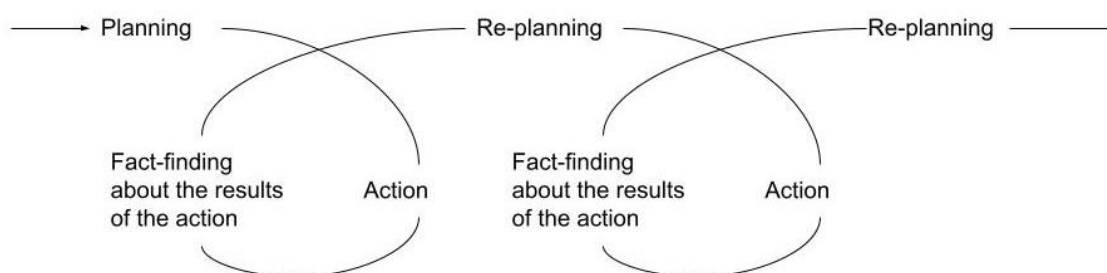
It is believed that practitioners are best positioned to implement and evaluate research findings to improve educational outcomes (Somekh, 2005). Action research is one way to bring

research evidence into the classroom and provide powerful PDL opportunities (Stoll, 2012). It offers the practitioner a framework for carrying out systematic enquiry into practice which nurtures reflective characteristics such as 'the attitude not to accept the status quo, but to ask if there is a better way' (McLean, 1995) thus building the capacity for a school to become a self-improving system.

In a quest to find a form of 'research which will help the practitioner' (p. 34) Kurt Lewin (1946) first defined action research as 'a spiral of steps each of which is composed of a circle of planning, action, and fact-finding about the result of the action' (p. 38) which allow for continuous, evidence informed and sustained improvements to practice. Lewin's foundational ideas have been built upon and adapted to education in many ways (see for example (Carr & Kemmis, 1986; Cochran-Smith & Lytle, 1999; Dana & Yendol-Hoppey, 2019; DuFour & DuFour, 2013; Jacobs et al., 2015). As action research has evolved and maintained its relevance over the years, the associated vocabulary has become confused with terms such as practitioner enquiry, teacher research and action research used interchangeably. Within the body of research pertaining to this subject, there are examples of action research being referred to as practitioner or professional enquiry or inquiry (e.g. MacDonald & Weller, 2017; Ryan, 2016) with some stating practitioner inquiry to be another word for action research (e.g. Wagner, 2020). Lofthouse et al. (2012) set helpful parameters to address this confusion through viewing 'practitioner research' as the ontological belief that 'we can know about our own work through our participation in it', this is followed by the epistemological stance of 'practitioner enquiry' which assumes that our own questions are explored through a systematic investigation of practice and the proposal that action research is one of a number of methods which could be employed in practitioner enquiry (p. 4). Given the interchangeable nature of the terms 'teacher' and 'practitioner', this delimitation from Lofthouse et al. (2012) is supported by Check & Schutt's assertion that 'all action research conducted by practitioners can properly be termed teacher research, but not all teacher research can properly be labelled action research' (2012, p. 264). In summary, action research is an example of a method for the practitioner research ontology.

This review uses the action research cycle in Figure 3.1 created from Lewin's 1946 original description of the process as a reference point when deciding if a study is an example of action research for PDL or not:

Figure 3.1 - *Simplified action research cycle created from Lewin's description of the process*



While more detailed and complex version of the action research cycle exist in the literature, going back to the simplicity of Lewin's original definition and deriving the above cycles from it is beneficial in allowing this review to include variations on the method which still maintain the essence of the theory. Branches such as, classroom action research, collaborative action research, and participatory action research are all included in this review provided they exhibit the above illustrated cycle of enquiry. Often the prefix is added in front of action research to emphasise the social nature of the enquiry (e.g., participatory or collaborative) or to firmly situate it within the setting of practice (e.g., classroom).

Lesson study is a method for practitioner enquiry often conflated with action research (Hanfstingl et al., 2019). However, the emphasis on research quality and validity promoted by action researchers (Feldman, 2007; McNiff, 2016) is not always as immediately obvious in lesson study. Lesson study also provides a clear framework for team-oriented instructional design (Elliott, 2019) which can be argued to set it apart from action research. As such, this review views lesson study as a method for practitioner enquiry different to action research. Professional learning communities (PLCs) frameworks for PDL can also be problematic to categorise as key thought leaders in this area

advocate the use of action research (e.g. DuFour & DuFour, 2013) but in practice different methods of practitioner enquiry are often used (e.g. MacKinney, 2015; Rizzi, 2020). This review therefore treated studies using a PLC framework on a case-by-case basis and did not assume that they used action research.

The limitations of action research by practitioners have been explored with questions often being raised around the quality and purpose of the research being produced (e.g. James & Augustin, 2018; Wyse, 2018) however, it is clear that action research has the potential to facilitate successful changes to professional practice and improve student outcomes (e.g. Higgins et al., 2006). There are good examples of action research being used for PDL in the existing literature (e.g. Herbert & Rainford, 2014; Lambirth et al., 2021). However, the use of action research for PDL has several prerequisite situational conditions which aid its adoption and exist in varying degrees in schools for example, trust, critical relationships, and freedom for practitioners to act and make choices (James & Augustin, 2018). As such, negotiating the transition from other, perhaps more didactic, models of PDL to action research can be challenging and uncomfortable. The egalitarian nature of action research may sometimes conflict with the hierarchical structure that exists in schools (Fryer, 2004; Wyse, 2018) and practitioners need to be willing to scrutinize their practice and adopt a reflexive stance which can lead to 'a sense of anxiety and feelings of incompetence, associated with relearning and meaningful change' (Hopkins, 2013). There will be individual differences in openness to and tolerance of these feelings (Rogers, 2003) meaning that the adoption of action research as an innovation to PDL will not be straightforward. As much is already known about the benefits and limitations of action research for PDL (e.g. Higgins et al., 2006; James & Augustin, 2018; Wyse, 2018), and this review follows the assumption that action research is at the heart of effective PDL (Stoll, 2012) this review focuses on highlighting the barriers and enablers encountered in adopting action research as the predominant, in-house model for PDL in schools. Barriers include anything which impedes adoption while enablers anything which facilitates it.

3.2.3 Diffusion of Innovations

Real improvement 'represents a serious personal and collective experience characterised by ambivalence and uncertainty' (Fullan & Stiegelbaur, 1991, p. 32) and change requires individuals to alter their ways of thinking and doing (Hopkins, 2013). As such, it is commonly believed that no matter the quality of an innovation to practice, without due care over its implementation, it is likely to fail (Fixsen et al., 2007, Balas and Boren, 2000). In education, it is often that case that due care is not given to implementation (Sharples et al., 2019). Focusing on the characteristics of the innovation and how it interacts with the existing structures within an organisation is valuable in predicting the reaction people might have to it and so increasing its rate of adoption (Rogers, 2003). This review attempts to achieve this through refining and situating identified barriers and enablers to the implementation of action research as a method for PDL in schools using Diffusion of Innovations theory.

Diffusion of Innovations is a sociological theory which looks at why, how and at what rate innovations successfully imbed themselves in organisations and wider society. First established by Rogers in 1962, the theory has been continuously built upon and the fundamental principles are still widely applicable today with the 5th edition of Rogers' work (2003) being widely cited across many domains. Diffusion of Innovations has informed implementation science in medicine (Bauer & Kirchner, 2020) and education (Kelly & Perkins, 2012). These movements look to bridge the know-do gap through the successful implementation of evidence informed innovations. The theory is multifaceted, but this review draws on one element of the original theory which identifies five characteristics of an innovation which influence its rate of adoption. These are: the perceived attributes of an innovation – whether or not it is seen as advantageous, compatible and complex, as well as the degree to which it can be experimented with, adapted, and the benefits observed; the type of innovation-decision – whether the decision to engage with the innovation is made independently, collectively or by an authority; the nature of communication channels diffusing the innovation; the nature of the social system in which the innovation is being diffused and; the extent

of change agents' promotion efforts in diffusing the innovation (Rogers, 2003). Change agents are defined by Rogers as 'an individual who attempts to influence clients' innovation-decisions in a direction that is deemed desirable by a change agency' (p. 49) for the purpose of this review, the change agent/s is/are seen as the individual/s responsible for implementing action research for PDL in a school. Each of Rogers' five characteristics could pose as a barrier or an enabler for example, under the first category, if the innovation is perceived as too complex and not compatible with the existing structures of an organisation, this will be a barrier to its adoption. However, if the innovation is simple to understand and can be adapted and moulded to fit into the existing structure of the organisation, this will be an enabler to its adoption. These characteristics are drawn upon and further explained during the presentation of the findings of this review.

3.2.4 Existing Reviews and Implications of this Review

No research syntheses of the adoption of action research as an innovation to PDL in schools were found. As such, this systematic review should provide useful reading for schools new to action research as a form of PDL as it would help them to anticipate and navigate the barriers and enablers they encounter on the journey to becoming more research engaged through developing a bespoke, evidence informed, action research method for PDL. The findings of this review could be used in conjunction with general guidance on managing implementations such as 'Putting Evidence to Work: A School's Guide To Implementation' from the EEF (2019) to create a clear implementation plan which will improve chances of successful adoption.

3.3 Research Question

Through answering the following research question, this systematic review aims to better understand the implementation of action research as a model for PDL within a school. The hope is that this synthesis of existing research evidence about barriers and enablers encountered during the implementation of action research as a model for PDL will prove useful for practitioners, create a platform for future work to build on, and frame and situate my own case study of the implementation of the R&D Programme within the pre-existing body of knowledge.

RQ: *through the lens of Diffusion of Innovations Theory, what is understood about the implementation of action research for PDL in schools?*

3.4 Methodology

A systematic review uses ‘explicit, rigorous and accountable methods’ to synthesise evidence from research (Gough et al., 2017, p. 5). Because of the detailed planning and reporting of a systematic method which itself can be appraised and replicated; a systematic review is seen as a piece of research in its own right. Historically, the systematic review method was widely used to synthesise quantitative data sets and so is often thought of as synonymous to a meta-analysis. While a meta-analysis will often use the systematic review method to identify relevant literature, it focuses solely on the synthesis of quantitative data sets, employing statistical tools to draw meaning. A systematic review, however, can summarise the findings of quantitative, qualitative or mixed-methods research as long as the data sets are evaluated and synthesised using methods which consider their methodological characteristics (Pace et al., 2012).

The studies included in this systematic review are qualitative, occasionally drawing on descriptive statistics to present data from Likert surveys. As such, the method employed to evaluate and synthesise findings reflects this. To ensure rigour and transparency, this systematic review used the PRISMA 2020 statement (Page et al., 2021) to develop a protocol, identify relevant records, and summarise the screening process. Certainty (or confidence) assessments of individual records were conducted before records were mapped and data extracted. Findings were deductively sorted into the characteristics of an innovation set out by Rogers (2003) and then reflexively, thematically analysed using the method outlined by Braun and Clarke (2022)

3.4.1 Inclusion Criteria

The inclusion criteria for this systematic review were predetermined to reduce the chance of bias (Torgerson, 2003) and are displayed in Table 3.1.

Table 3.1 - Inclusion and Exclusion Criteria for Systematic Review

Item	Included	Excluded	Rationale
Date	2012-present (last 10 years)	Published before 2012	To review recent literature
Geographic Location	All	None	To review all research pertaining to the topic. There is no specific geographical focus
Language	English	Everything other than English	Lack of resources to translate from other languages
Publication status	Published or unpublished but in the public domain	Not in the public domain	Scope to include any relevant grey literature
Type of publication	Original studies	E.g. reviews, editorials, thought pieces	To review original studies only, other relevant literature identified will be used elsewhere in this thesis
Topic	Education, Professional Development of teachers	Not education, Not professional development of teachers e.g. healthcare professional development	To keep the review within the parameters of the research question
Participants	Primary and Secondary teachers (or international equivalent e.g. high school), mainstream schooling	Not primary or secondary school setting, not mainstream schooling, not teachers e.g. operational staff e.g. pre-school or university e.g. special schools	To keep the review within the parameters of the research question
Intervention	Action research being used as a model for professional development within a school	Forms of professional development which do not expressly use AR as a methodology for implementation e.g. a guest speaker/series of lectures, lesson study, peer observations	To keep the review within the parameters of the research question
Aim of Intervention	Professional development and learning	Not for the purpose of professional development or learning	To keep the review within the parameters of the research question
Duration of Intervention	Minimum one full cycle of enquiry and one term	Incomplete cycles of enquiry, less than a term	To review action research used for PDL in a sustained manner

Item	Included	Excluded	Rationale
Study design	Any methodology used to study teachers engaging in Action research	Any methodology used to study teachers engaging in anything other than Action research e.g. lesson study	To keep the review within the parameters of the research question
Site	Studies which took place at a single school site	Studies that took place at more than one school site or in a network of schools	To keep the review within the parameters of the research question
Participants	Groups (more than one person)	Accounts of a single person conducting AR in a school	To keep the review within the parameters of the research question

3.4.2 Search Strategy

After finalising the research question and the parameters for this review, practice searches were conducted in all the databases used to ensure the search string worked the intended way. 12 key databases were searched with the following search string:

ab('practitioner enquiry' OR 'practitioner inquiry' OR 'action research' OR 'practitioner research*' OR 'teacher research*') AND ab('professional development' OR 'professional learning' OR 'professional training' OR 'professional education' OR 'teacher development' OR 'teacher learning') AND ab(primary OR secondary OR elementary OR junior OR middle OR high OR kindergarten OR preparatory OR 'sixth form') AND ab(school*)

If a database did not allow for this exact search string, a close variation to it was used. The databases searched and the exact search strings used for each database are reported in Appendix A. The search was conducted on 02.03.2022 and identified 1540 relevant records.

3.4.3 Screening

A rigorous approach was taken to the screening process. After identification, all records were exported into EndNote (V20: Clarivate Analytics), the reference management software which

was used throughout this review. Records were de-duplicated after which 842 remained. These then entered the first of two stages in the screening process.

3.4.3.1 First Stage Screening - Titles and Abstracts

The titles and abstracts of the remaining records were screened to assess their suitability based on the inclusion criteria. An inclusive approach was adopted meaning that where disagreement or uncertainty were met, the record was passed into the next screening stage for more thorough appraisal. Twenty percent of these records were double screened by a member of the supervisory team to ensure inter-rater reliability. To account for chance in agreement, Cohen's K was calculated to assess the inter-rater agreement. The result was 0.642 indicating that there was 'strong' agreement between the two raters (McHugh, 2012). From this, the inclusion criteria were deemed sufficient and so the study progressed.

3.4.3.2 Second Stage Screening - Full Texts

After stage one screening 329 records remained. Every effort was made to retrieve the full text of candidate records, including contacting the author when it was possible to do so. In 17 cases, it was still not possible to retrieve the full text for reasons such as the research being embargoed, so those records were excluded. As such, 312 full texts were screened against the inclusion criteria at this stage. Records were sorted into three folders on EndNote; include, exclude and unsure. Records placed in unsure were discussed and debated with the supervisory team until consensus was reached on either inclusion or exclusion. All records excluded at this stage were given a reason for their exclusion (see Figure 3.2).

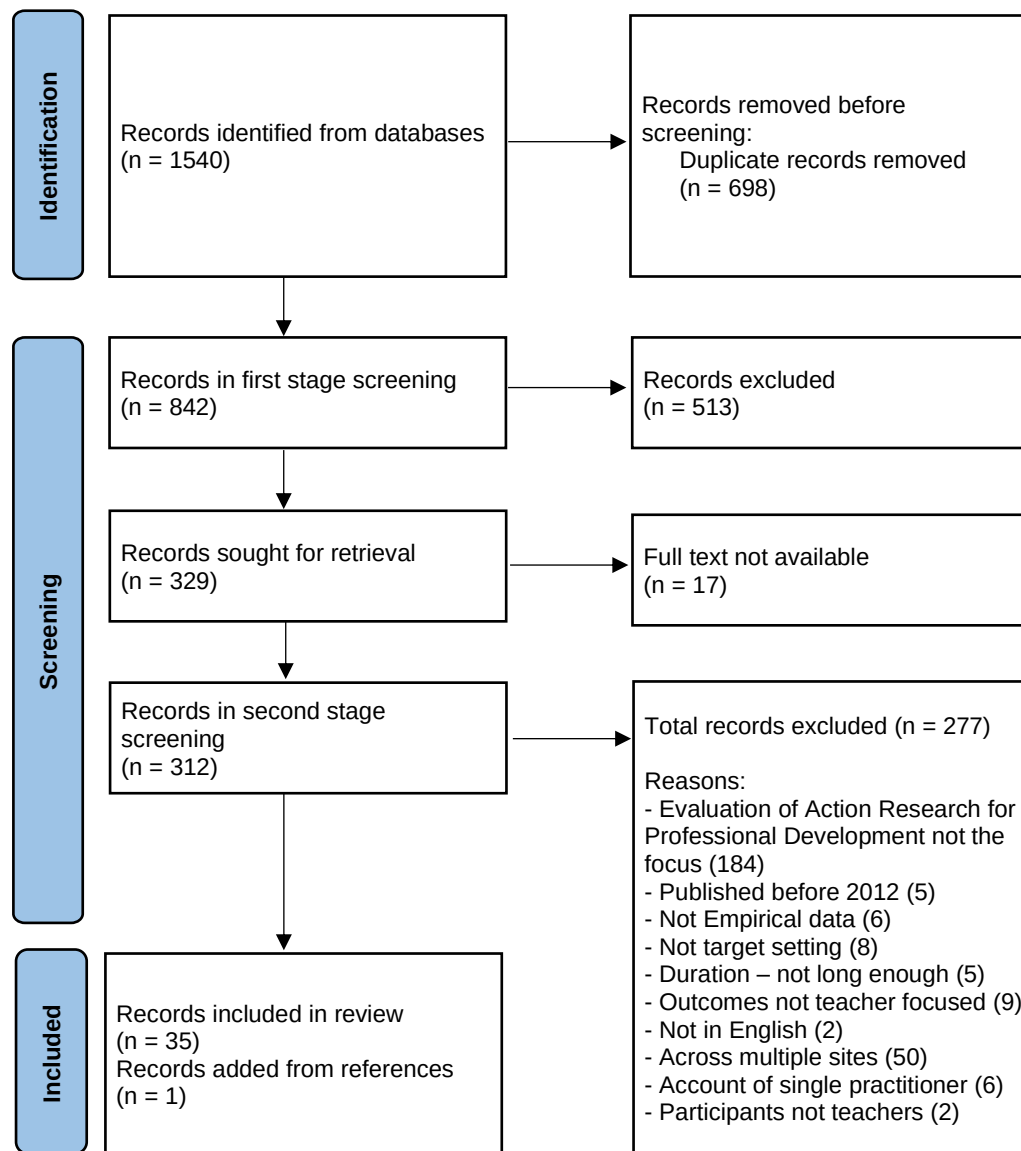
As inter-rater reliability was 'strong' in stage one screening, it was deemed appropriate for the number of records double screened by the supervisory team to be reduced to 10% with the notion that if there were significant disagreement, a larger sample would be taken for further double screening. Inter-rater agreement at stage two was again calculated using Cohen's K and the value was found to be 0.802 indicating 'strong' agreement (McHugh, 2012). Therefore, it was deemed that 10% double screening was sufficient, and no further records were double screened by the supervisory team.

The high number of studies excluded for 'Evaluation of Action research for Professional Development not the focus' is due to the inclusive approach adopted in first stage screening. Studies reporting on Professional Learning Communities (PLCs) were often put forward into second stage screening because advocates for PLCs (e.g. DuFour & DuFour, 2013) suggest that they employ an action research method. At times it was obvious that such a study of a PLC met the inclusion criteria (e.g. Ahlawat, 2015) however, some studies of PLCs focused on topics beyond the scope of this review such as structure of PLC groupings (Finch, 2017) or different data collection tools used by a PLC (Beckmann-Bartlett, 2016). Sometimes a study would use a method for practitioner enquiry different to action research (e.g. MacKinney, 2015; Rizzi, 2020). Occasionally a study of a PLC would use a method with similarities to action research and it was not immediately clear if these should be included. For example, Avci and Özgenel (2019) were studying a PLC using literature circle technique which had elements of a modified action research structure however, it involved participant being assigned different roles e.g., 'stella summariser'. In debate with the supervisory team, it was decided that this gave the methodology a structure beyond action research and so the study was excluded. Allen (2021) focused on topic selection for PDL within a PLC, an important part of the action research process that seems to fit the inclusion criteria however, an assumption of the study was that 'teachers would be able to transfer the information learned from the professional development into their daily instruction with little to no additional support' (p. 8). This is incongruous as it is precisely for the transfer of information into practice where action research should be used, so this study was excluded.

3.4.4 Record Identification Summary

Each stage of the review process is summarised in the flow diagram in Figure 3.2 which is adapted from the template in the PRISMA 2020 statement (Page et al., 2021). Exclusions at each stage by database are presented in Appendix B.

Figure 3.2 - Flow diagram summarising the record identification, screening, and inclusion process



Note. This flow diagram is adapted from the PRISMA 2020 Statement (Page et al., 2021)

3.4.5 Final Records Included in Systematic Review

After second stage screening, there were 35 records remaining. One further relevant record was identified from the references and was added, Hajar (2017). This brought the total of records included to 36; 16 journal articles, 19 doctoral thesis and one master's thesis.

Of the 36 records included, some reported on the same original piece of research, these are presented in Appendix C. Accounting for these, this review reports on 31 original studies. Where two

records reported on the same original study the first record published was used for data extraction in the first instance, if more information was needed, it was looked for in the second record. Findings were extracted from all records reporting on an original study so as not to miss any information.

3.4.6 Mapping

The 31 original studies retrieved for the review were mapped during which key pieces of information were extracted: location, basic descriptions of the research site, and summary of the research. It is possible at this stage to 'refine the research question and inclusion criteria to select a more narrowly focused area for the full systematic review' (Torgerson, 2003, p. 25). As the subject of study of this thesis is a whole school model of action research for PDL, it was noted that nine of the original studies reported on whole school models which allowed for all practitioners to engage in action research for PDL. However, it was felt that focusing solely on the nine whole school studies would create a small data set and give a less rich picture of the current use of action research for PDL. As such, all 31 original pieces of research were included but in the certainty assessment process, weight was given to these nine studies as explained below. Appendix D gives a summary of all the original studies included in the final review.

3.4.7 Certainty Assessment

The concept of quality is complex and there is debate over whether records should be excluded from a review on the grounds of 'quality' (Gough, 2007; Hong et al., 2018). In the search for clearer demarcation in quality assessment, the revised, 2020 PRISMA statement has moved away from the concept of 'quality' in favour of 'certainty' or 'confidence' assessment. This better captures the purpose of the assessment in ascertaining the degree to which findings from a study can be used to inform the conclusions of a systematic review with confidence (Page et al., 2021).

To assess certainty, this review used a weight of evidence assessment (Gough, 2007) to explore the extent that a study contributes evidence to answering the review question. Three judgements are made on each study, A: a generic, non-review specific judgement on the quality of

the execution of the study, B: a review specific judgement on the appropriateness of the method for answering the review question, C: a review specific judgement on the relevance of the focus of the study in answering the review question. These three judgements are then combined to form a final judgment D: an overall assessment on the extent to which a study contributes evidence to answering the review question. The Mixed Methods Appraisal Tool (Hong et al., 2018) was used to guide the generic judgement A pertaining to the design of the study considering method-specific criteria. It is advised not to rank or score a study in a certainty assessment (Hong et al. 2019) so instead a qualitative commentary on each record is presented under each of Gough's weight of evidence categories in Appendix E.

3.4.8 Data Extraction

Each original study was data extracted under the headings presented in Appendix F. These headings were informed by the TIDieR framework (Hoffmann et al., 2014) designed for the better reporting of interventions. TIDieR was originally developed for medicine but has been adapted for education by the EEF (Humphrey et al., 2016). A spreadsheet was used for the data extraction template with each data extraction heading entered as a title for a column and one original study populating each of the subsequent rows. This allowed for easy comparisons to be made between data from different records. As findings in qualitative research are not solely presented in the findings chapter, data points were taken from all parts of the records.

3.4.9 Synthesis of Findings

A systematic review is a piece of research, not just a literature review. Therefore, in a systematic review the evidence from pre-existing research is used to synthesise new findings and interpretations. For this systematic review, data points were extracted from each original study and put into a spreadsheet with one data point per cell, see Appendix F for data extraction template. Analysis then happened in two stages. In the first stage of data analysis, the data points were deductively sorted into Rogers' five characteristics for the rate of adoption of an innovation, some

data points appeared under more than one characteristic. Each characteristic was assigned a colour, and each data point was colour coded according to which characteristic it exemplified.

The second stage was Reflexive Thematic Analysis following the method outlined by Braun and Clarke (2022) and used for this review as follows:

1. Familiarisation with data: reading and re-reading the data, noting down initial ideas.
2. Generating initial codes: Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Generating initial themes: Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Developing and reviewing themes: Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Refining, defining and naming themes: Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Writing up: The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Braun and Clarke emphasise that thematic analysis is not a linear process and that it requires researcher reflexivity throughout as the researcher moves back and forward through the different steps as deemed appropriate and necessary. This process identified three clear themes in the data, a spread sheet was created for each theme. Each spreadsheet was populated with relevant datapoints each of which was carrying the colour code from the first stage of analysis indicating the characteristics they demonstrated from Rogers' Diffusion of Innovations theory. This method helped to weave Diffusion of Innovations theory throughout the presentation of the themes in the findings

section. In the generation of themes, every attempt was made to go beyond the stated data and to synthesise new meaning and new findings exploring the barriers and enablers to the implementation of action research for PDL.

3.5 Findings and Discussion

The barriers and enablers to the implementation of action research as a model for PDL identified from the data set of this review are sorted into three themes. The first is 'the malleability of the model' on a cultural, organisational and individual level. The second is 'democratisation' with a particular focus on the types of innovation-decisions surrounding engagement in the programme and the reframing of the expert to place equal value on internal, professional expertise alongside external experts. The third theme is 'reflexivity and experimentation', reflexivity caused personal shifts in the questioning of practice and assumptions while the encouragement of experimentation by practitioners saw changes incorporated into practice. This theme explores what it means for the individual and the organisation if they are to embrace evidence-informed decision-making and innovation through action research.

There were two threads identified in the data which did not neatly fit into one theme but instead run through them all. The first thread is time, specifically the perceived lack of it. Sixteen studies directly reported that their practitioners felt stretched for time when incorporating action research for PDL into an already packed schedule. But this review does not include time as a barrier, if a programme of action research is designed to have adequate, ringfenced time for engagement which complements the existing practices within the organisation, adoption will be faster (Rogers, 2003) and time will be less of a barrier. Any change in procedure is associated with a learning curve so there is an inevitable initial time implication (Rogers, 2003) but it is the responsibility of the change agent to show the practitioners that they are doing differently, not to doing more and that ultimately action research for PDL can be a tool for streamlining practice, reducing workload and saving time. It is also the change agent's responsibility to work towards a culture of respect towards

the time allocated to the programme ensuring that practitioners are not taken away from it to do other things as was often observed to be the case. This review adopts the stance that where possible, time allocated to action research is not compromised and that time related complaints should be expected, listened to, and used as an opportunity to reflect upon what can be done to make the benefits of the programme clearer to practitioners and its design more complementary to existing structures, both of which will accelerate adoption (Rogers, 2003).

The second thread is culture shifts caused by engagement in action research. Eighteen of the records included in this review comment directly on the impact, sometimes unexpected, that action research for PDL had on the sense of community and trust within the school. Building trust is key to negating fear of exposure and providing confidence in challenging existing hierarchies and norms. Action research for PDL has the potential to shift the nature of the social system towards a stance which is appreciative and accepting of change and innovation no matter where it comes from grassroots or top down, as long as it is evidence informed. This culture shift will be crucial in embedding and therefore ensuring the longevity of such programmes (Rogers, 2003).

Practitioners in schools span a spectrum from suspicion or unawareness of action research for PDL to acceptance and appreciation. If practitioners within a school are already accepting of the model, the journey of implementation might be more straight forward than if they are suspicious of the increased scrutiny, experimentation, and perceived workload that comes with action research for PDL. However, the data shows that as the benefit of engaging in action research for PDL become observable within an organisation or individual practice, regardless of starting point, a shift in culture occurs towards the accepting end of this spectrum. This follows the idea that the more observable the benefits of an innovation the faster its rate of adoption (Rogers, 2003).

This shift in culture seems to be accompanied by a strengthening of community relationships and trust. Through anticipating the barriers and enablers they might encounter, there are things change agents can do to facilitate this shift. Brown and Weber (2016), Ado (2013) and Greenwood

(2016) make reference to practitioners interacting with and having conversations with other members of the community they otherwise would not encounter. The strength of these kinds of weak social ties cannot be underestimated as they promote cohesiveness and creativity within a community (Granovetter, 1973). In the context of action research for PDL these ties create a shift towards a more united community characterised by mutual support and shared objectives (see Ado, 2013; Ahlawat, 2015; Alam, 2020; Aldridge et al., 2020b; Boswell, 2015; Greenwood, 2016; Nawab, 2021; St. Croix, 2020; Thorgeirsdottir, 2015; Troiano, 2012; Wilkinson, 2016). Thorgeirsdottir (2015) calls it 'knotworking' which creates strong collegial ties by going 'beyond team work, it is temporary, initiated by the teachers on equal grounds and involves mutual learning through interaction where the teachers are trying to change the object of students learning with tools and ideas from different teaching subjects' (p. 348). Change agents must sow the seed for this kind of change and prepare the environment to optimise its chance of success but once it takes root, action research for PDL should become self-perpetuating as evidence informed decision making becomes the norm. The themes illustrate how these cultural shifts take place and offer advice to change agents on how to maximise them. This shift can happen somewhat naturally in a snowball effect of buy-in once the benefits of the programme begin to be seen as seen by Aldridge et al. (2020b). This might be due to individuals evaluating action research for PDL not on the basis of scientific research by experts but through the subjective evaluations of near peers who have adopted the innovation. These near peers serve as role models, whose innovation behaviour tends to be imitated by others (Rogers, 2003).

3.5.1 Theme 1: The Malleability of the Model

Rogers (2003) identifies a positive correlation between the rate of adoption of an innovation and its ability to 'reinvent'. All innovations have a 'hard core (the irreducible elements of the innovation itself)' and a 'soft periphery (the organizational structures and systems required for the full implementation of the innovation)' (Greenhalgh et al., 2004, p. 597). The softer the periphery, the more malleable and adaptive the innovation so the more likely it will successfully 'reinvent' and be adopted. The action research cycle illustrated in Figure 3.1 is the 'hard core' of this innovation

which must be observable for PDL to count as action research and this theme illustrates the potential of action research's 'soft periphery'. When implemented well, action research for PDL can be 'reinvented' or moulded to meet cultural, organisational, and individual needs. This theme explores these ideas further.

3.5.1.1 Cultural level

Of the 31 original studies retrieved for this systematic review, 17 originated from the USA and three from the UK, this could be explained to some degree by the English language filter applied to the search however, action research is often viewed as a western construct (Alam, 2020) and indeed, many of the key references repeatedly quoted by studies in this review come from American universities (e.g. Dana & Yendol-Hoppey, 2019; DuFour & DuFour, 2013). Despite this, the remaining 11 studies each came from a different country (see Appendix D) and illustrate how action research can be used for PDL in a variety of geographical and cultural settings, but consideration needs to be paid to the nature of the social setting in which it is used. Alam (2020) in Bangladesh, Hajar (2017) in Indonesia, and Nawab (2021) in Pakistan highlight the tensions between the democratic nature of action research for PDL and strong, culturally relative hierarchies which inhibited participation in dialogue between groups of different social standings. Hajar stated that 'the collaborative verbal reflections were rather male dominated and hierarchical due to three possible factors; the local patriarchal society, hierarchical relationships among the teachers in terms of seniority, and psychological and emotional conditions' (p. 191). Nawab found a similar hesitancy in challenging existing hierarchies around seniority and status. However, they reported that with time and consistent opportunities for interaction practitioners overcame this.

3.5.1.2 Organisational level

The data set included action research for PDL programmes ranging from eight weeks in duration (Nawab, 2021) to three years (Aldridge et al., 2020b; Badasie, 2014), with weekly action research group meetings (Guerra et al., 2015) to meeting only six times across an academic year (Greenwood, 2016), with action research happening in a group of three practitioners (Troiano, 2012;

Wilkinson, 2016) to the whole school of 70 practitioners involved (Brown, 2016), with dedicated events or conferences for the sharing of findings of action research projects (Ado, 2013; St. Croix, 2020) to no obvious strategy for the sharing of findings. In 19 of the studies, between two and 12 members of teaching staff were engaged in action research for PDL, in nine studies it was happening whole school. In 13 of the studies action research happened in a mixed group of participants from different parts of the school, three studies were just of Science, Technology, Engineering, and Maths (STEM) teachers, three studies were just English as a Foreign Language (EFL) teachers, and one study looked at a leadership team forming an action research group. The 'hard core' in the form of the action research cycles of enquiry were observable in each study but there was no clear trend in the structure of the action research for PDL programmes within an organisation. It can therefore be inferred that action research for PDL was moulded to fit the unique nature of each organisation which provides evidence for the malleable nature of the 'soft periphery' of action research for PDL. It is important for change agents introducing action research within their school to use this malleability in conjunction with their context specific knowledge to fit the programme to their organisation. This improves compatibility of the innovation and ensures that it complements the pre-existing nature of the social system, both of which should increase its rate of adoption (Rogers, 2003).

3.5.1.3 *Individual level*

Action research for PDL celebrates the practitioner and their knowledge by allowing them to play an active role in identifying development needs and designing improvements specific to their own practice and context. Through placing the practitioner at the heart of development process it honours the ontological belief that 'we can know about our own work through our participation' in it (Lofthouse et al., 2012). Action research for PDL 'precludes the didactic presentation of decontextualized knowledge and skills' (Troiano, 2012, p. 186) and instead draws on the wealth of situational and practical knowledge that a community of practitioners possess allowing for the development of powerful innovations to practice. External, generalised knowledge is required for

the action research for PDL process but it needs to be transformed into actionable, context specific knowledge. Cain (2015) offers a high-quality description of how practitioners question their practice in the light of research findings stating that ‘the teachers shared knowledge of the students enabled them to share information about types (‘exceptionally gifted girls’) using institutionally specific shorthand (‘Amy Smiths’). In this way, general statements from research were transformed into specific ones without losing their generality.’ (pp. 502-503) allowing practitioners to transform generalised knowledge in this way enables individuals to explore its compatibility with their own context which, if realised will increase the rate of adoption of an innovation (Rogers, 2003).

To facilitate this process, action research for PDL must create regular, ringfenced time and space for professional discussion between practitioners allowing for interactive, personal, and reciprocal exchanges of knowledge moulded to fit individual needs (Ado, 2013; Alam, 2020; Kalamaras, 2015; Leykina, 2014; Munson, 2021). Alam (2020) describes it as the development of a ‘communicative space’ which helped to ground teacher development within the localised experiences and aspirations of the teachers themselves while accounting for cultural differences in hierarchical structures (particularly important for their rural Bangladeshi setting). Such a space provides an opportunity to get feedback on ideas and allows for early career practitioners to learn from more experienced colleagues (Ado, 2013). Kalamara’s (2015) participants found these sustained conversations to be so powerful that they saw the discussions alone as a form of PDL which they valued above other models in which they had engaged. Rogers (2003) highlights that the communication channels used to convey a message from one individual to another impact the rate of adoption of an innovation. While mass media channels are effective in creating knowledge of innovations, it is in fact the interpersonal channels which are ‘more effective in forming and changing attitudes toward a new idea, and thus in influencing the decision to adopt or reject a new idea.’ (p. 48) Giving practitioners designated opportunities for discussion allows for the utilisation of interpersonal channels of communication and as such the changing of ideas and practice.

While many practitioners find the opportunity to be active in their PDL empowering (Banegas et al., 2013; Greenwood, 2016; Greenwood & Kelly, 2020; Hajar, 2017; MacDonald & Weller, 2017; Ryan et al., 2017; Ryan, 2016; Smith, 2017) some found this to be a barrier to participation. One participant in Ado's study reported that 'it does place a burden on our shoulders but in the end, we did learn something,' despite this participant seeing the benefit of the programme, some practitioners will see the practitioner centred nature of this form of PDL as a barrier. There was also evidence of practitioners engaging in action research for PDL who did not fully utilise its malleability, for example Hoover commented 'the principal did not recognize that action research could be used as a means to implement her other initiatives'. This could be due to a lack of understanding of or confidence in the method, it could be something which would change over time, but it needs to be something which change agents implementing action research for PDL are aware of.

In summary, it can be seen that while action research is often viewed as a western construct, it can be implemented in other cultures, but this may come with culturally specific barriers which need to be negotiated. On an organisational level, action research as a programme for PDL can be run in a variety of ways, no two studies included in this review employed the same schedule for engagement in action research. It can be concluded that for that as a model for PDL action research is malleable. On an individual level, through placing the practitioner at the centre of the PDL process, action research creates a platform for the sharing on highly relevant practice generated knowledge between practitioner and so is highly relevant and increases the compatibility of action research for PDL within the organisation which Rogers states will increase the rate of adoption of action research for PDL. Some may find the increased emphasis on the practitioner burdensome and, as touched upon on the cultural level, it could cause tensions as it promotes democratisation and challenges existing hierarchies (Ryan et al., 2017). Change agents need to be aware of the challenges that might come with shifting identities and democratisation, this is explored further in the next theme.

3.5.2 Theme 2: Democratisation

In his original theorisation of action research Lewin made explicit links to democratisation.

Democratisation causes both opportunities and tensions when adopting action research as a model for PDL in a school. This theme explores those in more detail through the consideration of two sub-themes, the type of innovation-decisions governing the adoption of action research for PDL and the reframing of the expert to place equal value on contributions from all stake holders.

3.5.2.1 *Type of innovation-decision*

In his Diffusion of Innovations theory, Rogers (2003) proposes three types of innovation-decision; 'optional innovation-decisions, choices to adopt or reject an innovation that are made by an individual independent of the decisions of other members of the system', 'collective innovation-decisions, choices to adopt or reject an innovation that are made by consensus among the members of a system', and 'authority innovation-decisions, choices to adopt or reject an innovation that are made by relatively few individuals in a system who possess power, status, or technical expertise' (p. 209). It is also possible to have a 'contingent innovation-decisions' where a combination of the three innovation-decisions can be adopted sequentially. Each type of innovation-decision has merits and downsides, this sub-theme unpicks how the types of innovation-decision surrounding participation and selection of focus impact the adoption of action research for PDL.

Fifteen of the original studies opted for a prefix to action research such as collaborative or participatory and in one case 'second-person' (Smith, 2017) to emphasise the collective decision making process of action research for PDL. The positionality of the decision-making unit varied across the studies included in this review. 18 of the lead researchers were current practitioners – suggesting the decision to adopt action research for PDL was coming from within the organisation. Of those current practitioners, 10 were school principals or headteachers, five were classroom teachers, one was a speciality EFL teacher, one a trainee educational psychologist and one a staff development teacher – showing that action research as an innovation to PDL was not only being driven by a top-down approach to changes but that there are change agents within in the

practitioner body of the school driving action research for PDL forward. This inclusivity should help to increase the sustainability of action research for PDL as the number of members of an organisation involved in 'designing, discussing, and implementing an innovation' it positively correlated with its sustainability over time (Rogers, 2003, p. 395).

The degree to which the practitioners were involved in the decision-making processes varied across the studies included in this review. Of the 31 original studies, only five were whole school programmes which mandated participation (Ado, 2013; Brown, 2016; Flessner & Stuckey, 2014; Lyngsnes, 2016; Nawab, 2021). This authority innovation-decision meant the choice to participate was in the hands of 'relatively few individuals' and increased the rate of adoption as many people are forced to adopt the innovation relatively quickly however, the sustainability of the innovation and 'buy-in' are somewhat fragile under these types of innovation decisions (Rogers, 2003). As Lyngsnes (2016) stated, their participants 'felt the project 'belonged' to the headmaster and the researchers' (p. 201). If, in this case the headteacher and the researcher were to leave the organisation, it is unlikely that the innovation will continue (Rogers, 2003). When lacking a sense of ownership over the programme, there is also lack of buy-in from participants. Flessner offers a commentary on the political tensions within the school that arose during a mandated action research for PDL programme which they found to cause resistance to the programme and divides within the community. They advise caution when mandating participation suggesting that 'all participants are offered multiple entry points into the action research process...(to)...ensure that all educators accept the challenge of action research while avoiding political tensions that might derail change before the process even begins' (Flessner & Stuckey, 2014, pp. 48-49).

Whole-school, compulsory models of action research for PDL found that some participants were more engaged with the process than others leading to an uneven distribution of work which got worse over the course of the programme. Ado (2013) concluded that 'there were also teachers who felt that participation was alienating or overwhelming' (p. 140) By contrast, studies which asked

for volunteers to engage in the programme reported high levels of enthusiasm and motivation. (Greenwood & Kelly, 2020) studied an action research group made up of volunteers and found members of the group were highly motivated, and equally invested. However, they struggled to engage colleagues outside of the group in the process stating that ‘as we attempted to draw others in school into our inquiry, it became apparent that some did not see the ideas and insights that we were wanting to share as important, and therefore would not have the same motivation to change their practice’ (p. 221). In this example, had these practitioners who did not view action research as important been forced to participate, it is likely they would have resented the innovation and resisted its adoption (Rogers, 2003).

When it came to autonomy over deciding the focus of action research projects, 24 of the 31 studies allowed for either an entirely self-selected focus or for selection of focus from a list of possible options or an umbrella theme. Umbrella theme or focus lists were generally decided based on school development goals. For example, Ado (2013) carried out a needs assessment of all staff and collated the highest needs into five categories from which participants were allowed to choose their action research project focus. It generally seems as though, when given the freedom to choose their own focus, the programme feels more bespoke to individual needs which is seen as a relative advantage over other models of PDL, increasing rate of adoption (Rogers, 2003). Benefits can be seen straight away in the selection of topic for action research, Ado (2013) stated that ‘the connection between the topic of their groups, the challenges teachers were facing in their classrooms and the applicability of their learning were recognized as being immediately beneficial’ (p. 140). Subsequently in the collection of data to assess the impact of the new strategy designed in the action research process provides a second point of the realisation of benefits and motivates participants.

This review suggests that a contingent innovation-decision is the best approach when implementing action research as an innovation to PDL. If a school starts with a small group of

volunteers conducting action research for PDL, it allows for the facilitator of the action research group to put in the necessary time and effort required to make the experience beneficial to all involved. The staff involved in this stage of the process are making an 'individual-optional innovation-decision' which Rogers states are the types of decisions which are generally adopted most rapidly as they only require one person to make the decision to engage and are independent of the decisions of other members of the system. The results of the first phase of action research for PDL can then be shared with the wider staff body making the benefits of the innovation 'observable' which again accelerates the rate of adoption. For the next cycle of action research more staff should be invited to join in with the process. The decision-making process here is now likely somewhere between 'optional innovation-decision' and 'collective innovation-decisions' these decisions 'usually have greater sustainability than authority innovation-decisions, due to the wider participation in them' (Rogers, 2003, pp. 395-396). Having observed the impact participating teachers had in the first cycle of action research, ('observability' being a further characteristic positively impacting rate of adoption of an innovation proposed by Rogers), more staff are likely to opt in to the second cycle of action research for PD, and so participation would snowball. A good example of this can be seen in Aldridge et al. (2020b) where the programme was offered whole school, but participation was voluntary. Once a large proportion of the staff have opted into the action research for PDL model, a school could mandate participation in action research for PDL in an 'authoritative innovation-decision' to bring any laggards on board with the innovation however, this might not be necessary.

3.5.2.2 *Reframing the expert*

A significant barrier could be encountered in the reframing of the 'expert' required for successful action research for PDL. The shift from seeing expertise as external or hierarchical to valuing the context specific expertise that the body of teachers have accrued over their collective careers was well documented and was generally seen as beneficial, but it requires a degree of trust which some found uncomfortable (Lyngsnes, 2016; Nawab, 2021; Ryan, 2016; Troiano, 2012). Ryan (2016) offers this honest appraisal of their role as researcher, change agent and site principle

navigating the shift to action research for PDL; 'Ironically as teachers developed a new sense of power and control, I struggled to carve out and define a new conception of power and authority for myself as the principal. I did not fully embrace or comprehend my role as a facilitator and researcher, I resisted giving up the control that is typical in school hierarchy, and I struggled with trusting my faculty to do great work without major intervention from me' (p. 234). This issue of trust might also be seen in the wider staff body. One participant in Ado (2013) commented that 'EXPERTS (*sic*) to guide discussions and research' should be brought in to offset the lack of experience among the staff body. Another noted that she would prefer to 'not do this. I'd rather attend a workshop by someone who is an expert and can give concise and effective advice.' (p. 140). It is important for change agents to anticipate and not be put off by these barriers to engagement as it is evidenced that attitudes will change over time and when they do benefit in the shape of greater sense of collegiality can be seen. MacDonald and Weller (2017) describes how 'all teachers in our school are becoming leaders as we help each other examine our teaching practice and its relationship to student learning' (p. 146). This illustrates the democratic nature of action research which gives individuals ownership over the innovation-decision process which will secure the sustainability of the programme over time (Rogers, 2003).

An external 'expert' can still be used in the action research for PDL model, but it needs to be in a way which honours the democratic nature of action research for PDL and doesn't suffocate the voice of the practitioner in the process of development. For example, Lyngsnes (2016) asked their action research group if they would like an external expert to come and speak to them, after their participants agreed they invited an external who 'gave a lecture and planned, observed and reflected together with the teachers about one lesson' (p. 204). This proved motivating and illustrates the changing role of the expert who is commonly described as a 'facilitator' in action research for PDL. Several of the authors included in this systematic review who were themselves delivering the action research for PDL reported on the delicate balance between supporting and facilitating teachers in their action research projects while not being overly didactic in their

instruction (Greenwood, 2016; Guerra et al., 2015; Hajar, 2017; Troiano, 2012; Wagner, 2020).

Thorgeirsdottir (2015) describes the role of the facilitator of action research for PDL as a 'multifaceted role (which) involved praising, supporting, pointing out links to theory and pedagogy, encouragement to disseminate results, questioning and challenging. By combining these together, he built up trust within the group and showed us the way forward' (p. 349).

In summary, the definition of the expert expands to include the practitioner as an internal expert and puts them at the heart of the developmental process. Space needs to be created for the exchange of practitioner knowledge and expertise. Outsiders can be beneficial in providing generalised expertise, but they don't possess the same local knowledge which is invaluable in the application of outside expertise. As such the 'expert' leading action research for PDL takes on the role of facilitator as opposed to didact and provides a framework for engagement with educational research and adapting the knowledge encountered there to everyday practice. Greenwood (2016) describes the action research for PDL process as a 'genuine opportunity for reducing the gap between theory and practice'. It is advised not to mandate participation in action research for PDL as this could have detrimental impact on buy-in and make it increasingly challenging to maintain action research for PDL within the organisation. Flessner and Stuckey (2014) highlight the 'importance of inclusivity and communication in the designing of school-wide action research programs. without teacher buy-in and open communication, such programs may fail to realize the potential of action research for all involved.' This ties in with Rogers' Diffusion of Innovations theory and should make the action research for PDL programme more sustainable.

3.5.3 Theme 3: Reflexivity and Experimentation

The theme identified here was the potential of action research for PDL to facilitate evidence informed reflection which in turn can causing a break away from ingrained and unscrutinised norms of professional practice and create a space for innovation. MacDonald and Weller (2017) describes how 'our continuous examination and use of data to inform our teaching practice and our embodiment of inquiry as a stance has expanded our roles as teachers, instead of teachers being

receivers of knowledge, job-embedded professional learning through continuous cycles of practitioner inquiry allows teachers to become the creators of knowledge' (p. 145). This data set found that increased reflection and reflexivity caused personal shifts in the questioning of practice and assumptions while the encouragement of experimentation by practitioners saw innovations incorporated into practice.

3.5.3.1 Reflection and reflexivity

Action research by its nature is a reflective process encouraging practitioners to consider the evidence of impact of innovations to practice. Participants in nearly every study included in this review stated the systematic reflection encourage by action research was seen as a relative advantage over other forms of PDL the realisation of which should help to accelerate rate of adoption (Rogers, 2003). Lyngsnes (2016) highlights the importance of the 'reflective space' and Munson (2021) said 'that the act of reflection collectively was valued as a means of advancing their professional capacity as teachers' (pp. 60-61). Badasie and Schulze (2018) suggested 'the teachers learnt through a collegial reflective culture in a context-sensitive way' (p. 42).

The reflective process becomes even more powerful when it progresses to reflexivity, and practitioners began to question their own attitudes and assumptions, values and prejudices, habitual actions and thought process (Delderfield & Bolton, 2018). Several records (Greenwood, 2016; Greenwood & Kelly, 2020; Kalamaras, 2015; Leykina, 2014; Lyngsnes, 2016; Smith, 2017; Troiano, 2012; Yigit & Bagceci, 2017) indicated this shift to evaluation of self as well as practice. Leykina (2014) observes that 'In the beginning of the research cycle, when expressing their dissatisfaction with some elements of their lessons, the teachers blamed their students, school administration, or faulty equipment. At the end of the research cycle, the teachers started discussing their own instructional mistakes when reflecting on their lessons, taking on the full responsibility of providing effective education for all students themselves' (p. 181). As a result of a similar shift towards increased reflexivity, Troiano (2012) saw their practitioners become more complete members of their respective communities.

However, creating reflective and reflexive practitioners willing to scrutinise their own practice and communities isn't always easy. It requires an increased level of vulnerability and scrutiny which not all practitioners are comfortable with (Badasie & Schulze, 2018; Flessner & Stuckey, 2014). Leykina (2014) stated that through questioning their own approaches and knowledge as well as common practice, participants ended with more questions than answers. Moreover, on a personal level, 'passive peers did not hold lead teachers accountable for poor planning or did not want their own lack of knowledge exposed' (Badasie & Schulze, 2018, p. 39). On a practical level, Troiano (2012) highlighted how the process caused practitioners to 'delve into levels of uncertainty and complexity about curriculum and pedagogy with which they were unaccustomed' (p. 190).

Not only is pedagogical complexity unearthed during the process of reflection and reflexivity but the process of reflection and reflexivity itself, when done properly, is complex. Hajar (2017), studying a school in remote, disadvantaged Indonesia reported top-down delivery of PDL to be so engrained that by the end of their study, participants still hadn't developed the ability to reflect effectively. Hoover et al. (2016) found similar issues in their study of an American high school stating that 'the reflective portion of the action research cycle was challenging for many of the teachers, even those who demonstrated an understanding of the process. Providing more time for reflection, examples of reflective work, and more directive feedback on reflective responses was needed' (p. 131).

In summary, the reflective and reflexive nature of this programme is largely seen as a relative advantage which Rogers' states will lead to an increase in its rate of adoption, however, this comes with a degree of complexity and uncertainty which could, if not appropriately managed by change agents, cause rate of adoption to slow.

3.5.3.2 *Experimentation*

Trialability is positively correlated with rate of adoption of an innovation (Rogers, 2003) and trialability is essentially the founding principle of action research. Through the cycles of enquiry

practitioners are constantly trailing innovations to practice and evaluating their impact, all studies commented on this as a benefit to the action research model for PDL. Ado (2013), Ahlawat (2015), and Ryan (2016) in particular, emphasised the experimental nature of the process and how that was seen by practitioners as an opportunity for innovation and risk taking.

Not all practitioners are comfortable experimenting with their practice as the stakes can be high (student outcomes). Wilkinson (2016) describes how one of their participants 'was reluctant to adopt different questioning patterns in case the children did not perform well on tests...teachers are often reluctant to change their teaching if it has been deemed effective' (p. 155). Practitioners need, 'reassurance that they can take risks with their teaching' (Wilkinson, 2016, p. 155). However, several studies mentioned how the environment set up within their action research groups meant that they did have increased confidence in experimenting with practice. Munson (2021) describes the deep level of trust that was gradually built within the action research team and how that allowed for practitioners to 'step(ping) out of their comfort zones, try(ing) new and innovative approaches, and share(ing) in the successes and failures together' (p. 73). Ryan et al. (2017) describes a similar sense of trusting community which welcomes honest voices in their action research leadership team.

Moreover, hesitancy to experiment can be overcome during the data collection phase of the action research cycle when practitioners are evaluating the impact of changes to practice. Munson (2021) explains how 'the data provided them (practitioners) proof of learning and effective instruction and/or interventions. It answered the improvement science question of 'How will you know that a change is actually an improvement?' (p. 61), this observability of impact will increase the rate of adoption of action research for PDL (Rogers, 2003) and in a number of examples led to evidence informed changes on a personal level (e.g. Brown, 2016; Guerra et al., 2015; Neil-Burke, 2016; Yigit & Bagceci, 2017) and school wide changes for example, to tracking and assessment (MacDonald & Weller, 2017).

Guerra et al. (2015) emphasises the connection between theory, research, and practice harnessed by action research for PDL. As one of their participants explained ‘collecting data systematically and then analysing these data was ‘most helpful throughout the process’ and that ‘the project itself helped me realize the impact that teachers can have by putting theory into practice’ (p. 93). Cain (2015), highlights how this experimental nature can be used to bring educational research into practice through the ‘imaginative diffusion of research knowledge into areas beyond those originally researched’ (p. 505).

Being able to make evidence-based claims off the back of their action research projects made participants more like to challenge norms and share findings and be more confidence in decisions because they are evidence based (MacDonald & Weller, 2017; Munson, 2021; Ryan et al., 2017; Ryan, 2016; Smith, 2017). Sumler-Faison (2019) points out how this evidence-based approach also allows practitioners to answer questions of impact with confidence. It could only be empowering if their wider social system was set up for it to be. Kalamaras (2015) found it hard to make any school wide change when it was only led by a small group of people.

So, while experimentation allows for challenging the status quo to improve practice, if the nature of the social system in which this is happening is not welcoming of this, then action research for PDL is unlikely to be quickly adopted.

3.6 Conclusion

To conclude this systematic review, Table 3.2 offers advice to change agents looking to implement action research as a method for PDL within their organisation.

Table 3.2 - Advice to change agents looking to implement action research as an innovation to PDL within their organisation

Advice	Explanation
Create a version of action research for PDL which is moulded to your organisation	As illustrated by the variety of models and settings included in this Systematic Review, Action research as a model for PDL can be moulded to fit a variety of school settings. Be aware of the culturally specific characteristics of your setting which may present different challenges to implementation, for example strongly hierarchical societies. Maintain the 'hard-core' of stion research (observable cycles) but embrace its soft periphery as a model for PDL and mould it to fit your setting.
Create opportunities for professional discussions	Ringfence and safeguard time for professional discussions between practitioners. These will enable the transformation of generalised knowledge to context specific knowledge by using and valuing professional expertise. You might opt to set up learning communities or something more bespoke to your setting.
Give practitioners time to adapt to a potentially different method for PDL	Expect resistance as practitioner adjust to this active form of PDL and as they reframe the concepts of expert and expertise. Organisational shifts towards the democratisation of decisions, challenged hierarchies and empowered practitioners through placing the practitioner at the heart of their PDL can be truly empowering but take time and perseverance.
Ensure the process is democratic	Inviting practitioners into the decision-making process gives them a greater sense of ownership over the programme and increases their investment in it. Ask for input into the design and implementation processes. Care needs to be taken in negotiating the democratic nature of the model in strongly hierarchical organisations as it may be seen as a challenge to authority.
Allow practitioners to opt in	Optional and collective decisions to participate increase buy-in from practitioners and better secure the sustainability of the programme. Publicly celebrate the successes of the early adopters to make the benefits of the programme observable. Use interpersonal communication channels to spread the word of its benefits. This can cause a snowballing of participation. Authority decisions to call for mandated participation could be made at a later stage to bring laggards along with the change.
Allow practitioner to choose the focus of their action research projects	Umbrella categories could be given but ultimately the individual should study a topic which feels relevant to them and which they already feel impassioned about. This links to ensuring the democratic nature of action research for PDL as to prescribe a topic stifles the voice of the practitioner.
Teach practitioners reflection and reflexivity	It takes time to learn the skill set needed for effective reflection and reflexivity which are central to high quality action research for PDL. Change agents need to anticipate and plan for the complexity and uncertainty around this as practitioner reframe their positionality and perceptions of expertise. Explicitly teaching reflexivity could help.
Anticipate trepidation and hesitancy to experimenting with practice	A personal shift and a shift in culture to valuing vulnerability and experimentation over certainty and routine is required and this can be uncomfortable. Change agents need to offer reassurance and encouragement.

Committing to action research as a model for PDL is not easy but it has the potential to improve research literacy of practitioners making them able to appraise evidence and use it to inform their practice in iterative ways, and in constant consideration of impact which is the benchmark for effective PDL (Guskey, 2002) It can establish creative and innovative practice and foster strong links and ties between practitioners.

The characteristics of an organisation can facilitate or impede the diffusion of an innovation (Rogers, 2003). As such, to realise the maximal benefits of action research for PDL, close attention needs to be paid to implementation (Fixsen et al., 2007; Fixsen et al., 2005; Greenhalgh et al., 2004; Sharples et al., 2024). Alongside, existing generalised frameworks for effective implementation such as Sharples et al. (2024), practitioners and change agents can use the advice given on the specific characteristics of action research for PDL in this systematic review to anticipate the barriers and enablers they may encounter when implementing it as an innovation to PDL. Change agents must astutely tailor the model of action research for PDL to their own organisation. Initially, change agents need to work to establish a social system within their organisation which embraces and celebrates the uncertainty surrounding an increased scrutiny of practice however, an interesting characteristic of action research for PDL is that once it takes root as a mode of operation within an organisation, it facilitates the development of the environment it needs to survive.

3.7 Chapter Summary

In this chapter I presented a comprehensive systematic review of the literature pertaining to the use of action research for PDL in a single school setting with the aim of synthesising existing research and exploring what is already known about the topic. Diffusion of Innovations theory was used as a filter through which to interpret my findings in consideration of existing knowledge on the adoption of innovations within an organisation. This allowed me to present several recommendations to change agents looking to implement action research as a model for PDL in their school. This review highlights the current state of knowledge and provides a foundation for my primary research which follows.

4 The R&D Programme – Design, Implementation, and Development

In this chapter I present the R&D Programme which forms the case of my primary research. It was a programme for PDL based on action research which I instigated in the school I was working in. For context, I first provide a brief history of its origin.

In the academic year 2017-18, a new model for PDL was introduced to our school known as ‘strands’. Practitioners were asked to choose one topic of interest to them from a list of possible options, they were put into a ‘strand’ based on this choice and attended sessions on their selected topic throughout the academic year. As a member of the T&L team at the school, I was tasked with leading a ‘strand’. This involved choosing a focus topic and designing a series of sessions to deliver throughout the academic year. This seemed like the perfect opportunity to use the knowledge I had gained from my master’s lectures by Kate Wall on the use of action research to underpin PDL. Over the course of the year my strand of 15 practitioners successfully completed several action research projects which were then shared at the Ideas Fair at the end of the academic year.

In that same year, other strand leaders had adopted different methodologies for the delivery of their sessions, but these seemed to be less effective with five of the seven strands petering out over the course of the year, not completing their final session, and not having much to present at the Ideas Fair. Off the back of the perceived success of my strand and the use of action research methodology, I was asked to present on the process to our governors and senior management team. I was subsequently asked to implement an action research model for PDL for all our teaching practitioners. The following academic year (2018-19) I was appointed Assistant Director of Teaching and Learning and alongside the Director of Teaching and Learning and my counterpart from the primary school, we designed a PDL model based on action research, and so the R&D Programme began.

The second of my secondary research questions guiding this thesis asks; *What can be learnt from a case study of the implementation of the R&D Programme in a school in Essex, UK?* Before I present my case study, I need to give a detailed description of the R&D Programme to allow for

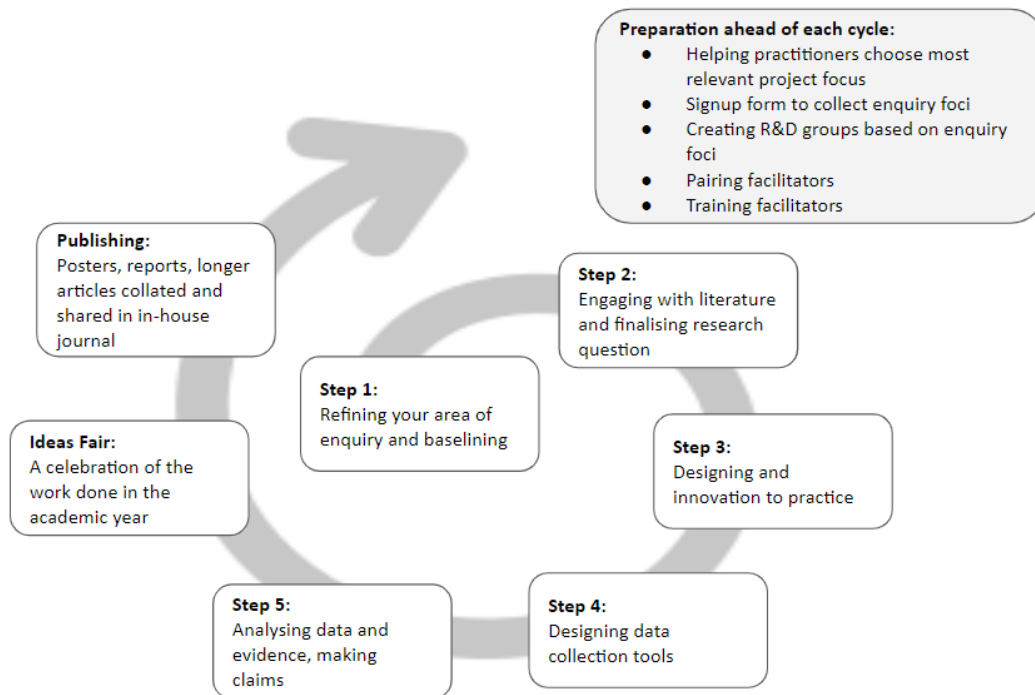
other researchers or practitioners to replicate or build on my findings (Hoffmann et al., 2014). In this chapter, under the subheading of 'design', I set out the key definitions and features of the R&D Programme. In the 'implementation' subsection, I present a chronological account of the events of the first year of the R&D Programme. Then finally, in the 'development' subsection I explain the changes that were made to refine the programme in its second year.

The design, implementation and development of the R&D Programme required an approach sympathetic to its setting and participants. A great deal of reflexivity was needed to embrace the messy process of social change which is documented in this chapter (Attia & Edge, 2017). My field notes and planning documents such as meeting minutes, timetables and sign-up forms were used to construct this chapter. The detail I give enables a deeper understanding of the R&D Programme and begins to build a rich description of my research setting and the dynamics within it. This can subsequently be used to consider my case study methodology (Chapter 5), and the key themes presented in my findings (Chapter 6).

4.1 Design

Figure 4.1 presents the action research enquiry cycle which formed the core of the R&D Programme. Each practitioner was required to undertake a cycle either alone or in a small group. The cycle typically lasted one academic year but there was an option for projects to run over two years depending on its nature and other circumstances (e.g. pandemics).

Figure 4.1 - *Action research cycle developed for the R&D Programme*



What follows is an overview of the core features and principles of the R&D Programme. The key terminology surrounding the programme are presented in Table 4.1. The template for intervention description and replication (TIDieR) framework for the better reporting of interventions (Hoffmann et al., 2014) is used as a guide to report its key features in Table 4.2. These Tables should be used by the reader as a frame of reference when considering the rest of this chapter and the remaining chapters of my thesis.

Table 4.1 - Key Definitions of the R&D Programme

The R&D Programme	This stands for the 'Research and Development Programme' and was the title given to the action research for PDL programme within the school. It was often shortened just to 'R&D' and colloquially practitioners might say things like 'it's R&D tonight' if there was a session scheduled.
R&D group	Practitioners were sorted into R&D groups based on the focus of their action research projects. Therefore, these groups contained practitioners from the primary and secondary school, with various subject specialisms from various year teams. Each group met 6 times throughout the year. In the second year of the case study, the new Deputy Head wished to change the names of these R&D groups to 'Learning Communities'. However, the groups were not set up following the Learning Community protocols which can be found in the literature. So, to avoid confusion, I refer to them as R&D groups throughout my thesis.
Facilitators	This was the title given to the practitioners who led an R&D group and facilitated practitioners through action research cycles. In the First year of the case study, facilitators were members of the T&L team, a steering group set up to plan and discuss many different areas of PDL in the school. This T&L team had been disbanded by the second year of the case study and the facilitator position became one which any practitioner could put themselves forward for. We had a policy of not turning anyone down who wished to become an R&D facilitator. In both years of the programme the facilitator role was voluntary with no remuneration, or time allowance given to it. In the second year of the programme, an external provider was employed to provide formalised training and certification for the facilitators.
T&L Team	The T&L team was a steering group set up to plan and discuss many different areas of PDL in the school. It was set up prior to the start of the R&D Programme as an invitational group of practitioners involved in promoting the Teaching and Learning agendas of the school in various ways. This T&L team was disbanded in the second year of the case study however, many former members of the T&L Team voluntarily carried on with their facilitator role in the second year of the case study.
The Ideas Fair	The Ideas Fair was an established event on the PDL calendar of the school which had been set up 2 years prior to the R&D Programme. It was held at the end of each academic year with the goal of celebrating all the PDL that had happened in the school over that year. It was expected that all teaching practitioners attend the Ideas Fair. In the years prior to the R&D Programme, practitioners were invited to give Ideas Fair presentation on PDL courses they had been on or simply topics that interested them. As well as presentations, there was a marketplace which practitioners could circulate and look at display boards on various topics. It was seen as an opportunity to celebrate and thank practitioners who have put extra effort into their PDL. After the launch of the R&D Programme, it was important to us that the Ideas Fair maintained its celebratory feeling but that it was developed to showcase the outputs of the R&D Programme. As such, over the two-year course of this case study, increasingly the Ideas Fair presentations were on the action research projects practitioners had carried out during the R&D Programme and the marketplace was developed to consist of displays of research posters. Naturally this transition took some time, so in the first year of the R&D Programme the Ideas Fair was a hybrid between its original format and a celebration of the outputs of the R&D Programme. In the second year of the R&D Programme, the Ideas Fair was purely a celebration of the work which had come out of the R&D Programme.

Area or topic of focus	At the start of the academic year practitioners would self-select an area or topic of focus for their action research project. In the first year of the case study, these were selected from a pre-determined list created by the T&L Team based on the school development plan with the option to propose a topic which did not appear on this list. Practitioners were then sorted into their R&D groups based on the area or topic they had selected. In the second year of the case study, it was decided that practitioners should be given full autonomy over their selection and so they could propose an action research project into any area or topic which interested them. These proposals were gathered centrally and sorted into themes which then formed the R&D groups.
Innovation to practice	This was the term used to refer to the change in practice practitioners would trial as part of their action research project. This term was more commonly used in year 2 as it was emphasised by the external provider in their facilitator training.
The external provider	In order to maintain their anonymity, this is the name given to an external organisation which came in to support the training of facilitators and the delivery of the R&D Programme in the second year of the case study.

The TIDieR framework was originally developed for medicine to meet a gap in the quality of the reporting of interventions as it was noted that ‘without a complete published description of the intervention, other researchers cannot replicate or build on research findings’ (Hoffmann et al., 2014, p. 1). This framework has subsequently been adapted by the EEF for interventions in education and is presented in their ‘Implementation and process evaluation (IPE) for interventions in education settings: An introductory handbook’ (Humphrey et al., 2016). I have used the headings from the EEF adaptation of the TIDieR framework to guide my description of the R&D Programme and present this in Table 4.2. Next to each heading is a summary of the relevant key features of the programme and where necessary I highlight where in my thesis points are elaborated upon further.

Table 4.2 - TIDieR for the R&D Programme implementation

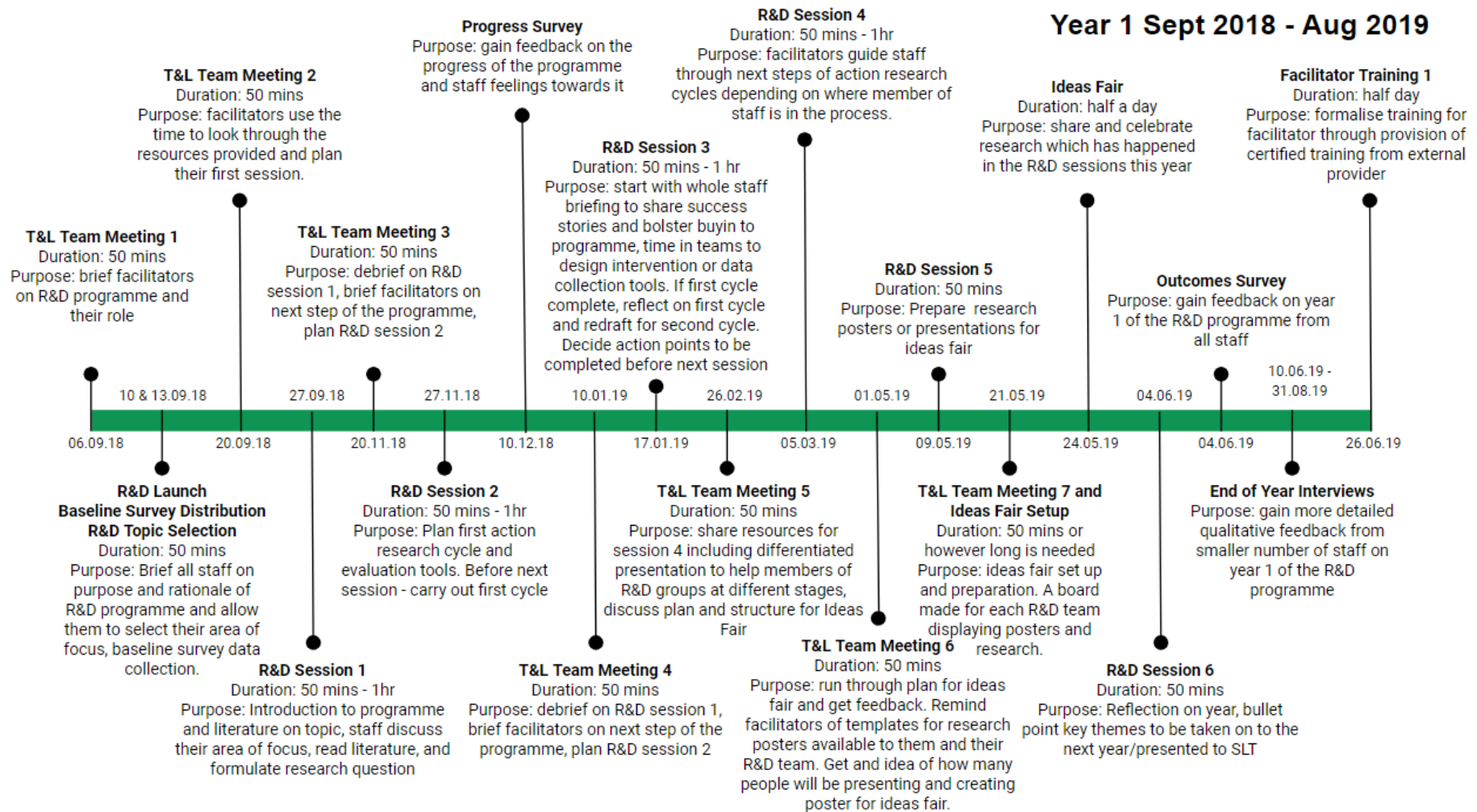
Brief name	The Research and Development (R&D) programme, a programme for PDL based on action research
Why?	To provide an in-house PDL programme which promotes research engagement, reflective and reflexive practice, informed innovation to practice and provides sustained PDL opportunities
Rationale, theory and/or goals of essential elements of the intervention	
Who?	All 200 practitioners who taught at a large independent primary and secondary school in Essex, UK over the 2 years in which this case study ran
Recipients of the intervention	
What?	Facilitators of the programme were given key materials such as session plans, template emails, and research summaries to help them facilitate their R&D group through a cycle of action research. Examples of these materials can be found in Chapter 6 and Appendix G
Physical or informational materials used in the intervention	
What?	There were six R&D sessions and one Ideas Fair each academic year. Facilitators guided practitioners through action research projects. Exact tasks given to practitioners were differentiated to meet the progress they had made through the action research cycle. The outline of the action research cycle followed can be seen in Figure 4.1. Practitioners summarised their research in posters or presentations given at the Ideas Fair. The end of year Ideas Fair also launched the next years cycle of the R&D Programme.
Procedures, activities and/or processes used in the intervention	
Who?	The key roles in relation to the management of the programme are outlined here:
Intervention providers/implementers	<i>Governors</i> – initially approved the implementation of the R&D Programme and periodically checked on progress. <i>Headteacher and Senior Leadership Team (SLT)</i> - Championed the programme and highlighted its importance whenever possible, dropped into R&D Group meetings to chat to practitioners about their projects, promoted the programme outside of our school. <i>Deputy Headteacher with responsibility for PDL</i> – Offered advice and guidance during the design, implementation and development of the programme, fought for the ring-fenced time and money given to the programme. <i>Head of R&D (me)</i> – Over saw the day to day running of the programme, liaised with facilitators, SLT, and the external provider on matters pertaining to the programme. Provided resources and training for facilitators, met with individuals (facilitators or participants) who wanted extra guidance in any area of the programme. <i>External Provider</i> – In the second year of the programme an external provider delivered three half day training sessions for facilitators. They had a presence at the Ideas Fair and wrote a blurb for the inhouse research journal. <i>Facilitators</i> – led the R&D sessions and oversaw the individual projects of the members of their R&D groups.

How? Mode of delivery	R&D group meetings were largely delivered face to face with additional virtual support in the form of resources and emails from facilitators or programme leaders between sessions. During the COVID-19 pandemic, meetings happened over videocall.
Where? Location of the intervention	Each R&D group was assigned a classroom, computer room or other private space in the school to conduct their meetings. The Ideas Fair happened in the sports hall and various classrooms.
When and how much? Duration and frequency of the intervention	The R&D groups met for one hour, six times over the academic year. In between sessions, it was up to the individual how much time they spent on their projects. The Ideas Fair at the end of the academic year lasted an afternoon and was made up of individual 15-minute presentations and a marketplace displaying posters of practitioners' projects. Facilitator training in the first year consisted of brief (30minute) sessions, led by me during T&L Team meetings. In the second year I ran facilitator training with an external provider over three half days.
Tailoring: adaptation of the intervention	As the R&D Programme was implemented by practitioners employed full time at the school, we used our knowledge of the setting to design a model which fit around existing timetables and structures. At the beginning and end of each year, feedback questionnaires were administered (Appendix I). This survey data was used in conjunction with our professional judgements and observations to inform the planning of the subsequent year. It was crucial for us that practitioners felt as though they had ownership over the programme, so changes made informed by evidence and feedback were always made explicit to practitioners in a 'you said, we did' approach.
How well (planned)? Strategies to maximise effective implementation of the intervention	The key dates and outlines for each R&D session were decided prior to the start of each academic year. Facilitator training identified as key to effective implementation and so more time and resources were allocated to it in the second year of the programme. The provision of resources was also key to ensuring a standardised delivery of the programme and so these were developed to be more detailed and exhaustive in the second year (see Appendix G)
How well (actual)? Evidence of implementation variability	The implementation of the R&D Programme was documented meticulously through field notes, interviews, and questionnaires. These data sources helped to build a picture of the variability of the implementation throughout the school. Variability in the experiences of engaging in the programme was observed at all levels (senior management, middle management, and classroom teachers). Various steps were iteratively taken to address this. For example, it was identified that the level of support and resources provided to the facilitators caused variability in the efficacy of the facilitator and the facilitator would be a key factor in determining the outcomes of the R&D groups. As such, more in depth training was provided to facilitators in the second year of the programme. Addressing implementation variability is further addressed in my findings (Chapter6).

4.2 Implementation

To explain the implementation of the R&D Programme, I now present the key dates for the first year of the R&D Programme in a timeline (Figure 4.2). This includes the dates for sessions and training, data collection points, and planning and preparation. This is followed by a chronological, qualitative description of the events of that year.

Figure 4.2 - Timeline of the key dates for the R&D Programme in year one



4.2.1 Programme Launch

The initial plan for the implementation of the R&D Programme involved winning colleagues over with proposals which were explicitly evidence informed and linked to current research. I had 30 minutes to run through the plan for the whole programme with the T&L team after school on the 6th of September 2018. These T&L team members were expected to facilitate the programme by each leading a small group of teachers from the wider practitioner body through action research cycles. Although I felt like we had a lot to cover in a short space of time, this briefing went smoothly and there were no major issues flagged, the mood felt positive.

On the 10th of September 2018 the R&D Programme was launched to all staff in the secondary school. Staff gathered in a large lecture theatre, I noticed that many of the practitioners opted to sit nearer the back of the theatre leaving the first few rows empty. I gave a brief presentation about the aims and expectations of the programme. I also asked all practitioners to complete the baseline questionnaire, this meant that I was able to get a high response rate of 155 and observe practitioners when filling out the questionnaire. I then gave a presentation which aimed to explain and promote the R&D Programme. It was brief and focused on highlighting the importance of the use of research in education using quotes from White Papers and academic literature (see Appendix G). I sensed a degree of disengagement during the presentation and so decided, spontaneously, to add in an anecdotal description of my own use of action research in the classroom and explain how I had found it useful. After the launch, reflecting upon why I made this decision to add in an anecdote, I believed I had felt that the presentation needed to be moved out of the academic, general domain and into our workplace, the more local domain of the practitioner, it needed to feel more relevant and accessible.

After this presentation, several practitioners came forward to suggest research projects of their own which they wished to carry out or topics which they would like to investigate as a group. I interpreted this as an indicator of interest and engagement. Off the back of these suggestions, one topic was added to the list of options for possible research areas in the signup form for the R&D

Programme. This signup form can be found in Appendix G, it was distributed as a Google form and was circulated to all practitioners after the programme launch. Practitioners were given the option to sign up to one of the following 11 topics; Concept Based Learning, Effective Data Tracking, Effective Questioning, Gender, Growth Mindset, Handwriting, Marking and Feedback, Metacognition and Visible Thinking, SEND, STEM and Differentiation. The signup form came with an information sheet giving more detail on each topic. In the signup form we also asked the question 'If you could ask one question of an academic in education what would it be? (for example; how can I improve student resilience in my lessons? Or how can I improve my questioning by using technology?)'. The intention of this question was to start practitioners thinking about a possible research question for their action research projects and to check alignment between the topic they selected and the area of their practice which they wished to improve. Upon reflection, there were a couple of issues with the question. Firstly, the phrasing of it situates expertise in classroom practice in the domain of the academic and inadvertently diminishes the value of the many years of practical knowledge and expertise practitioners have gained over the course of their careers. Secondly, it is quite a hard thing to ask practitioners to do, to quickly formulate and articulate a self-identified area for improvement as a question.

On the 13th of September, I had to do the same programme launch in the primary school. Reflecting on the launch at the senior school, I decided to simplify my presentation and make it more relevant to our workplace. I didn't display my slides, I only briefly mentioned the government white papers and then asked another practitioner, from the primary school, to talk about their experience of carrying out an action research project the previous academic year. This was helpful as this practitioner could address a number of the concerns that colleagues had about engaging in action research for the first time as she had been in the same position the previous year and due to her positionality, better understood the primary school context and workings. This change in approach aimed to situate the launch of the programme more in the local, practitioner domain

instead of the more removed and abstract academic domain. I reflected that the presentation was much more accessible and therefore much better received this time around. I also identified two other noticeable differences between the primary and secondary launch. Firstly, the primary practitioners opted to sit nearer the front of the room, it was a small room, and they had less choice, but it made the session feel more intimate, personal and it felt easier to engage with individuals. Secondly, I noticed a greater degree of Senior Leadership Team (SLT) support and engagement in the primary school.

The subtle changes made to the launch of the programme in the primary school illustrates the iterative approach we adopted to the implementation of the R&D Programme. Changes we made at this stage, were based on professional judgement of mood towards and reception of the programme as I had not had the opportunity to look at the data collected.

4.2.2 Session 1

After completing the topic selection at the end of the launch, all practitioners from the primary and secondary schools were sorted into R&D groups based on their choice. Each of these groups was assigned a member of the T&L team to facilitate it through action research cycles. In this first year of the R&D Programme, the resources and time given to facilitator training were limited. For each R&D group, I set up a folder for their topic, the structure of this folder can be found in Appendix G. It was set up on Google drive so that the facilitator and each member of their R&D group had access to it. The folder contained research 'how to guides' (NFER, 2013), stimulus literature on their topic, templates for research posters, a template presentation for each R&D session, question banks to guide observations and questionnaire design. Appendix G gives examples of each of the resources provided in each of the folders. The resources were deliberately left skeletal as the hope was that they would be fleshed out by facilitators as many of them had their own ideas and suggestions they wanted to incorporate into their session. Facilitators were given approximately 30minutes of 'training' in each T&L team meeting prior to the running of each R&D group session.

On the 20th of September 2018 we held a T&L team meeting to help facilitators plan their first session with their R&D groups. We emphasised that sessions should be more of a discussion among the practitioners which they facilitate, we told the facilitators that we were aiming for a truly bespoke PDL experience so they should tailor their plans to their own and their groups interests. As an example of how different facilitators had personalised their sessions, the SEND group facilitators decided to film several of the SEND students answering questions about how school life is for them with their SEND. The questioning group decided to do something similar with questioning. In this T&L meeting we decided that the first R&D session should end with each member of the group designing a research question informed by the discussions they had had. The atmosphere in this session felt positive but, again, time felt a little tight.

The 27th of September saw the first meeting of the R&D groups. There seemed to be a degree of excitement, and the sessions were well attended. Only a few practitioners did not attend but most who were not there had permission to be absent. My role was to circulate around each of the groups to offer support where needed. However, there were not enough members of the T&L team to facilitate each of the R&D groups, so I had to start off the smallest group, concept-based learning, and make sure they were clear about what they had to do. After about 20 minutes with the concept-based learning group, I left them to self-regulate their progress while I circulated around all the other groups. I observed quite different atmospheres in each room. It was hard to gauge exactly what was going on as I only had around 30 minutes to get around 11 different groups, so I spent a very short amount of time in each room. It appeared that some groups were having very interesting discussions for example, the STEM group decided that they would bring their schemes of work from their respective subjects to look at in their next sessions. The aim was to identify overlaps between primary and secondary curricular and to work to make the transition from the primary school to the secondary school more seamless for students. They had not clearly fitted this into the action research model for instigating change at this stage, but it seemed like a productive and helpful goal

and demonstrated how the facilitator and members of the group took ownership over their sessions and steered it in the direction they felt most beneficial.

At this point in time, the attitude towards the programme felt very positive. There was evidence of variation in the implementation of the R&D Programme by the different facilitators which was not viewed as a bad thing at this stage.

4.2.3 Session 2

The T&L meeting to plan the second R&D group session was on the 20th of November and was sparsely attended. Those who did attend were the ones who seemed to understand the programme well and so did not require as much guidance. This was slightly frustrating as I was hoping to address some of the variation in implementation of the programme and given the short time frame, it was not possible to catch up with absentees before the next whole school R&D session on the 27th of November. This atmosphere and slight disengagement with the programme seemed to be mirrored in the whole school R&D session on the 27th of November and was echoed by a member of the SLT who voiced their misgivings about the programme and its efficacy in conversation with me during this session. This showed that, at this point in time, this disengagement permeated many levels of the school.

The time of year and the point in the academic calendar might have been a contributing factor to some of the challenges which arose at this point in the journey. However, it felt something needed to be done to reboot the programme and bring people back on board. I was getting the sense that the practitioners really were suspicious of the 'research' element of the programme.

It was around this time that it was announced to the school that the Deputy Head in charge of PDL would be leaving and their replacement would be starting in April 2019. On the 5th of December 2018, I had a chance to meet with this incoming Deputy Head who would become my line manager and would have a significant input into the R&D Programme. The incoming Deputy Head

had set up and led a programme like the R&D Programme at their previous school. It was interesting to discuss the programme and how it is going especially as the last session was a little worrying and felt like it had been lacking momentum. The incoming Deputy Head highlighted a few key differences between the programme she ran and the one we were running at the school here. Firstly, she led many of the sessions from the front or sometimes recorded instructional videos for facilitators to watch with their groups to standardise experiences and reduce the variability of the implementation of the programme. Secondly, facilitators had more time and resources given to their training. There was a close working relationship with an external provider who not only trained but also certified facilitators. This added rigor as more time was allowed for facilitators to fully understand the programme and the reward of certification which could be used for CV building added gravitas. Thirdly, she worked hard to employ active strategies to generate buy-in in a fun and unthreatening way.

In our meeting we discussed the idea of bringing practitioners together to reaffirm the aims of the programme and give an idea of why we are doing it as well as getting some other practitioners to speak about what they have done with the programme and how they have done it so that it was not just me advocating the programme. It was becoming clearer to me that active methods to generate buy-in were crucial to the success of the programme. Thinking forward to R&D Session 3 it was decided that a few changes would be made to set a friendlier atmosphere and actively try to increase buy in. Firstly, we would give practitioners teas, coffees, and biscuits at the beginning of the session. Then we would bring all practitioners together in one place to, in effect, reboot the programme, remind them of its aims and, importantly, get practitioners who have understood the brief well and already implemented things in their classroom to feedback to all practitioners on what they had done and how they had done it. Practitioners would then be given 30 minutes in their R&D groups to continue working on and discussing their ideas. It was also proposed

that facilitators of the programme will be invited to attend a Festival of Education as a means of thanks in recognition of the lack of time allowance or remuneration for carrying out the role.

4.2.4 Session 3

The next T&L Team meeting on the 10th of January to plan R&D session 3 was much better attended. Considering the conversation with the incoming Deputy Head, I had really pushed for attendance in this meeting through face-to-face conversations with facilitators where I reminded them of the meeting, and they assured me of their attendance. In this meeting the T&L team members were told that they were invited to attend the Festival of Education as a thanks for their work and in recognition of their commitment. This was well received, and practitioners seemed excited.

To reduce variability of implementation that was beginning to become more obvious among the different R&D groups, it was clear that the facilitators needed more structure and guidance than they had been given. A framework presentation was provided for the facilitators which they could adapt and use for their next sessions. Facilitators were advised to split their R&D groups into the following sub-groups at the beginning of the session; 'has collected data on the effectiveness of the change they have made to their practice', 'has tried out a change to practice but hasn't yet got evidence on impact', and 'needs to gather evidence on the effectiveness of current practice'. The first group is for those furthest through the process and the last for those who haven't really started, each group was then given specific next steps by their facilitators to help guide them through the action research cycle. The idea was that this would work as a benchmarking strategy allowing the facilitator to quickly see the progress practitioners had made while simultaneously and subtly highlighting to those in the groups which had made less progress that they were in the minority. The idea for this new structure came from the two facilitators who were leading the marking and feedback R&D group and so is an illustration of how the development of the programme was a joint effort by all stake holders.

R&D Session 3 on the 17th of January 2019 therefore deviated from the original plan and took the format of all practitioners meeting for teas and coffees, followed by a presentation in the main hall, which was followed by time in their R&D groups. We carefully thought about the format of this presentation, and it was decided that we would get two practitioners, one from the primary school and one from the secondary school, who were engaging well with the programme and who were also well respected by their peers to present on the work they had done so far. The idea was to break down this barrier of perceived difficulty and time burden which some practitioners had built up against engaging in the programme. I also used data generated from the September baseline questionnaire and the December progress questionnaire to highlight two things. Firstly, I used the responses to the question 'how often do you consult the following sources when deciding on your approaches to support pupil progress?' from the September baseline questionnaire to illustrate the strong preference our practitioners body have to consulting peers and highlight how the R&D Programme was providing them with ring fenced time to do that and also how rarely they consulted research but to reassure them that that was fine, that research can be intimidating and that through the R&D Programme we are supporting them to make more evidence informed decision when making changes to practice (Figure 4.3). Secondly, I used the data from the December progress questionnaire to show that 67% of respondents had tried in their teaching something which they had learnt or discussed in the R&D Programme (Figure 4.4). The hope was that this would again act as a benchmark for progress through the programme.

Figure 4.3 - Data from the September baseline questionnaire included in R&D session 3 presentation to illustrate practitioners' preferences of sources to consult when making decisions on how to support pupil progress

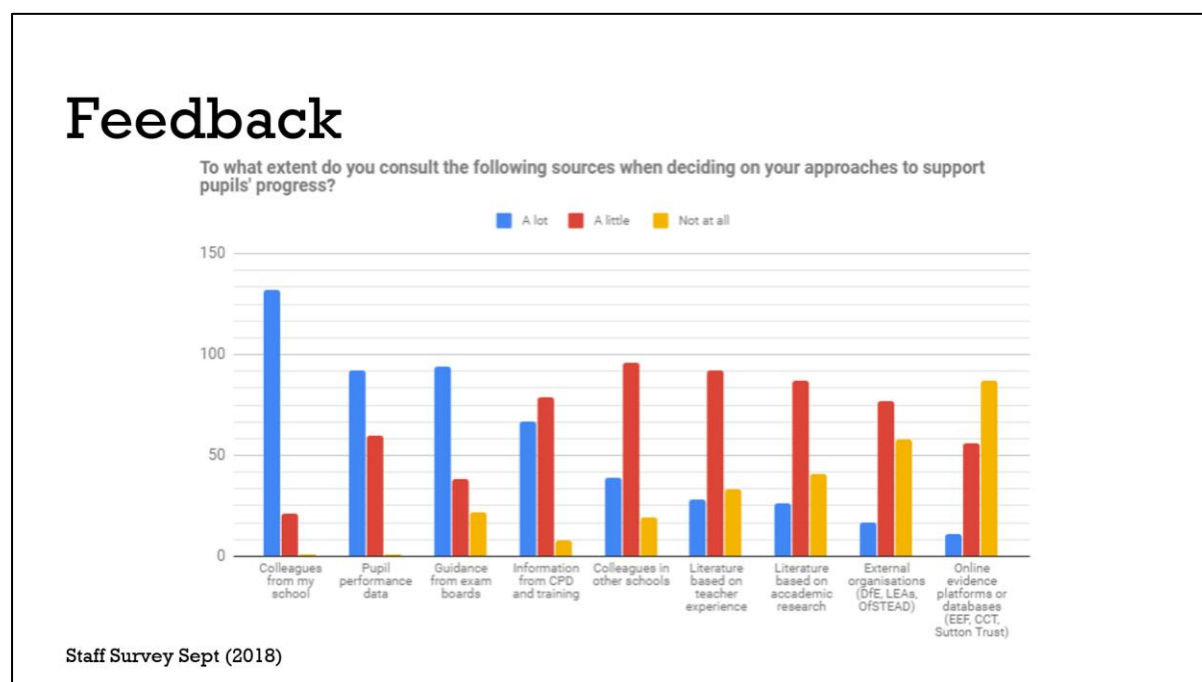
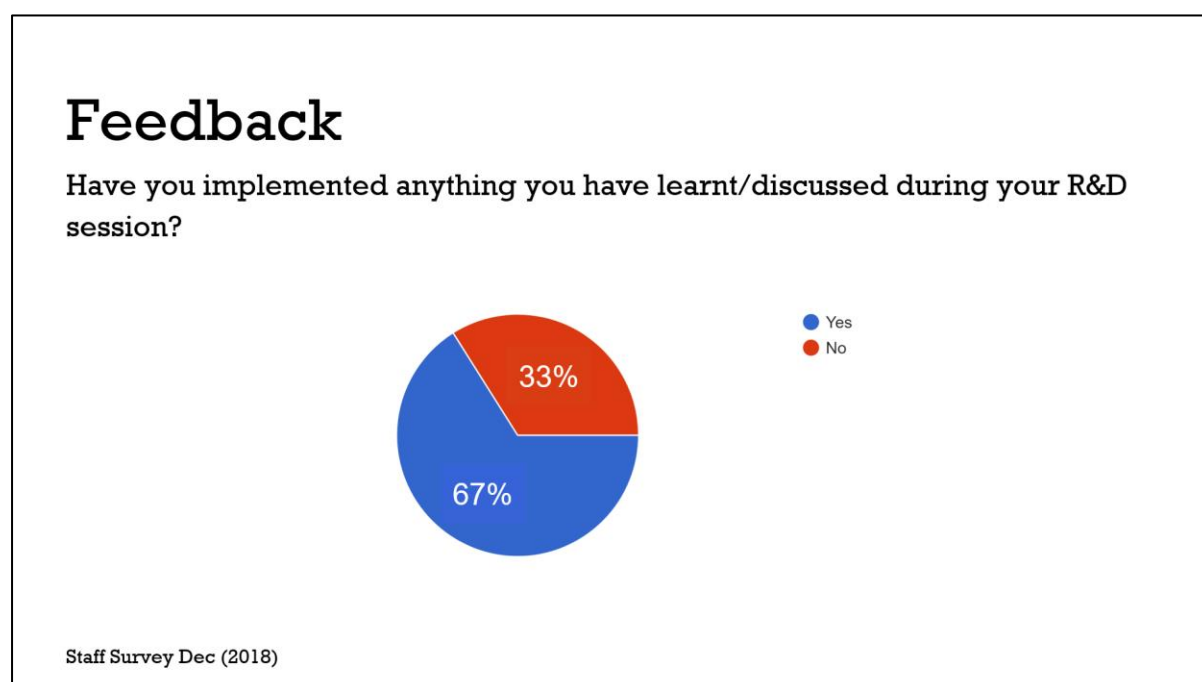


Figure 4.4 - Data from the December 2018 progress survey used in the R&D session 3 presentation to illustrate levels of engagement in the R&D Programme



After this presentation, practitioners went back into their research groups to plan the next step for their own project.

At this point a slight reduction in implementation variability could be seen as a product of the provision of more structured resources for the facilitators. We also felt that strategies to benchmark progress were effective in encouraging practitioners to engage in the R&D Programme. These strategies served to highlight and celebrate progress while subtly encouraging engagement from those who had not made as much progress.

4.2.5 Session 4

On the 26th of February 2019 we had the T&L Team meeting to plan the fourth R&D session and begin discussing the Ideas Fair. For previous Ideas Fairs, stalls had been prepared for a marketplace style event and practitioners had been given a choice of going to a talk or the marketplace. This meant that the marketplace was quite empty, and many practitioners left before the end of the Ideas Fair. My proposal for the Ideas Fair 2019 was to have practitioners circulating amongst a marketplace of posters and, at 30minute intervals, everyone would come together for a 'keynote presentation' from one person or a group of people in the auditorium. The thought behind this was that it would give the presentations more gravitas by ensuring they had a larger audience while simultaneously ensuring the marketplace had lots of people circulating and discussing ideas. While elements of this plan were met with agreement, it was pointed out that asking practitioners to speak in front of all of their colleagues could be quite intimidating and of putting. It would also mean fewer presentations could be given and it would remove an element of choice over the topic a practitioner could listen to a presentation on. As such, it was decided that the Ideas Fair would follow a structure where each practitioner selected one room with 3 speakers in it to listen to. Then all practitioners would go into the marketplace to look at and discuss research posters over teas and coffees after which we would come back together for a whole staff briefing and then end with time in departments.

By the fourth R&D session on the 5th of March 2019, it was clear that some R&D groups were making good progress through the programme and were on track to producing interesting posters

and presentations for the Ideas Fair. However, from conversations with colleagues, feedback from staff and my observations when visiting the different R&D groups, it was clear that despite our increased efforts to address it, there was still some variation in implementation and therefore the experiences of members of the different R&D groups. In some groups, progress had stagnated due to lack of action. Instead of proactively and independently designing or trialling changes to practice, practitioners seemed to be waiting for instruction as might have been more typical in their PDL provisions prior to the R&D programme.

4.2.6 Session 5

At the T&L Team meeting on 1st May 2019 we ran through the plan for the Ideas Fair which was received well. This meeting was quite instruction heavy. I reminded facilitators of the poster templates (Appendix H) which members of their groups could use to produce their own posters and I reminded everyone that they will be expected to produce a display board for their group for the marketplace and shared ideas of what could be on those boards. We collected suggestions for further speakers and got an idea of how many people will be producing posters. It felt like a positive meeting and that lots of research posters and presentations were coming out of the groups.

R&D session 5 was then held on the 9th of May 2019. The groups were either preparing presentations or research posters for the Ideas Fair. I was with the concept-based learning group for a large portion of the session to plan our board. I collated all posters and work which needed printing ahead of the Ideas Fair in a shared folder on Google drive. By the end of the session there was a good deal of material which had been produced and put into the shared folder by several of the groups.

4.2.7 The Ideas Fair

The Ideas Fair ran for a whole afternoon on the 24th of May 2019. Here I use our planning documentation as well as my field notes to outline the key features of the Ideas Fair. The timetable for the day can be seen in Figure 4.5.

The Ideas Fair started with an introduction from the Headteacher. I found it interesting as I felt from what he said that he had better understood the aim of the R&D Programme than when I had first spoken to him at the beginning of the year. I then briefed practitioners on the format of the afternoon before practitioners went into different rooms to listen to their chosen presentations. Prior to the Ideas Fair, I was tasked with recruiting speakers to give presentations. Overall, I found people who I asked to be very willing to speak, so much so, that we ended up with more people than we were aiming for. I felt it was important to let anyone who wishes to speak, speak and so I did not impose a cap on the number of speakers. In the end we had 28 oral presentations (see Figure 4.6), of those, 7 oral presentations were not directly derived from action research projects from the R&D Programme (room 2 speaker 1, room 4 speaker 2, room 5 speaker 2&3, room 7 speaker 1, room 8 speaker 3, room 9 speaker 3).

Figure 4.6 - A description of each oral presentation given at the Ideas Fair

	Speaker	Title	Blurb
Room 1	Speaker 1	Effective Marking	Ensuring that teacher (marking) time is used productively and students receive and can reflect on meaningful feedback.
	Speaker 2	Lesson Study - gamifying lessons	Gamifying' a lesson - what motivates a disengaged student, and what were some other barriers to learning.
	Speaker 3	PearDeck & Visible Thinking	Using Google Slides & PearDeck to enhance student voice and document thinking.
Room 2	Speaker 1	Exploring Character Education	An opportunity to examine inspection criteria used in Church of England schools.
	Speaker 2	Marking Techniques	What is the best way students receive feedback? We have collected feedback from students and will also share strategies we have used in the classroom. We will advise on how to increase the speed of your marking time too.

	Speaker	Title	Blurb
(CU21)	Speaker 3	Lesson Study - Process vs Outcome	Lesson study that focused on how we can develop pupils focus on the process of their work rather than the outcome.
Room 3	Speaker 1	Maximising Pupil Potential	How can we maximise pupil potential? We will focus on four key areas, as identified by a pupil survey and teacher discussions: Enthusiasm (of pupil and teacher), Confidence, Differentiation and Results.
	Speaker 2	Lesson Study - Promoting work ethic in KS3	Using a specific lesson study to explore how and what kind of work ethic is promoted in KS3.
	Speaker 3	Data Tracking	Showing that tracking has practical benefits and can be used to reduce workload.
(CU25)			
Room 4	Speaker 1	Growth Mindset & Resilience	Combining resilience with Growth Mindset techniques to build confidence in pupils so that they can be stretched and challenged more.
	Speaker 2	Google Extensions in Chrome	An introduction to extensions in Chrome, in particular the Screencastify extension which can speed up marking and make it more effective.
	Speaker 3	Concept-Based Learning	Concept-based learning aims to deliver information to students in a way which encourages them to make cross-curricular links, promotes independent thought and develops problem solving skills. In this talk, feedback from students who took part in a series of lesson delivered from a concept-base will be presented.
(CU02)			
Room 5	Speaker 1	Spiral Curriculum and Publishing in Impact	An alternative to working through the specs: IB Physics case study, and the experience of writing an article about it for a journal of education.
	Speaker 2	Google	Tips on how to optimize the use of Google drive, Gmail, docs and other Google apps.
	Speaker 3	Viewing the School From a Different Perspective	An insight into the role of the Bursar
(CU24)			

	Speaker	Title	Blurb
Room 6 (CU23)	Speaker 1	Effective Test Feedback	Optimising test feedback by evaluating the effectiveness of test reflection tasks used in Biology.
	Speaker 2	The Gender of Our Subjects	How do students perceive the 'gender' of our subjects?
	Speaker 3	Questioning	How can we get the most out of our students through effective questioning? Does it always need to be planned?
Room 7 (CU16)	Speaker 1	EAL	EAL overview & practical strategies: identifying the needs of international students and understanding potential barriers to learning; how do you support your EAL students in the classroom? Exploring practical strategies and techniques for effective learning in the classroom
	Speaker 2	Principles of Assessment	A brief introduction to the principles of assessment; useful theory to apply when constructing tests, exams and other assessments.
	Speaker 3	Handwriting	In a digital age, should we continue to teach handwriting? We explore the headlines and research into this controversial topic and look at the results of teaching handwriting from the Prep School.
Room 8 (CU15)	Speaker 1	The use of Thinking Maps	The use of thinking maps by students to help organise their thinking and therefore create better and more useful notes.
	Speaker 2	Handwriting 2	In a digital age, should we continue to teach handwriting? We explore the headlines and research into this controversial topic and look at the results of teaching handwriting from the Prep School.
	Speaker 3	Experiences of Boarding	We do more than just feed them! The challenges of pastoral support in the boarding House.
	Speaker 1	Marking techniques	Using target codes for marking and assessment to streamline making, make marking more meaningful for students and reduce teacher workload.

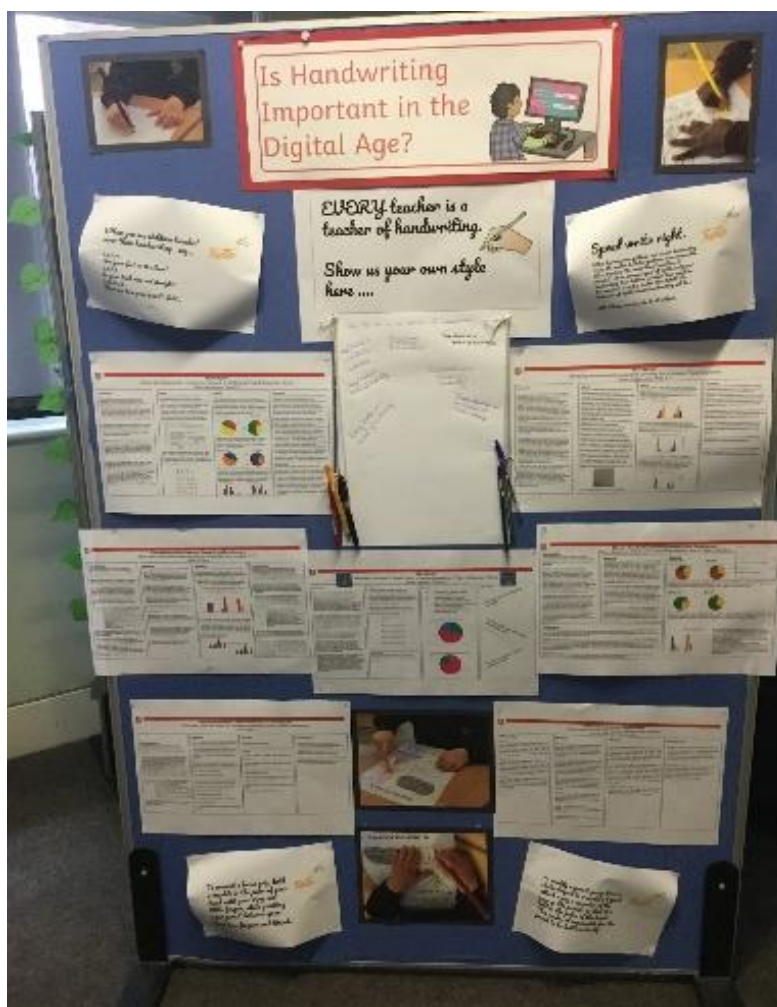
	Speaker	Title	Blurb
Room 9 (CU26)	Speaker 2	Metacognition & Visible Thinking	Do you know how your pupils learn best? Do they? A look at how we can give pupils the language to talk about their learning and ways to express their thinking.
	Speaker 3	Google 2	Tips on how to optimize the use of Google drive, Gmail, docs and other Google apps.

As a lot of work had gone into the preparation of oral presentations, it was important that, where possible, all presentations had good attendance. As such I thought about the grouping of the speakers quite carefully and put talks which I thought may be less popular with talks that I thought might be more popular to try to ensure an even spread of practitioners attending them. However, there was still a skew with the most people by far signing up to Room one.

After the presentations, practitioners went to the sports hall where a stand had been set up by each learning community to showcase the work they had done that year. The T&L Team meeting prior to the Ideas Fair had been dedicated entirely to facilitators setting up their display boards for their stand at the Ideas Fair marketplace. The facilitators seemed excited and proud of the work the members of their groups had produced. Photos of the marketplace display boards from the 'concept-based learning' and 'handwriting' R&D groups can be seen in Figure 4.7. These show a selection of research projects displayed in different poster formats, some other information about their topic, and both have an interactive activity for people to engage with. Concept based learning had the question 'what is movement?' at the centre and asked practitioners to write what movement means to them on a post-it note and stick it on the board. The handwriting board told practitioners that 'every teacher is a teacher of handwriting' and asked them to 'show your own style here' above a blank sheet of paper with pens attached to it on strings. These light-hearted activities were used as a hook to engage practitioners with the rest of the content of the board and were designed to springboard discussions. The boards were manned by members of the R&D group who put them together who were there to answer questions.

Figure 4.7 - Examples of R&D group display boards for the Ideas Fair marketplace





As a lot of effort had been put into producing material for the boards, we wanted people to engage with them. As such, we put together a simple marketplace task which was a shared Google sheet for all practitioners (see Appendix G). As each practitioner in the school was issued an iPad, this was used to complete this task as they circulated the marketplace. The sheet had a tab for each department where practitioners had to record their three most pertinent thoughts, entering into columns; their name, the topic, three things they learnt, and how these could be developed and applied to their teaching practice. This would then inform the post Ideas Fair debrief which happened in departments.

Practitioners from some departments filled out this sheet well, others wrote very little. The anecdotal feedback was that there was a lot of information on each board. While I saw many

practitioners having interesting conversation about elements of pedagogy, given the amount of work that went into creating the stands, I wondered whether they were fully utilised. Moreover, there was a question around what happened next with all the work produced and displayed at the Ideas Fair as I feared that once the first year of the R&D Programme had been complete a lot of the work was lost.

For the whole staff debrief, we all gathered again at the end of the end of the marketplace for explanation of how the department time would work. The practitioners seemed to be in a good mood. I felt there was a sense of pride that what had been achieved really had come from the practitioner body. There were lots of jokes and lots of laughing and there were many more people still present than there had been at this time in previous Ideas Fairs. I told the practitioners that the idea of the department time which they now had was to discuss the three pertinent points they had each written in the shared Google sheet. We had added this departmental debrief to the Ideas Fair as people often report that PDL should be more based in departments and have more of a departmental relevance.

During the department time, some practitioners left and did not participate despite it being an expectation. I felt that as they retreated into departments, they felt less accountable and more invisible. In my own department, the practitioners wanted to go home, and I had to prompt them into engaging in the debrief task which they did to a degree but not very thoroughly. I found this an uncomfortable dynamic to negotiate. Running the R&D Programme often felt most uncomfortable within my department perhaps because I knew the practitioners in my department better and had preconceived ideas of their response to the programme. Some departments did use the department time with one practitioner who had been teaching at the school for over 40 years, telling me that at the end of the Ideas Fair that it was the best department time he had ever had. Reflecting on the role of the Heads of Department and Heads of Year in the R&D Programme, I felt they could help with the Google sheet set up by entering the names of their department members in advance so

that each person has three clear rows to fill out. They could also be given a clearer description of how to structure and run the department time.

4.2.8 Session 6

The final R&D session 6 was held on the 4th of June 2019, it was only a half session, and we ran it with all practitioners together as opposed to in R&D groups, the new Deputy Head led this session with me. The aim of it was to outline the progress that had been made this year and set out the plan for the following year. Practitioners were told that the R&D Programme will be brought in line with the new T&L policy and that we will be getting external training for the facilitators so that they can better understand the aims of the programme and how to support their practitioners through it. We also outlined ways in which we intended to link the R&D Programme with the appraisal process so that the sessions had even greater relevance to each of the practitioners. We invited practitioners to apply for the facilitator training by sending the Deputy Head an email outlining why they wanted to do it and their experience of R&D so far. There were surprisingly few practitioners present at this session and the Deputy Head was concerned about the lack of SLT present. Practitioners were asked to fill out a PDL questionnaire in this session which also acted to generate outcomes data for my case study.

In summary, the first year of the R&D Programme saw a good output of research and work from practitioners, 21 presentations and 35 posters on the research carried out for the R&D Programme were presented at the Ideas Fair. However, the journey to reach that point was not always smooth. It was characterised by peaks and troughs in momentum, practitioners' commitment, and buy in. At the end of the first year, there was a renewed commitment from SLT to support and champion the programme, more funding was made available for the programme and more time and resources were pledged to the training of facilitators.

4.3 Development

After the perceived success of the first year and a change in management of the school, there was an improved disposition towards the R&D Programme. This meant that we were in a

strong position to make the changes we felt would improve the programme as more resources, time, and money were made available to us. This allowed us not only to invest further in facilitator training but also gave us the mandate to work in a more in-depth and strategic way to implement and integrate the programme. As the core of the R&D Programme stayed the same from the first to the second year, instead of telling a chronological story of implementation as I did for the first year, I now describe and explain each of the key changes made to develop the programme in its second year.

It is worth noting that in March 2020, part way through the second year of the R&D Programme, we entered the first national lockdown due to the COVID-19 pandemic. Initially, the remaining R&D sessions were postponed while everyone adjusted to remote working and all the other changes to daily life. Once a routine was more established, some sessions were held online while others were postponed until our return to face to face teaching the following academic year. As a result of this, the second year of the study spanned more than one academic and calendar year, ultimately concluding with the publication of our in-house research journal in April 2021.

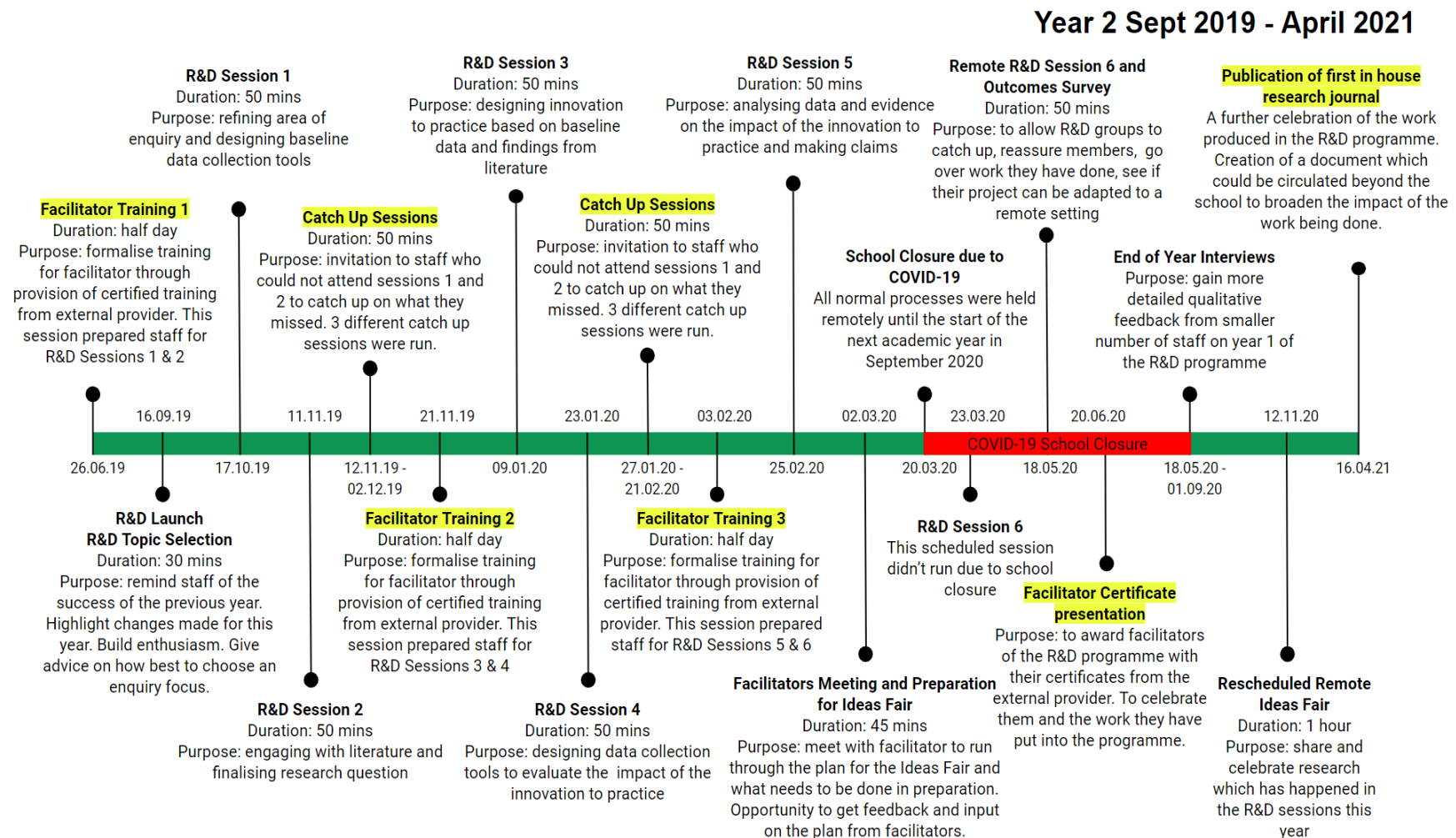
There is one new key term for the second year of the programme worth noting – ‘Learning Community’. The new Deputy Head wanted to refer to the R&D groups as ‘Learning Communities’ to emphasise the sense of ‘community’ we and the facilitators were working to build in each group. This is a valuable notion however, it introduces a new term which is loaded with meaning from the wider literature and can be problematic to define. As explored in my systematic review (Chapter 3) there are several theories on learning communities and how they should be structured and run. In my study, the R&D groups were not set up following specific guidance or frameworks from thought leaders in Learning Communities. As such, I use R&D groups to avoid confusion but some direct quotes from participants in this and my findings (Chapter 6), use the term learning community.

The modifications made to the timeline for the second year of the R&D Programme are presented in Figure 4.8. The key structural additions to the programme are highlighted in yellow.

These are three half day facilitator training sessions, catchup sessions between R&D sessions, the facilitator certification presentation, and the publication of our inhouse research journal.

The specifics of the changes we made were discussed and decided upon at the end of the first year of the programme in a meeting of the core T&L team responsible for overseeing the R&D Programme. This team consisted of the Deputy Head with responsibility for staff development, the Assistant Director for Teaching and Learning from the primary school, and me (the Head of Research and Development). We identified three key areas of the programme we felt could be improved in the second year of the R&D Programme. These were employing more active efforts to increase buy-in, further reducing the variability of the implementation of the programme and improving the relevance of the programme. In the qualitative description which follows the timeline, I offer a more detailed description of the exact changes we made and further explain their nuances. I used planning and delivery documents and my field notes, to create the following report of the changes made to the R&D Programme in its second year.

Figure 4.8 - Timeline of the key dates for the R&D Programme in year two



4.3.1 Active Efforts to Increase Buy-in

There were some illustrative examples of times when the mood towards the programme seemed to be very positive, for example at the Ideas Fair and when celebrating the output of work from the programme that year. However, there was also undoubtedly still suspicion and resistance towards the programme. There were still mutterings about its real agenda, for example to collect data for my thesis, and therefore questions about its longevity. While the output of projects displayed and presented upon at the first-year Ideas Fair was good, 56 complete and presentable projects from 200 practitioners suggests that some people were still not engaging in the programme. We felt that more active strategies could be employed to challenge and breakdown some of the existing culture towards the programme.

Our starting point was to try and challenge the preconceptions of the R&D Programme and PDL in general among our school community. We wanted to build a positive atmosphere around the programme by making our sessions joyful and something to look forward to. When thinking about our messaging, we wanted to present the programme as an invitation to an exciting and bespoke learning opportunity. Practitioners who had been at our school for several years had seen various PDL initiatives come and go so we knew we had to keep going to show practitioners that the R&D Programme was not a fad. We also wanted to work towards normalising being research engaged, to reduce the suspicion around research agendas and to break down barriers around viewing research as intimidating and in the domain of the academic. We decided the best way to do this was by finding the champions of the programme and giving them the spotlight while privately working on the disaffected to try and bring them around. We hoped that we could find ways of making successes explicit while at the same time dealing with pockets of resistance in private in a way which causes minimum disruption to buy-in.

We decided on several strategies to champion the good work coming out of the programme. We restructured the R&D group meetings to include time at the beginning of each session to share good work and progress that had been made which would serve as a benchmark to other members

of the group and hopefully inspire them. We also wanted to celebrate the work done on a wider platform and so we introduced the idea of an in-house research journal. The best pieces of action research would be celebrated and preserved in the pages of this journal which could be distributed among members of the school community and beyond to recognise, celebrate, preserve, and share the work of those who put a lot of effort into the programme. We also shared the research journal with our governors and invited some of the practitioners who had produced the best pieces of research to present their work to the governors. This was to again celebrate and give gravitas to the work produced in the programme but also to begin to find ways to use the findings from our action research projects to inform school policy and change.

Reflecting on the impact of increased SLT presence and support in the primary school as well as the tangible change in disposition when the new SLT members joined the secondary school, we carefully considered how best to use SLT and other leaders. We decided that SLT and the members of the core T&L Team needed to be visible in the programme. Without need of encouragement, our new Headteacher often mention R&D as something special, at the launch of the programme the new Headteacher said that the R&D Programme was one of the things he was most excited about hearing about when he was applying for his new role. He felt it was a real strength of the school and attracted him to work here. Later in the year he re-emphasised this saying that it was the element of the school he showed off about to other heads when he met them. At best, we wanted to build on his enthusiasm and work to mirror it in the rest of the SLT. We wanted SLT to get excited about and take part in R&D Programme, join a learning community, and produce a project of their own. At least, we wanted SLT to not accidentally undermine the R&D Programme as, for example, some feedback was that SLT were not present in any of the R&D sessions, or they were present but distracted, spending time on their iPads and catching up with emails. In reality, we achieved something between these two objectives. SLT did not complete projects of their own, but they were more present in the second year and more excited about the programme. The Headteacher made sure to circulate the different groups on evenings when the sessions were running and talk to

practitioners about their projects. We also made sure that at least one member of the core T&L team would visit each group, every time they met.

In the day to day running of the school, we decided to highlight the good work coming out of the R&D Programme in our weekly, whole-staff briefings. We did this by getting different members of SLT to share concrete examples of impact from a piece of action research being carried out by a practitioner. Once our facilitators had completed their training with the external provider, we held a certification ceremony for them in this same staff briefing. The Deputy Head and I also presented the R&D Programme at an education conference in a further attempt to share our work beyond our school community. We acknowledged that the R&D Programme takes time and repeated cycles before it embeds into a school's culture, so we were persistent, frequently referred to research and the R&D Programme and left journals around the school. We acknowledged the time given to the programme and celebrate it as a strength of the school and trusted practitioners to engage in the programme by operating under the assumption that they were engaged. It was about trusting practitioners to do it but also making sure they do it but in a compassionate way that empowers.

Several pockets of resistance towards the programme were identified in its first year. Mainly this was standalone individuals who would be reluctant to engage, but there was one group of practitioners who were identified as resistant towards the programme. This was the performing arts and Physical Education (PE) departments, essentially the practitioners with a big extra-curricular workload who would be expected to run after school rehearsals, trainings, matches, or performances. Often, they felt their work was disrupted by the R&D Programme which took them away from doing their core job which was to provide the extra-curricular provision for students. To support the disaffected, we adopted two main strategies, one to address individuals and one to address the PE and performing arts departments.

While conducting interviews at the end of year one of my case study, I had seen the power that one-to-one conversations could have in changing dispositions towards the R&D Programme.

Giving people the time to discuss their work and reflect on how they could use the programme to their own advantage seemed to be beneficial to buy-in. As such, anyone who was particularly disengaged was invited to have a conversation with myself or the Deputy Head which we would lead in a way that was deliberately positive, understanding of their situation but firm in the notion that participation was not optional. Our aim was to work with the individual to find a way forward and make the programme really work for them. Some participants reported that they thought they were going to the Deputy Head's office to be told off for a lack of participation and were taken aback when they were met with a positive atmosphere, compassion, and understanding. We believed that this helped to win them over by giving them a sense of agency over the programme and motivate them to engage. To support individuals who missed an R&D session, we ran catch-up sessions between the group meetings. These catch-up sessions were run in small groups and were presented as an invitation to ensure practitioners were not missing out on valuable PDL time and help them maintain momentum on their projects. Again, the fact that some of these sessions were run by the Deputy Head gave them gravitas which reinforced the seriousness with which we were taking the programme. These strategies were time consuming for us but seemed to be effective and we deemed that they were worth that investment of time.

For the PE and performing arts departments we set up a specific R&D group with a co-curricular focus which was run by the heads of the two departments with a greater deal of autonomy. These two heads of department would be overseen by the Deputy Head which again added gravitas. It was decided that this R&D group didn't have to meet at the same time as all the other groups but that they could agree to meet at a lunch time or on a morning before school in the week of the scheduled whole school R&D meetings which suited their extracurricular loads. The hope was that this would generate goodwill and buy-in without undermining the programme by simply letting them not attend. This strategy seemed to be less effective than our strategy to engage individuals. It saw a degree of hijacking by the head of department facilitators to steer the R&D group away from an individualised approach to PDL utilising action research and towards a broader

stroke, prescriptive PDL experience with the focus set by as opposed to guided by facilitators. This is discussed further in my findings (Chapter 6).

4.3.2 Reducing Implementation Variability

Reflecting on our observations of the R&D group meetings, survey data, and research outputs from the first year of the programme, it was clear that there was variation in experiences of the R&D Programme. We wanted to encourage a deeply personalised PDL experience and so gave facilitators in the first year a lot of flexibility. This was reflected in the atmosphere in different rooms and observations of different styles of facilitation. It was clear some facilitators still hadn't fully understood the core aims of the R&D Programme. This was then further evidenced by the number of projects which arose from the different groups for example, every member of the growth mindset group completed an action research project while in the differentiation group no one produced an action research project.

The EEF implementation and process evaluation handbook poses useful questions to help identify why implementation variability occurs and whether it occurs as intended (Humphrey et al., 2016). Guided by those questions, we identified that the R&D Programme is largely implemented by our facilitators with guidance from trainers and core T&L team. We felt implementation varied as a product of the degree of understanding of the programme. We felt our facilitators were better able to lead their groups and ensure the programme is moulded to fit the individual needs of the members of their R&D groups, if they had a better understanding of the programme's aims and objectives. However, in year one we provided facilitators with only a skeletal framework for guiding their groups through action research cycles, the idea was that they could make adaptations to the programme to suit them and to suit their R&D group. The rationale for this was that it would lead to an even more bespoke professional learning experience. However, in reality this led to a lot of variation in the quality of outputs. So, to address implementation variability in year two of the programme, we realised that it was our responsibility to further improve the understanding, clarity, and the accessibility of the programme at all levels. We identified a need to address understanding

at three key levels in our practitioner body, SLT, Facilitators of the R&D Programme, and Participants in the R&D Programme. Through addressing understanding at the SLT level they would better be able to champion the programme and set the mood for the school towards the programme. Addressing understanding at the facilitator level is the most important as they need to effectively lead their group through the action research cycles and ultimately, they will be responsible for understanding at the participant level.

It was easier the second year to work on understanding of the programme amongst the SLT as the new Deputy Head already had a good working knowledge of this model for PDL and was passionate about it. Therefore, she promoted it among the rest of the SLT and encouraged them to be involved, sign up for an R&D group, attend the sessions and carry out an action research project. The idea was that through doing this they would get a better understanding of the programme and realise its benefits and therefore be more active champions of it. The reality was that SLT did not attend many sessions but there was a greater appreciation for the programme and respect for the programme. The fact that the incoming Headteacher, while less experienced in this method for PDL than the Deputy Head, also valued the role of research in the school, was very interested in the programme and championed the programme also had huge knock-on benefits. This all led to greater understanding and appreciation amongst the SLT.

While addressing understanding at the participant level would largely be the job of the facilitators, we acknowledge that there were a number of things we could do to help. Several colleagues still appeared to find the programme daunting and we decided to work on acknowledging that R&D can be daunting and so managing expectations. In our facilitator training, we emphasised to facilitators the importance of how to narrow the enquiry focus of their participants to be realistic about what can be achieved in the given time and what is a realistic level of impact to suggest. Through the restructuring of the programme, we also tried to make it as flexible as possible for participants. While they had to attend sessions at set times, we provided them with anytime access

to all the resources and advice from facilitators or programme coordinators. We did this by uploading all resources to our shared Google workspace. Our school extensively used the Google education suit and so practitioners were well versed in how to access materials from the R&D resource folder. To reduce the time burden involved with preparing posters and presentations in the run up to the Ideas Fair, from the first session onwards practitioners began populating their poster template.

We worked to improve understanding of the programme at facilitator level by allocating more time to facilitator training and paying for an external provider to co-deliver it with us. The aim was to formalise the training with the rationale that the better the understanding of the facilitators, the better their delivery of their R&D sessions and the better the experience for all involved. Facilitating the R&D Programme was seen as a layer of highly developmental PDL however, it was unpaid and, outside of the facilitator training sessions, no additional time was given to facilitators for planning and preparation to run the programme. We appreciated that our facilitators were busy and due to this we wanted to reduce the time burden on them as much as possible. To make the job of the facilitators easier and reduce variability in delivery of R&D sessions, they were provided with many more resources and scaffolds in the second year of the programme. Facilitators were still encouraged to adapt resources but through providing more detailed resources we ensure the key messages, protocols, and steps were delivered uniformly.

Resource packs to guide practitioners through action research cycles focusing on an area of their own choosing were co-developed with an external provider. These were given to all facilitators who underwent three, half day training sessions with the external provider and me to train them in their use. The facilitators then delivered their content to the R&D group. The resources which the facilitators were provided with were placed in shared Google drive folders, the structure and content of which can be found in Appendix G. To further support the facilitators, we paired them up which gave us the opportunity to pair potentially weaker facilitators with stronger ones. We also

made sure we were in constant dialogue with the facilitators to ensure that their group was running as it should be and to let them know that they could reach out to us for help at any stage. In our planning we also carefully considered year pinch points, for example where there were lots of parents evenings or marking loads were high and scheduled sessions around these. This led to us shifting sessions closer together.

4.3.3 Improving Relevance

Time was often cited as a reason for limited engagement in the programme throughout the first year. When unpicking this further, we realised that the R&D Programme, and PDL in general, were often viewed as a bolt on to professional practice, which took away time from workplace tasks which had to be completed and were perceived as more important. As such, we understood that the R&D Programme needed to be perceived as a high value use of time to ensure its success and increase buy in. To achieve this, we realised that we needed to further integrate the programme within existing school norms and practices while making it as relevant as possible to each practitioner to help practitioners view it as a high value use of time.

To help participants get the most out of the R&D Programme, we worked to really emphasise the importance of the initial selection of a topic for their action research project. In the second year of the R&D Programme we allowed for practitioners to entirely self-select their line of enquiry, as opposed to providing practitioners with a list of topics to select from. To make the programme feel as relevant as possible to participants, we needed them to be able to successfully self-identify an area of their practice which they wanted to improve through an action research project. In year one of the programme we found some practitioners very capable of doing this while others struggled. As such, we needed to increase the support available to practitioners in topic selection. Practitioners were given the opportunity to discuss potential ideas with members of the T&L team and their line managers to ensure that they chose and stuck with a project entirely relevant to them. To provide support for the few practitioners who really could not decide a focus, we did provide some suggestions. But essentially the aim was to make it feel the most relevant and

least like a bolt on. We provided practitioners with a signup sheet (see Appendix G) prefaced with an overview attempting to emphasise the importance of the topic selection process. Our belief was that practitioners will get the most out of action research (and PDL more generally) if they feel it to be relevant or closely linked to their practice and context. So, it was crucial for us that practitioners would be able to choose the direction of their own enquiry.

We were also working to bring the R&D Programme in line with appraisals. This served the dual purpose of highlighting the relevance of what they were doing to targets for development as well as allowing them to gather evidence for the meeting of appraisal targets. Focuses for R&D projects could be agreed in conversation with line managers, and they could be designed in such a way that they align with appraisal targets so that the practitioner has a robust body of evidence at their next appraisal meeting to show that they had met or were working towards their target. We could then promote the programme as a way of working on a PDL goal which is in line with appraisal targets.

It was important that practitioners maintained the essence of the action research cycle in their work. However, we found that practitioners moved through the cycle at different paces, this was especially true for part-time practitioners who could not attend all R&D group sessions. The delivery of content by the facilitators had to be sensitive to this. A diagnostic tool was given to the facilitators to help in this process. This took the form of a hyperlinked presentation. Practitioners could choose from the statements shown in Figure 4.9.

Figure 4.9 - Statements from the diagnostic tool used to guide practitioners in the second year of the R&D Programme

Which statement applies to you?

- [I have an idea of what I would like to look at but haven't yet got any further than that](#)
- [I have my research question and need to collect baseline data](#)
- [I have my baseline data and need to analyse it and design my innovation](#)
- [I have designed my innovation and now need to collect or analyse my data on its effectiveness](#)
- [I have done all of the above](#)
- [I just don't think my project will work remotely](#)

This diagnostic tool was originally designed to be used during remote R&D meetings over the pandemic. However, they were deemed useful and so were maintained when we came back to face-to-face meetings. Clicking on a hyper linked statement took the practitioner to a second slide with suggested next steps based on the progress they had already made through the action research cycle. An example of these suggested next steps can be seen in Figure 4.10

Figure 4.10 - *Example of suggested next steps for practitioners in the R&D Programme*

I have my baseline data and need to analyse it and design my innovation

- What conclusions can you draw from your baseline data? try to come up with a brief summary and run it by your facilitator to see if they agree
- Have you engaged with the literature on your topic? If not, have a look at [step 2](#) of the R&D process, slide 4 gives you an idea of where to start with finding literature (each image is hyperlinked)
- You can be designing your innovation, this is an exciting stage, your innovation needs to be a change to your professional practice. [See here](#) for inspiration

These statements were hyperlinked to the relevant folders in the shared Google drive of the R&D group. The link took the practitioner to the relevant resources to guide them through the next stage. This meant that in anyone R&D group, participants could be working at different paces through their action research projects.

4.4 Chapter Summary

In this chapter I have outline the design of the R&D Programme by first giving the relevant definitions associated with the programme after which I framed the key features of the programme using the TIDieR framework adapted by the EEF (Humphrey et al., 2016). I then described the implementation of the R&D Programme in its first year before describing the changes which we made to the programme in its second year. The hope is that this provides a rich description of the case which will enable other researchers to build on my research should they wish to. It also delineates the R&D Programme which forms the case for my case study. In the next Chapter, I outline the methodology for my case study and explain exactly how I studied the implementation of the R&D Programme.

5 Case Study Methodology

This chapter sets out the methodology used for my primary research, a case study of the R&D Programme. This element of my research was designed to answer my second secondary research question: *What can be learnt from a case study of the implementation of the R&D Programme in a school in Essex, UK?*

I used a qualitative research design as the ‘Interpretive, experiential, situational, and personalistic’ characteristics of the qualitative approach allowed me to collect the most appropriate data to answer this research question (Stake, 2010, p. 14). This approach also allowed me to accommodate my positionality and role as a practitioner-researcher. An embedded, single case study design was used with the aim of achieving ‘Verstehen’, an empathetic understanding of the case (Stake, 2010). The case for my study was the implementation of the R&D Programme for PDL across a large, private, secondary, and primary school in Essex, UK. This chapter starts by justifying the case study design before defining and bounding the case. I then give a description of the research site before reflexively locating myself within it. Reflexivity is key in highlighting any biases which might arise from the duality of my position as a practitioner-researcher, it is vital in a qualitative approach as the researcher is the key instrument for data collection and analysis (Attia & Edge, 2017; Stake, 2010). I then address the ethical issues I had to consider while conducting my case study.

The second half of this chapter presents each of my data collection tools in turn before highlighting how they interacted with one another to enable me to answer the research question guiding my case study. I then present my chosen methods for data analysis, Reflexive Thematic Analysis (Braun & Clarke, 2022). Before summarising the chapter, I explain and justify how I analysed the quantitative data generated from questionnaires by presenting it as frequency data.

5.1 Justifying the Case Study Design

The exploratory nature of my ‘what’ style research question opened my study up to several research methodologies associated with qualitative investigation. However, a case study design was

deemed most appropriate as I was looking to establish 'how or why the programme has worked (or not)' (Yin, 2018, p. 11). A further reason for selecting a case study design was that it allowed me to investigate a real-world subject in its natural context while employing several different methods of data collection, thus triangulating my data and allowing me to capture a deeper, richer depiction of what is happening and develop a 'thick description' (Stake, 2010). My study is an example of an embedded, single case design where the case was the implementation of the R&D Programme. This was a contemporary phenomenon which I studied in-depth, in its real-world context, where the boundaries between the context and the phenomenon were not always evident and so it satisfied the scope of a case (Yin, 2018). Despite this complexity, it is important to set out the boundaries for the case to make the research element clear (Creswell & Guetterman, 2018), which I do in the next section of this chapter. Yin (2018) suggests that a theory building report suits an exploratory case study. My thesis satisfies the criteria of a theory building report as through establishing the barriers and enablers to the implementation of action research as a model for PDL, I built theory for other researchers to appraise and use, and created a framework to explain its effective implementation (Merriam & Tisdell, 2015). However, the theory building process rarely produces full-blown theories and instead documents an interim struggle which intentionally inches towards stronger theory (Weick, 2001). As a novice researcher with limited time and resources, this is even more important to keep in mind.

Case study design allows for several different data collection and analysis methods to be employed (Stake, 2010). I utilised this by exercising a degree of plurality in my choice of methods borrowing from different methodologies to collect, analyse and synthesise the data that best answered my research question. As such, while this is a case study, I now outline how it has borrowed from and been informed by other methodologies.

The use of interviews to gain detailed information on individual experiences from a small sample of participants and the chronological, storied description of the implementation of the R&D

Programme based on my own experiences presented in Chapter 4 are characteristic of a narrative research design (Josselson, 2010). The iterative nature of my research with two clear cycles in the development and evaluation of the R&D Programme, as well as my role as a practitioner researcher, borrows from the action research methodology (Lewin, 1946; Lofthouse et al., 2012; Stenhouse, 1981). However, my study was naturalistic, and findings were not systematically used to plan the next stage of implementation of the R&D Programme and so my methodology is not true action research.

Recording my observations as field notes, my positionality within the study where I lived with and like those who were studied, the length of time I spent at the research site, and the type and volume of data I collected, satisfies many of the prerequisites for ethnography (Spindler & Hammond, 2000; Van Maanen, 1996). My interpretive approach to data analysis which led to the production of an account which aids understanding of social action is also ethnographic (Morrison, 2012a; Pole et al., 2003). This approach allowed me to provide contextualised description and insider perspectives of the case, characteristic of ethnographies (Morrison, 2012a). However, an ethnography should also be exploratory and entirely agenda free, just seeing what happens in the normal day to day (Spindler & Hammond, 2000). My study was not entirely agenda free as it studies the deliberate implementation of a new model for PDL, thus as the investigator, I was making a deliberate change to the setting of my investigation. As such, my research uses ethnographic methods to collect data but is not an example of ethnographic methodology.

My research also shared several of its characteristics with participatory research as it valued critical subjectivity and reflexivity over objectivity and strived to create research partnerships and relationships which prioritise equality, dialogue, mutual respect, inclusivity, and collaboration (Mills et al., 2010). I viewed the knowledge generated by my research to be democratically produced, mutually owned, and of benefit to those who contributed to it. The design, implementation and development of the R&D Programme was a process of co-creation between my colleagues and

myself. It iteratively drew on my research findings but equally, my research drew on the implementation process. With permission I used information and data generated from PDL questionnaires which would have been administered in the school regardless of my study, but I was allowed to adjust these reviews to gather data for my research. However, the research design, development of research questions, and interpretation and analysis of data, was carried out by me alone, in true participatory research this too would have been a shared process.

In summary, it can be seen that the most appropriate methodology for my research is the case study as it allowed for me as the researcher to borrow methods from other frameworks and adapt them to collect the data best suited to answering my research question. It allowed me to evaluate each different data set and synthesise the findings from these into conclusions which contribute to the theory on the use of action research as a method for PDL.

5.2 Defining and Bounding the Case

In case study research, the case must be defined and bounded to make the research element clear. By using the TIDieR framework to outline the R&D Programme in Chapter 4 (Table 4.2), I drew the boundaries of time and place as well as the physical boundaries which Creswell and Guetterman (2018) include in their definition of boundedness. However, due to the naturalistic nature of case studies, some theoretical boundaries are permeable and so a blurring of boundaries between phenomenon and context can occur (Mills et al., 2010; Yin, 2018). I now highlight the two instances I spotted of this in my study to make clear how they might have impacted my data collection and analysis.

Firstly, it was evident through the course of my interviews that the participants sometimes blurred their experience of R&D with other PDL provisions they had experienced previously in the school or elsewhere. I was mindful of this while conducting my interviews and when necessary, added in extra questions to ascertain whether the interviewee was indeed reflecting on their experience of the R&D Programme or conflating it with a different PDL experience. Secondly, what was referred to as R&D within the school changed over the course of my study. With a change in

senior management before the start of the second year of the programme, it was proposed that the practitioner enquiry element of R&D Programme became known as our 'Learning Communities' and R&D came to encompass all forms of research engagement happening in the school, for example, practitioners completing higher level qualifications at universities such as master's programmes or practitioners writing for publications. This change did not immediately trickle down through the practitioner body and the R&D groups were rarely referred to as Learning Communities. As such, it was less evident from my data collection that this caused confusion but, as a reflexive researcher, it was important for me to hold this in mind as I went through the process of data analysis. These examples illustrate the importance of establishing the boundaries of a case for the researcher, reader, and the participants but it also highlights how challenging this can be.

5.3 Site Description

The research site was a large, co-educational, selective, independent school. At the time of the study there were nearly 2,000 students aged 3-18 and approximately 200 teaching practitioners. Situated on the outskirts of London, the catchment area of the school was large and varied. A small number of students aged 11-18 came from overseas and boarded at the school. As such a diverse range of cultural backgrounds were represented among the student body. Approximately 10% of students had English as an additional language. The school had a long history and an extensive extra-curricular programme. As it was an independent school students paid a fee to attend. This added a skew to the student body as either they came from a family who can afford the fees or had been awarded a scholarship to attend the school. Only about 7% of the population attend such independent schools (The Sutton Trust, 2019), so the school is not representative of a typical British school which limits the generalisability of my research. Such independent schools typically have bigger budgets meaning they are better resourced than schools in the state sector, they also have a greater degree of autonomy over their spending. This is relevant to my study as it meant that more money was potentially available for PDL initiatives, such as the R&D Programme.

The school used the Google education suite extensively and regularly offered training to practitioners on its use. Some practitioners would be sent periodically to the Google offices in London to take part in the certified Google educator training. As such, a lot of the administration of the R&D Programme was done using the Google suite but this was not deemed a barrier to potential engagement due to the extensive training staff received on its use. Typically, the school had several Newly Qualified Teachers (NQT) or Early Career Teachers (ECT) who were still undergoing official initial teacher training and somewhere between two and 10 Post Graduate Certificate of Education (PGCE) students completing their training there each year. The PGCE teachers were employed by the school as full-time members of staff but with a reduced timetable. The school funded their training which was completed in conjunction with a local university. Practitioners still in the training stages of their career were encouraged to engage in the programme like all fully qualified practitioners.

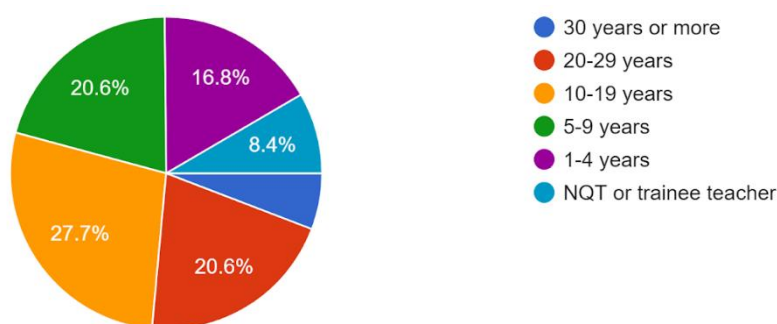
When I joined the school at the start of the academic year 2016-17 there was an obvious commitment to PDL. Some of the PDL offering took the broad stroke approach of mass lecturing but there were also small workshop style sessions with the opportunity to select the topic of your session and the difficulty level. There was an Ideas Fair at the end of the academic year with the goal of celebrating all the PDL that had happened in the year passed. Here practitioners were given the opportunity to present on a topic of interest to them, and it felt like a positive and nurturing professional learning atmosphere but also like something which could be developed, made more impactful, more meaningful to each teacher and something which more practitioners could contribute to. A small survey (n=22) of practitioners conducted in the year prior to the R&D Programme found that 61.9% of respondents implement less than half or none of what they have learnt in PDL sessions. This is relevant to my case study as historical engagement with, and expectations of PDL will inevitably impact engagement with, and expectations of future PDL experiences (Zeichner & Noffke, 2001).

5.4 Participants

All 200 teaching practitioners in the school were expected to engage in the R&D Programme.

In September 2018, at the start of my case study, I administered a baseline questionnaire which gather basic demographic details on the practitioner body (Appendix I). It had a response rate of 155 and so gave an idea of the demographic of the practitioners engaging in the R&D Programme. Approximately 55% of the practitioners identified as classroom teachers and 38% as middle leaders with responsibilities such as head of department, head of year and curriculum area leaders. There was a range of teaching experience among the practitioner body as illustrated by Figure 5.1 which shows the responses to the question ‘how long have you been in the teaching profession?’.

Figure 5.1 - Length of service of the practitioners engaging in the R&D Programme



When administering questionnaires for the purpose of my thesis, all practitioners were given the opportunity to respond but response rates differed. This is discussed further in section 5.7.2 of this chapter. At the end of the first year of my case study I interviewed 15 practitioners about their experience of engaging with the R&D Programme and at the end of the second year I interviewed 7 practitioners. A detailed description of the interviewee profiles can be found in section 5.7.3 of this chapter.

5.5 Locating Myself Within the Case Study

My case study is an example of practitioner research as I was an employee of the school in which the research was conducted. As such, for a prolonged period, I was fully immersed in the field which formed the subject of this case study. While this afforded me the opportunity of the unique insight of an ‘insider’ (Attia & Edge, 2017) and naturally satisfies the complementary natures of

practitioner and qualitative research, there is a risk of bias as ‘the researcher is essentially the main ‘measurement device’ of the study’ (Miles & Huberman, 1994, p. 11). To account for this, adopting a reflexive stance at all times was crucial in securing the authenticity and quality of my research. As mentioned in Chapter 1, I used first person throughout the writing of my thesis to signal my position within my research, this is particularly relevant to my case study. I also outlined my philosophical assumptions and personal biography in Chapter 1 which together create the specific personal filters through which I view the world and research in general (Saldaña, 2021). However, when conducting primary research, and especially practitioner research, it is also important for the researcher to locate themselves specifically within the research context and participants (Holmes, 2020; Savin-Baden & Major, 2013). In exercising reflexivity, I now provide an open and honest disclosure of my positionality within the research site which will allow the reader to make better informed judgements on the impact I, as the researcher, had on the research and therefore assess the ‘truthfulness’ of my data (Holmes, 2020).

As a practitioner-researcher I was deeply involved in my research topic, not just through the interactions I had with the participants as a researcher but through my relationship to the research setting and participants as a colleague, manager, and friend. My positionality came with several benefits; it made my research highly relevant and meaningful to my context as I had identified an area for improvement within the practice of my organisation and I worked to address it putting emphasis on prioritising teachers' learning and student outcomes (Lofthouse et al., 2012). It also allowed for co-creation of knowledge in line with my paradigmatic stance as being an ‘insider’ allowed me to draw on my pre-existing relationships to obtain what was hopefully a more detailed and candid data set to facilitate ‘thick description’ (Stake, 2010). However, as is characteristic of interpretivist research, I recognised throughout that I was part of, rather than separate from my research. While this afforded me the opportunity to access and interpret data in a unique way, it also came with some limitations and the potential to add bias to my interpretations and perceptions. My research is not generalisable

beyond its context but through adopting a reflexive approach, I make clear the bias of my lens, my focus is on generating thick descriptions of one case to theory build (Stake, 2010).

To locate myself among the practitioners of my case study, I considered not only how I viewed myself as I have already done quite extensively, but also how the participants might have viewed me (Holmes, 2020). I did this while simultaneously acknowledging the fact that, similarly to myself being unaware of some of my own characteristics (Saldaña, 2021) the participants of the case study were also unlikely to be fully aware of how they constructed their own and others identities (Savin-Baden & Major, 2013). It is important to highlight how my characteristics were similar or different to those of the participants of the case study and how I viewed those participants as, preconceptions on my part about participants will have caused bias (Holmes, 2020; Savin-Baden & Major, 2013). As mentioned in my original positionality statement (Chapter 1) it can be challenging to categorise one's world view with clear cut boundaries (Kivunja & Kuyini, 2017). But there can be benefits to approaching positionality with a degree of plurality (Mills et al., 2010; Ormston et al., 2014) as consideration and knowledge of a variety of schools of thought allows for increase creativity through a better understanding of differing points of view. In case study research such as this, this is invaluable in building a richer picture of the case (Gioia & Pitre, 1990). I feel this to be a particularly important consideration when conducting research in a school as, potentially more so than in other settings, you come across individuals with academic backgrounds in different schools of thought (e.g. a physics teacher vs a history teacher) so they sit at different points on the paradigmatic spectrum.

I viewed myself as a practitioner-researcher as I believed that I can know about my own work through my participation in it and questions that I have about it can be explored through systematic investigations of practice (Lofthouse et al., 2012). As a practitioner, I was employed at this school to teach biology and to run an element of the school's PDL provision. Specifically, I was overseeing the implementation of the R&D Programme which was new to the school. I recognised,

accounted for, and embraced my deep personal involvement in my research as it was a characteristic of the interpretivist paradigm I adopted (Morrison, 2012b). I could never have been an impartial observer in this study as I was the practitioner employed to implement and run the R&D Programme in our school. I have a history and relationships with the school and its employees, I also have (no matter how objective and open minded I try to be) a set of preconceived ideas about how things run and function. I acknowledged these and kept them in mind throughout the course of my investigation and write up.

I was also a novice researcher, undertaking a doctoral study into the implementation, refinement and running of this R&D Programme. So, my practice and my research ran hand in hand. However, tensions did arise between my role as practitioner and my role as researcher which is common when researching in one's own 'backyard' (Attia & Edge, 2017). The school fully supported and even funded my research, but at times, among the practitioner body there was a degree of suspicion over my research agenda and whether it was purely for my own academic gain as opposed to in the interest of the school, something discussed further in Chapter 6. I viewed myself as an 'insider', but I do not feel it was always the case that participants of the case study viewed me as such. My identity as a researcher at times seemed to compromise my role as a practitioner with the notion that we were only doing the R&D Programme for the purpose of my obtaining a PhD appearing a few times throughout the data. A further point of divergence between myself and my fellow practitioners was my preconception that it is desirable to maintain research alongside practice for the sake of good practice, many of my fellow practitioners did not agree with this.

I must also consider power dynamics as I was often viewed as the leader and I feel participants were aware of my deep personal involvement in the R&D Programme, this may have meant they were less inclined to offer critical feedback. In the case of data collection, this was negated by making survey responses anonymous however, in interviews, it may have been that the interviewee was disinclined to offer critical feedback. This could be seen for example in my interview

with Imogen at the end of the second year of the case study where she hesitated and needed reassurance before making negative comments about the facilitator training provided by the external provider.

There was inevitably a blurring of boundaries between my two roles as I was not oblivious to the data I was collecting so my decision making as a practitioner about the next steps in the R&D Programme were inevitably influenced by my role as a researcher. I do not see this as problematic as I feel it to be good professional practice to make evidence informed decisions (see Theoretical Framework Chapter 2) however, it is of importance to the integrity of my research that I adopted a reflexive stance and highlight my potential for bias throughout.

The case study design allowed me to observe the natural course of the change over two years and to collect data as and when felt appropriate to the research setting and my research question. This type of 'experiential research can help a practitioner reconsider - during action - what needs to be paid attention to' (Stake, 2010, p. 65). As such it allowed for the iterative nature of my research and again required the reflexive approach I previously highlighted. Reflexivity becomes particularly important in primary research as the research process often requires a greater degree of spontaneity. For example, split second decisions might need to be made to interject the flow of a conversation or meeting in order to make notes on or ask to record the exchange (Attia & Edge, 2017).

To achieve a truly reflexive stance, it can be helpful to step back from what we have observed in action and reflect on what we have seen before once again stepping up to action (Attia & Edge, 2017). The nature of my data collection lent itself to this approach as I could take the time each summer holiday to reflect on the previous year, go through the data and make amendments based on my interpretations of feedback from interviews, surveys and field notes, to reflect on how both the research is being shaped by me and how I am being shaped by the research. Kegan (1998) advocates stepping out of a relationship so that you can build a relationship with that relationship.

At times for me, the process felt really overwhelming, it was my research, it was my job, boundaries felt blurred, and everything felt important to get right. Leaving the school and starting work in a new school meant that I could step back and reflect on what I had experienced and build that relationship with my research.

5.6 Ethical Considerations

A proposal for my case-study was submitted to the Durham University School of Education ethics committee prior to beginning any research and approval was granted on 28th September 2017 (see Appendix H). The BERA Ethical Guidelines for Educational Research (British Educational Research Association, 2018) were followed throughout the completion of this study. While a revised and updated edition of these ethical guidelines was published in 2024, the 2018 edition was the most up-to-date version available at the time of completing my research and so was the one used. These guidelines outline five areas of responsibility which researchers need to consider; responsibilities to participants, responsibilities to sponsors, clients and stakeholders in research, responsibilities to the community of educational researchers, responsibilities for publication and dissemination, responsibilities for researchers' wellbeing and development. Here I address responsibilities to participants, sponsors and stakeholders. The remaining responsibilities are address in the academic integrity statement at the beginning of my thesis.

Consent was sought from the Headteacher of the school who was provided with an information sheet, privacy notice and consent form (Appendix H) to sign in September 2017. An updated information sheet, privacy notice and consent form (Appendix H) were then given to the new Headteacher to sign once that study had concluded in June 2021. This was done for two reasons, firstly because there had been a change of Headteacher, and secondly because some of the elements of data collection had evolved over the course of the study and I wanted to ensure that consent was granted for the final version of the research plan.

Consent was also sought on an individual basis for all interviewees. Prior to the start of the interview, they were provided with information on how their data would be used and stored, a privacy notice, and they made aware of their right to withdraw their data at any stage (Appendix H). When a questionnaire was administered to all practitioners solely for the purpose of gathering data for my thesis, it contained information for participants with the option not to submit the survey if they did not wish to participate (see Appendix H). No issues arose over the course of the research which were of concern, so disclosure and breaking of confidentiality agreements was never necessary.

The management team of the school in which my research was carried out can also be seen as stakeholders and sponsors of my research as they allowed both access to the research site, have a vested interest in the progress of the R&D Programme and part funded my PhD studies. As per the BERA guidelines, I provided the school with honest and complete details of my competence and capacity to undertake this research. I kept them regularly updated on the progress of both my research and the R&D Programme. A contract was drafted outlining the amount of funding I would receive but as the school has a policy of funding further education such as master's and doctoral degrees, no specific requirements were made of me or my research. It was mutually understood that, as with all ethical research, were it to become apparent that the subject of study (i.e. the R&D Programme), were causing harm in anyway, then the research and the programme would be terminated.

It is also necessary to consider ethics in practitioner research specifically. These move beyond procedural adherence to guidelines such as those set out by BERA and instead embed ethical principles within the research process itself (Groundwater-Smith, 2016; Groundwater-Smith & Mockler, 2007). As well as ensuring the welfare of participants, ethical practitioner research should be trustworthy, transparent, and reflexive. I demonstrate this reflexivity by locating myself within the research context and highlighting the dynamics which exist within the relationships I have with

its practitioners in the previous section of this chapter. I also involve stakeholders as active participants as opposed to passive subjects throughout the design, implementation and development of the R&D Programme to ensure that the outcomes of my research are directly beneficial to those affected by it.

5.7 Data Collection Tools

The data collection tools, and choice of analysis methods used in a case study must be guided by the researcher's theoretical propositions (Yin, 2018). I chose to use questionnaires, interviews, and field notes to collect qualitative and Likert data. These data sets complement the interpretivist and social constructivist paradigm as they allowed me to gather and represent a variety of voices and opinions which I used to co-construct the knowledge I present in my findings. I acknowledge the limitations of each of these methods for data collection which can be highly subjective but by gathering and analysing multiple sources of evidence I attempted to spot points of convergence between the data sets in a triangulating fashion (Yin, 2018). Convergence between independent measurement processes greatly reduces the uncertainty of its interpretation as 'if a proposition can survive the onslaught of a series of imperfect measures...confidence should be placed in it' (Webb et al., 1981, p. 35).

The reality of working with the unfolding nature of my case meant that I had to iteratively adapt my data collection plan (Holliday, 2016). Social change, such as the implementation of the R&D Programme, is expected to be a messy process and the duration of my case study meant that new variables would inevitably arise throughout its course (Cook, 2009). While I had not expected a global pandemic to shut down schools for prolonged periods of time, events such as changes of management were less surprising. As such, my data collection plan had to change and adapt alongside the valid and unavoidable changes that happened in the school. For example, I had to deviate from my original plan to collect paired data through my outcomes questionnaires as our new management wished for responses to questionnaires be anonymous. In the second year several

interviews had to happen via video call to respect COVID-19 lockdown rules. Table 5.1 gives an overview of the final points of data collection:

Table 5.1 - Overview of data collected

Data Collection Tool	Rationale in relation to RQ	Design and administration	Type of data collected	Date of data collection
Baseline questionnaire	To get a snapshot of practitioner demographics and dispositions towards the use of research to inform their practice at the beginning of the case study	Administered via email and complete while in lecture theatre	Qualitative and Likert	10 th September 2018
Progress questionnaire	To get a snapshot of practitioners' opinions of the R&D Programme at this stage and to identify misconception	Administered via email and completed in own time	Qualitative	10 th December 2018
End of year 1 interviews	To get a detailed, firsthand account of 15 different participants experiences of the first year of the R&D Programme and their dispositions towards the use of research to inform their practice more broadly	In person	Qualitative	June-August 2019
End of year 1 outcomes questionnaire	To get feedback on the first year of the R&D Programme and practitioners' experiences of it as well as a snapshot of practitioners' dispositions towards the use of research to inform practice more broadly	Administered via email and completed by some in lecture theatre and some in own time	Qualitative and Likert	4 th June 2019
End of year 2 outcomes questionnaire	To get a snapshot of practitioners' demographics at the end of the case study. To get feedback on the second year of the R&D Programme and practitioners' experiences of it as well as a snapshot of practitioners' dispositions towards the use of research to inform practice more broadly	Administered via email and completed in own time	Qualitative and Likert	18 th May 2020
End of year 2 interviews	To get a detailed, firsthand account of a 7 different participants and programme leaders experiences of the second year of the R&D Programme and their dispositions towards the use of research to inform their practice more broadly	Mix of in person and via video call	Qualitative	May – August 2020

Data Collection Tool	Rationale in relation to RQ	Design and administration	Type of data collected	Date of data collection
Field notes	The aim of the field notes was to record anything which may be relevant to the RQ and to build a 'corpus' of information, much of which will not be included in the final report, but which can be used as a record of events, observations, reflections and reflexivities	Descriptive, reflective, and reflexive field notes taken and recorded in one Google doc as soon as possible after the event, generally 1 hr	Qualitative	Throughout the case study

I now present and justify each of my data collection tools. I consider the validity and rigour of each method as well as its limitations. I explain how I designed each of my tools and how they were administered.

5.7.1 Field Notes

Field Notes are a written record of observations, methodologies, and theories relevant to a study. The keeping of field notes is common practice amongst ethnographers in particular (Beach et al., 2018; Emerson et al., 2011) but can be used in case study designs (Fusch et al., 2017).

Historically, questions arose as to the purpose and content of field notes, whether they should be made public (as they can be deeply personal to the researcher), and if and how they should be reported on in a final write up (Emerson et al., 2011). However, their value as a data set is now commonly accepted as when analysed, they add context to the case and help to build a richer, thicker picture of events (Beach et al., 2018; Emerson et al., 2011). They also lend themselves to Reflexive Thematic Analysis and so were deemed an appropriate data set for this study.

There is no set strategy for note taking (Walford, 2009) instead, decisions made on the method for the collection of field notes and what they should include are made by the researcher and so ultimately are subject to the positionality of the researcher and their aims (Emerson et al., 2011). This allows the researcher flexibility to collect anything they feel to be relevant to their study over time and build a corpus of field notes. This makes field notes complementary to the scope of my case study design as it was not always immediately clear what might be relevant to the research at a later stage, so I used an inclusive approach to data collection. Moreover, in allowing the researcher to make decisions on what is relevant, field notes embrace the researcher as the primary instrument for data collection and analysis which is characteristic of qualitative research.

I collected my field notes in a Google doc throughout the course of my study. I made notes on meetings and events to do with the R&D Programme as well as data collection points such as interviews and questionnaire administration, I also noted chance encounters and conversations, and anything else I found relevant. It is advised that researchers record their field notes as soon as

possible but it is acknowledged that it is not always possible or practical to do so in situ (Eriksson et al., 2012). As a practitioner researcher, I always played an active role in the events I was observing, so, I would take jottings as events were happening then write up all notes between one and six hours after their occurrence.

It is commonly advised for those collecting field notes to have a detailed plan for their collection prior to entering the field. While I had a clear plan for the method of collection, there was no predetermined time or place for notes to be made. In my role as a practitioner researcher, I was always 'in the field' but as the running of the R&D Programme was only one small part of my job, a lot of what happened on a day-to-day basis was not relevant to this research. While there were predetermined times (e.g. scheduled R&D meetings or facilitator training sessions) which were relevant to this research, there were also more spontaneous events, (e.g. when a practitioner might speak to me on the sports fields about their action research project) which were also of relevance. It was not possible prior to the study to anticipate how and when relevant events might occur so to accommodate this, a flexible approach to the timings of making field notes was adopted.

Despite the broad nature of field notes, attempts have been made to categorise them and they have broadly been sorted into three groups. Observational or descriptive, reflective (methodological and theoretical) and, reflexive or personal (Dennis, 2010; Fusch et al., 2017; Jeffrey, 2018; Onwuegbuzie et al., 2010). Categorisation is not truly in the spirit of taking field notes as it can limit the things a researcher might record but categories can be useful for novice researchers to focus their data collection (Jeffrey, 2018). I used all three types of field notes throughout the course of my study.

Observational field notes capture what is observed and heard (Dennis, 2010). Researchers are advised to observe behaviours and interactions, as well as physical environments and the use of material artefacts (Eriksson et al., 2012). This overlaps with descriptive field notes which consist of descriptions of context (e.g. situation, environment, setting, atmosphere, noise, movement) and

social relations (people with people and people with work) (Jeffrey, 2018). An example of an observational field note from my corpus of field notes is:

The atmosphere in this room was fantastic, the facilitators really seem to have set up a community. I watched one member of the group present their work to the other members of the group and it was clear from the questions asked that staff have been engaging not just with their own projects but with the projects of the other members of their R&D group.

(Field notes, 25th February 2020)

Reflective field notes are the notes taken when a researcher draws on theories and ideas from other research findings during their time in the field. These are often used to guide subsequent lines of inquiry and data collection in a theory building methodology (Jeffrey, 2018). There is some overlap here with methodological notes or memos which are used to help identify themes and patterns, conceptual thoughts, hypothesis and ideas that arise during the data collection process (Eriksson et al., 2012). An example of a reflective field note from my corpus of field notes is:

Having had a look through the baseline data it has thrown up some interesting ideas...at a glance, it seems that the easier a source is to use the more they will use it. They can see the merits of using research (from Q6) but do not use/are not aware of platforms which work to make it more accessible to staff (from Q 3&4). 'Other colleagues' were overwhelmingly the resource which staff use the most which is interesting for the R&D Programme as the idea is that it will stimulate colleague interactions and discussions. (Field notes, 29th October 2018)

Reflexive field notes are the acknowledgement of the positionality of the researcher in the field and their role as the key instrument for data collection, interpretation, and analysis, they are notes about relationships to the site, the people and their relations (Jeffrey, 2018). Reflexive notes act as a reminder to the researcher of their thoughts and feelings at particular times and therefore helps them in identifying potential biases and adopting a clearer reflexive stance. An example of such a field note from my data set is:

I have found it hard throughout this process to be unfalteringly confident about the programme I am proposing. I have never implemented something on this scale before and at times, I have felt very aware that some practitioners feel I am only doing this for the purpose of my PhD. This has made me question my motives at times, but I strongly believe that this programme is beneficial and the evidence we are collecting also suggests that. Occupying the role of practitioner-researcher is just quite challenging. (Field notes, 10th January 2019)

A limitation of field notes is that they blur the boundary between data collection and analysis. Some suggest that explicit analysis should be avoided during the fieldwork (Eriksson et al., 2012). As such, there is debate around whether reflexive field notes should be kept in a separate research journal (Emerson et al., 2011) as they contain a written representation of one's personal lens in the form of their thoughts, opinions, musings, discussion, and reflection about the study (Fusch et al., 2017). This could be seen as the beginning of the data analysis process as opposed to a data point. However, some qualitative researchers believe that any attempt to present a complete research process of data collection then analysis is futile as this process is ongoing (Jeffrey, 2018). This complements the belief that not only does the researcher shape the research but that the researcher is simultaneously shaped by the research (Attia & Edge, 2017). I decided to keep all my notes together in one document as I found it practical to record observations alongside reflections as they often arose at the same time in my mind, and I found this to be illuminating when considering how I shaped and was shaped by the research.

As with a lot of qualitative research, a further limitation to field notes surrounds their subjectivity. What is recorded in field notes is inevitably selective and a partial reduction of events (Emerson et al., 2011). When using field notes, we must consider that the researcher is the research instrument, and cannot separate themselves from the research (Dennis, 2010; Onwuegbuzie et al., 2010). By taking copious notes and writing down everything that the researcher sees and hears, thoughts about the study, and interpretations, the researcher can identify key themes and issues to

enhance the validity of the research. They can be reflected upon to ensure that what they are interpreting is that of the culture and not personal biases.

A further limitation of field notes is the ‘danger that your presence will influence and distort what you are seeking to observe’ (Menter et al., 2011, p. 169). In my fieldnotes I recorded a comment from one of the facilitators who said, ‘oh my god I got so nervous when you walked in, it was like you were doing a lesson observation on me’ (Field notes, 27th September 2018). Despite these limitations, my field notes and my personal experience are central to my research and may be of use to others on a similar journey. Through acknowledgment of these limitations and employment of a reflexive stance in making my biases explicit, my field notes form a valuable part of my data set.

5.7.2 Questionnaires

Questionnaires are used to explore ‘beliefs, values, opinions – where there are no right and wrong answers’ (Taber, 2013, p. 266). They can draw data from many respondents (Stake, 2010) for several purposes; in an exploratory fashion at the start of a research study if the researcher is unsure of how best to proceed, to describe a population, to establish a baseline and outcomes and to gather feedback (Tymms, 2012). In my study I used questionnaires for the purpose of collecting data from the wider practitioner body for basic population profiling, baselines and outcomes of research engagement, and gathering feedback on the R&D Programme. The use of open-ended questions complements the qualitative nature of my research and lends itself to Reflexive Thematic Analysis. Qualitative studies can also use other interpretive items to gather data such as Likert scales if they are considered separately (Stake, 2010). I use Likert scales to establish research engagement of practitioners and to generate feedback data on experiences of the R&D Programme. The data from these questions are presented as frequency of responses and provide a snapshot of opinions from the wider population of the study which can be used to further evidence themes from my reflective thematic analysis. I also used some multiple-choice questions to gather information on population for example ‘how many years have you been in the teaching profession?’ where respondents were

given items such as '1-4 years' to choose from. This meant population data and related responses could be quickly and easily sorted (Stake, 2010).

Table 5.2 provides an overview of all questionnaires administered throughout my case study as well as a brief description of their design and their response rates. A copy of all the questions included in each survey can be found in Appendix I.

Table 5.2 - *Overview of all questionnaires administered throughout my case study*

Questionnaire Title and date administered	Purpose	Design – length and type of questions	Administration	Responses
Baseline Survey – 10 th Sept 2018	To gain an overview of the population in terms of years in the profession and role in school, to baseline research engagement of the practitioner body	7 items - 3 Likert, 4 multiple choice Adapted from the NFER questionnaire	Via a Google form, as a standalone survey, emailed to all practitioners, completed in a lecture theatre	155
Progress Survey – 10 th Dec 2018	To gather feedback on understanding of and progress in the R&D Programme so far	3 items - all open-ended	Via a Google form, as part of a wider professional development feedback questionnaire, emailed to all practitioners, completed in their own time	53
End of year 1 outcomes Survey – 4 th June 2019	To gain a snapshot of research engagement of the practitioner body, engagement in the R&D Programme and to get feedback on the R&D Programme	9 items – 4 Likert, 2 multiple choice, 1 open-ended, 2 multiple choice with the opportunity to elaborate upon your answer in an open-ended way Adapted from the NFER questionnaire	Via a Google form, as part of a wider professional development feedback questionnaire emailed to all practitioners, completed in a lecture theatre	116
End of year 2 outcomes Survey – 18 th May 2020	To gain an overview of the population in terms of years in the profession and role in school and years at the school. To gain a snapshot of research engagement of the practitioner body, engagement in the R&D Programme and to get feedback on the R&D Programme	13 items – 5 multiple choice, 3 multiple choice with the opportunity to elaborate upon your answer in an open-ended way, 3 Likert, 2 open ended Adapted from the NFER questionnaire	Via a Google form, as a standalone questionnaire emailed to all practitioners, completed in their own time	65

My three main questionnaires were the baseline and outcomes questionnaires administered in September 2018, June 2019 and May 2020. Each of these questionnaires was in part adapted with permission from the 2017 NFER and EEF survey titled 'Measuring Teachers' Research Engagement' (Nelson, 2017). Using a previously published and therefore validated questionnaire saves time and resources and so is common practice (Boynton & Greenhalgh, 2004). To keep context specificity to my own research, I lifted the questions I deemed relevant to my study from this NFER questionnaire and added a few of my own questions. As such, it was important to ensure my final questionnaire worked in my setting and check for coherence and clarity of wording. I piloted my final questionnaire with the members of the T&L team prior to administering it to the whole school. They felt the survey did not require any amendments, and subsequently it was administered to all practitioners. The T&L team's responses were similar to the larger data set collected from all practitioners, so the two data sets were merged to form the final data set used in this thesis. The progress survey administered in December 2018 consisted of only three items which I designed to assess understanding of the R&D Programme so far and to get an understanding of engagement. I again piloted these questions with the members of the T&L team who again suggested no amendments.

All questionnaires were administered via a Google form. The school extensively used the Google education suite, every practitioner was provided with an iPad and extensive training was given on the use of both the iPad and the Google education suite at induction and during updates. Therefore, I was confident that the questionnaires in this format would be accessible to all practitioners. All questionnaires included the data use and protection statement which can be found in Appendix I. I opted for shorter questionnaires as they form only one of three imperfect measures and a shorter questionnaire is more likely to obtain detailed data (Tymms, 2012).

All questionnaires were sent out to all practitioners via email so in terms of sampling, the whole research population would have had the opportunity to fill out every questionnaire. Where

the response rate was high for example in the first baseline questionnaire (n=155), then the sample will have been quite representative of the research population. However, as response rates dropped to 53, the responses will have become less representative of the population, this is a limitation which I kept in mind throughout the analysis of my survey data and writing of my findings.

I was given varying degrees of freedom over which questions I could include in my questionnaires at different points in my study, due to changes in management. For the first baseline questionnaire I was given complete control over its design, I could administer it as a standalone questionnaire, and I asked participants to fill it out at the end of the launch presentation while still sat in the lecture theatre. This saw a high response rate potentially for several reasons, they felt they had to do it, they felt they were being observed, the questionnaire was relatively short (Tymms, 2012). The progress questionnaire and the outcomes for year one questionnaire however, were administered as part of a larger questionnaire which acted as a PDL review, the length of these questionnaire could have been off putting (Tymms, 2012). Practitioners were also asked to fill out the progress survey in their own time which saw a significant decrease in responses and most likely introduced a response bias as only those with particularly strong opinions on the R&D Programme will take the time to fill it out (Tymms, 2012). The outcomes questionnaire for year one was filled out while practitioners were in the lecture theatre but attendance at this meeting was low and so we saw again a decrease in responses to 116. The questionnaire was still administered to all practitioners via email, so even if they did not attend the talk in the lecture theatre, they could have filled it out. The final outcomes questionnaire at the end of year two was administered via email amid the COVID-19 school closures. As such, all practitioners were working from home, we saw a low response rate here (n=65). It was administered as a standalone questionnaire on the R&D Programme but again, this method for administration would have introduced a response bias as it is likely that only those with particularly strong feelings towards the programme will have responded. I acknowledge the limitations of my questionnaire and make them clear to the reader so that they can

be held in mind while considering my findings. Despite their limitations, my questionnaires are a useful contribution to my data sets.

5.7.3 Interviews

Interviews are well suited to a qualitative methodology and are often used to answer ‘what’ style research questions such as mine (Mears, 2012). At the core of interviewing is a desire to understand ‘the lived experiences of other people and the meaning they make of that experience’ (Seidman, 2006, p. 9) and so interviewing complements my personal, interpretivist paradigm by honouring the notion that there are as many versions of reality as there are people to interpret them. In conducting interviews, I gathered data on the different and multiple interpretations of the events surrounding the R&D Programme which provided me with ‘a depth of understanding that the most authoritative or popular interpretation does not’ (Stake, 2010, p. 66).

All of the interviews I conducted were semi-structured, comprising of open-ended questions. The hallmark of good interviewing is responding to the participant in a reflective and reflexive manner as opposed to unquestioningly sticking to a script (Mears, 2012). As such, I used interview schedules (Appendix J) as a guide to ensure I covered the key themes I wanted to explore but, when necessary, I would ask follow up questions during the course of the interview. I used a purposeful sampling technique to get a variety of interviewees in different stages of their teaching careers, at different levels of management and working in different areas of the school. The profiles of the different interviewees are presented in Tables 5.3 and 5.4. To be eligible for interview, participants had to have attended at least four out of the six sessions of the R&D Programme. Had they attended fewer sessions, they would not have had enough experience of the programme to give valid testimonies.

In year one of the case study, I approached potential interviewees in person to ask if they wished to participate, two of the practitioners I approached declined to participate, 15 accepted. I interviewed all 15 of these practitioners. My original intention was to re-interview the same practitioners at the end of the second year of the programme. However, this element of my data

collection had to be amended as of the original cohort of 15 practitioners, five left the school before the second set of interviews were conducted. This was unfortunate as, while the school had a relatively large turnover of practitioners at around 25% that year, this number was higher than anticipated. On top of this, one interviewee from the previous year did not attend at least four of the six R&D sessions and so no longer met the inclusion criteria. This left nine potential repeat interviewees however, midway through year two of the study, we entered the first COVID-19 lockdown. For the first round of interviews, all requests for interview were made face to face, now considering national lockdown, requests for interview had to be via email. Some of these went unanswered, some answered but it became logistically challenging to arrange a time and format for an interview which the interviewee was comfortable with. As Stake (2010) and others highlight, a key feature of the qualitative researcher is to be empathetic and in the context of such global uncertainty, it would have been unethical to push people for a follow up interview.

At this point I reflected on my research so far, the literature I had read and the data I had already collected. My rationale for repeat interviews was to ascertain whether there had been a change in the research engagement of specific members of the practitioner body. However, the more I learnt and the more my research evolved, it became clear that any causal claims attempting to link the R&D Programme to changes in research engagement would be weak. There were too many other variables for example, the new senior leaders who joined the school halfway through my case study who were pushing their own research agenda. The SLT had been given books on management theory to read over the summer ahead of the new Headteacher's arrival. This was characteristic of the wider change in ethos among senior leaders in our school.

As such the necessity for interviews to be repeat interviews diminished as the hope was that these repeats might give me an insight into changes in research engagement on an individual level. So, while I was struggling to gain repeat interviews, I thought it would be an opportunity to approach other people who might give different perspectives on the R&D Programme. I interviewed

a member of SLT, a representative from the external provider we were working in partnership with, a PGCE student and a representative from a hard-to-reach group, performing arts. This allowed me to better answer my research question as, while the sample size was still smaller than the previous year ($n=7$), this gave me rich data from different perspectives which should improve my depth of understanding (Stake, 2010).

I used one interview schedule for the end of year one interviews and three different schedules for the end of year two interviews: one for classroom teachers, one for senior leadership and one for the external provider, these schedules can be seen in Appendix J. Tables 5.3 and 5.4 give an overview of the interviewee profiles for each year. Interviewees were also given an information sheet to read and sign before participating in the interview, this highlighted their role and rights in the study and can be found in Appendix J.

Table 5.3 - Interviewee profiles for year one of the case study

Pseudonym	Role in programme	Years teaching	Years at this school	Highest qualification level	Primary or secondary school teacher	Subject taught	Additional responsibilities
Alan	Participant	17	4.5	Masters - Leadership	Secondary	Economics	Head of Department
Dominic	Participant	12	1	PGCE	Secondary	Geography	Head of House
Ellie*	Participant	3	1	PGCE	Secondary	Biology	None
Eve	Participant	3	1	PGCE	Secondary	Biology	None
Imogen*	Participant	2	2	PhD – Chemistry	Secondary	Chemistry	Newly Qualified Teacher
James	Participant	22	14	PGCE	Secondary	Computer Science	Head of House
Calum	Facilitator	6	3	Masters - Education	Primary	History	Head of Department
Martin	Participant	9	4	PGCE	Secondary	Director of Performing Arts	Director of Faculty
Mick	Participant	8	2.5	Masters - Philosophy	Secondary	Religion and Philosophy	Head of Department
Myles*	Participant	7	2	PGCE	Secondary	German	Head of English as Additional Language
Neil	Participant	42	42	PGCE	Secondary	Economics	Previously Deputy Head

Pseudonym	Role in programme	Years teaching	Years at this school	Highest qualification level	Primary or secondary school teacher	Subject taught	Additional responsibilities
Robin	Participant	10	3	PGCE	Secondary	Physics	Head of Department
Rebecca	Participant	25	4	PGCE	Secondary	Biology	Deputy Director of curriculum
Jill	Participant	18	8	PGCE	Primary	Computer Science	None
Simon	Facilitator	7	1	Masters - Leadership	Secondary	English	None

*Interviewees who gave an interview at both the end of year one and year two of the programme

Table 5.4 - Interviewee profiles for year two of the case study

Pseudonym	Role in programme	Years teaching	Years at this school	Highest qualification level	Primary or secondary school teacher	Subject taught	Additional responsibilities
Amy	Implementor	15	1.5	NPQH	Secondary and Primary	Religion and Philosophy	Deputy Headteacher
Imogen*	Facilitator	3	3	PhD – Chemistry	Secondary	Chemistry	None
Daniel	Participant	12	3	Masters – Music	Secondary and Primary	Music	Head of Music
Ellie*	Participant	4	2	PGCE	Secondary	Biology	None
Gemma	Participant	0	1	Batchelors	Secondary	Maths and classics	PGCE Student
Kate	Implementor	NA	NA	NA	NA	NA	External provider of facilitator training
Myles*	Facilitator	8	3	PGCE	Secondary	German	Head of EAL

*Interviewees who gave an interview at both the end of year one and year two of the programme

‘Instead of a simple set of clearly defined steps, interview research is characterised by an emerging design, with data collection blurring into data analysis, countless hours devoted to transcription and no iron-clad rules of what constitutes sufficient data’ (Mears, 2012, p. 173). While I have highlighted how interviews are a valid and appropriate data collection tool for my study, this level of flexibility in design means that interviewing does have a number of limitations. Rarely are interviews generalisable, instead they highlight potential points of interest to other settings and situations. Using inclusion and exclusion criteria in the selection of my interviewees, I attempt to improve the reliability of my interviews by ensuring that the participants are qualified to comment on the topic which is addressed. However, my purposeful sampling technique could have led to sampling bias. I attempt to address this through the presentation of interviewee profiles in Tables 5.3 and 5.4, making my interview process transparent and adopting a reflexive approach throughout.

5.7.4 Interaction of the Data Collection Tools

By opting for a case study design, it has allowed me to use a number of different but complementary methods for data collection and so allowed me to build a thick description of the case. My data collection tools were designed to complement each other, interviews collect detailed individual points of view, questionnaires scoped the opinions of the broader practitioner body and field notes attempted to give an objective overview of my observations as the researcher. I acknowledge that each data collection tool is imperfect and has its limitations but through identifying points of convergence between the different data sets, I triangulate my data and can state my findings with greater confidence.

5.8 Data Analysis

The objective of my data analysis was to identify patterns and points of convergence across all my data sets. The corroboration of themes by multiple sources builds confidence in the evidence and allowed me to present a rich picture of my findings with thick descriptions and Verstehen (Stake, 2010; Webb et al., 1981; Yin, 2018). As with the design of my research and selection of data

collection tools, it is important that my methods for data analysis complement my theoretical propositions of qualitative research in the interpretivist, social constructivist paradigm (Yin, 2018).

Two approaches were used to analyse the data collected. All qualitative data collected from field notes, interviews and questionnaires was analysed using the Reflexive Thematic Analysis method outlined by Braun and Clarke (2022). Numerical data collection from Likert and multiple-choice items on the questionnaires were presented as frequency of responses with some comparisons made between responses at different points in time. In the following sections of this chapter, I outline both of my data analysis methods, and explain how they complement my theoretical propositions, research design, and help to answer my research question.

5.8.1 Reflexive Thematic Analysis

All qualitative data generated from Interviews, field notes and questionnaires were analysed using Reflexive Thematic Analysis, the same method used in chapter 3 to analyse the data from the systematic review. It is only in the last decade or so that Thematic Analysis has found its feet as a method of its own as opposed to a tool employed in an alternative method such as grounded theory (Braun & Clarke, 2006). However, when conducted thoroughly following a rigorous method it is robust enough to stand up to critique and form an insightful interpretation of findings. There are several different types of thematic analysis which can be used such as Reflexive Thematic Analysis, Coding Reliability Thematic Analysis and Codebook Thematic Analysis. Before explaining my choice of Reflexive Thematic Analysis, it is helpful to consider a further distinction within qualitative research. Kidder and Fine (1987) differentiate between ‘small q’ qualitative methods, a qualitative method employed in a positive framework, and ‘big Q’ qualitative methods where the techniques and philosophy employed are truly Qualitative allowing for research subjectivity and reflexivity. A method which truly allows for the consideration and presentation of different viewpoints within my data sets is required to complement my social constructivist, interpretivist paradigm and so a ‘big Q’ method for data analysis is required to fully answer my research questions.

Coding Reliability Thematic Analysis requires multiple researchers to code data and uses a statistical calculation to establish agreement between coders. Codes and themes are often predetermined and preset and change very little throughout the coding process. As such, Coding Reliability Thematic Analysis denies the element of true qualitative research which celebrates the individual interpretation of each researcher making it a 'small q' method. In Codebook Thematic Analysis, researchers will start with a book of preset codes, but this can change as they go through the analysis process. As such this allows for some subjectivity and reflexivity and so straddles the big Q small q divide (Braun & Clarke, 2006). The method which sits firmly in big Q qualitative research is Reflexive Thematic Analysis which sets out six, non-linear stages to data analysis which the researcher moves back and forward through as deemed appropriate and necessary. It lends itself best to a fully inductive method of code generation and so best suits my theoretical propositions - I discuss each stage separately next.

Throughout the data analysis process, I kept a log of analytical memos in a Google sheet where I recorded thoughts and ideas that came to mind at any stage during the process of data analysis. This helped me to maintain a reflexive approach to my data analysis throughout. An extract of this log can be found in Table 5.5.

Table 5.5 - *An extract from my log of analytical memos*

Date	Action	Rationale
17/01/22	Merged some codes with significant overlap e.g. Relevance to subjects with a bigger co-curricular load e.g. performing arts, PE	As I have been populating the data points, there seems to be a big enough overlap between what is being said
17/01/22	Theme name Relationship with Research could be change to Openness to	Need to think on the subtle differences and what they might mean/which fits best
18/01/22	Change 'SLT' Subtheme to 'Leadership'	It Isn't encompassing Just the SLT but also people such as myself who run the programme but aren't on SLT
18/01/22	Added code 'Ethos' to Sub theme leadership, theme Prestige and Recognition	It seems to be becoming more and more important, I had it a code I couldn't place but upon re-reading a data point from Eve Y1 I think it comes under Leadership, I think it also has scope to merge with permission to experiment later on
18/01/22	Merged 'clarity of end goal' and 'start with end in mind' codes	Seems to be a big enough overlap. Start with end in mind I took the wording from Stoll as it resonated. Undecided if I should sue that or my own wording, need to consider differences.
18/01/22	Removed reluctance to from 'engaging with programme outside of allocated time code'	I realise this is too directional and some practitioners will engage with programme outside of allocated time while others won't. Both of these are interesting and need considering with this code.
18/01/22	Motivated by embarrassment of not having put as much effort in as others - removed 'embarrassment of from this code	It isn't just embarrassment it is other emotions too e.g. guilt'
18/01/22	Merged looking for novelty and not finding it with repetition of CPD content	Very similar
18/01/22	Deleted CPD from statement above	Not the correct terminology and irrelevant here
19/01/22	Changed code relevance of programme to relevance and motivation	I wasn't populating anything into that code and realised it was because it was too vague and overlapped with other codes. On reading a data point it seemed like I could make it more focused linking it to motivation

I now outline the six steps for Reflexive Thematic Analysis using Braun and Clarke (2022) as a

guide and explain how I moved through each step with each of my data sets.

5.8.1.1 *Familiarising yourself with your data:*

To familiarise yourself with the data, Braun and Clark recommend transcribing data (if necessary), reading and re-reading the data, and noting down initial ideas. I read through my field notes twice. I extracted the answers to the open-ended questionnaire items, compiled them in a Google sheet and read and re-read those. For my interview data I first listened to the whole audio recording of the interview, I then transcribed it, checked the transcription against the audio recording and then read through it one final time. The whole time I was doing this process I was also keeping notes of candidate codes and themes that I thought I was beginning to see in my Google sheet of analytical memos. An example of candidate codes and themes can be seen in Table 5.6

Table 5.6 - *An example of candidate codes and themes*

Continuity of topic/programme	Time	Stuck in their ways colleagues	One size fits all approach
Deadlines	Time in department, better to work with dept, better to work outside of department	Relationship with research	Not applicable to co-curricular subjects
Engagement of practitioners - better/worse	Wrong time	Didn't like one focus for whole school	Takes away from time with students
Group motivation, embarrassment of not participating as motivation	Cover	Start with the end in mind	Shouldn't be for all practitioners
Intrinsic motivation	Understanding/misunderstanding of method of programme	Importance of choosing the right topic	Subject specialism differences
Key practitioners	Social learning	Appreciate interactivity	Should be opt in

Note: these codes were randomly placed in a spread sheet and so there are no column headers or row descriptors

5.8.1.2 *Generating initial codes:*

Several methods can be used to generate initial codes. Braun and Clarke (2022) suggest inductive coding of interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code which is what I aimed to do. For further detail on the generation of codes, I looked to Saldaña (2021) who defines a code in qualitative analysis as ‘most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data’ (p. 5). The goal of coding is to look for patterns which Saldana says can be characterised by: similarity (things happening the same way), difference (things happening in predictably different ways), frequency (they happen often or seldom), sequence (they happen in a certain order), correspondence (they happen in relation to other activities or events), and causation (one appears to cause the other).

There are three main forms a code can take; descriptive coding (where I capture my interpretation or ‘description’ of the data in a word or short phrase), in vivo coding (where I would lift words straight from the transcript to generate the code), and emotion coding (where I would try to capture my interpretation of the participants emotions in my code). I used all three types of code in an eclectic coding method (Saldana, 2021). Braun and Clarke also highlight the significance of omissions in accounts when looking for codes as that can have many meanings. Not being said does not equate to not being thought, all it tells us is that it was not verbalised at that point in time. This further highlights an issue to be mindful of when looking for patterns in frequency, it can be tempting to quantify occurrences in an attempt to add weight to an emerging theme however, that can compromise the big Q Qualitative nature of the research process and remove it from the interpretivist paradigm through eliminating certain codes on the grounds of infrequent occurrences and denying the researcher the opportunity to exercise their subjectivity and reflexivity, which form the core of big Q qualitative research.

My coding was inductive, I approached the data with an open mind but my interpretations of the themes within it will have inevitably been influenced by my own positionality. It is for this

reason that Braun and Clarke advise against the notion that themes reveal themselves in the data as this negates the filters of the researcher's positionality. By the time it came to data analysis, I had already read a lot of the literature pertaining to my topic so this, in conjunction with my positionality outlined earlier in this chapter and in chapter 1, will have influenced the way I interpreted my data.

My interview transcripts and field notes were all kept in Google docs. When coding these I carefully considered each data point and looked for latent as well as semantic meaning. I used the comment function in the margin of a Google doc to give each data point a code consisting of a word or short phrase which I felt captured its essence. This allowed me to revisit and reflect on previously assigned codes to add extra comments and better capture meaning and my interpretation as necessary. See Figure 5.2.

Figure 5.2 - Example of coding using Google docs

As a model I think it had worked very well actually, I think it the evidence was not necessarily through the group that I was involved in which I thought went very well, but this year I thought that the ideas fair was much better than previous years. When I was looking around I was quite impressed by the amount my colleagues had done and what they actually presented, that might have been a poster but it just showed much higher engagement levels and also output compared to previous year. You know I was working with a group the year before and that's not the leaders fault in particular but there was like 2 of us in the meeting and it started with 20 at the beginning of the year so it just shows that it was a meaningless process.

So did you have any apprehensions or reservations about the programme at the beginning, did you have any concerns about it?

No, I thought it might be very similar to what it was I didn't see necessarily how it had really changed from the previous year. I guess because I was in a group that saw very large levels of disengagement participation fell rapidly so I thought well this isn't going to be any different this year but it hasn't been. That might have just been change of leader or change of the programme which I have done or that your coordinating of it has just been better but so I think yes because there's kind of two of you well you kind of had that R&D focus and then HAttie has focused on other things which has allowed you to be the kind of R&D person so that has helped just having you who focuses on that has probably helped improve the effectiveness.

- S

Sophie Ann St. Clair Jones
Dec 2, 2021

impressed by colleague engagement and output
- S

Sophie Ann St. Clair Jones
Dec 2, 2021

attrition in previous year = meaningless process
- S

Sophie Ann St. Clair Jones
Dec 2, 2021

improved attendance eon previous years
- S

Sophie Ann St. Clair Jones
Dec 2, 2021

clear leadership

I exported qualitative survey data into a Google sheet and used a similar comment function to code in the same way.

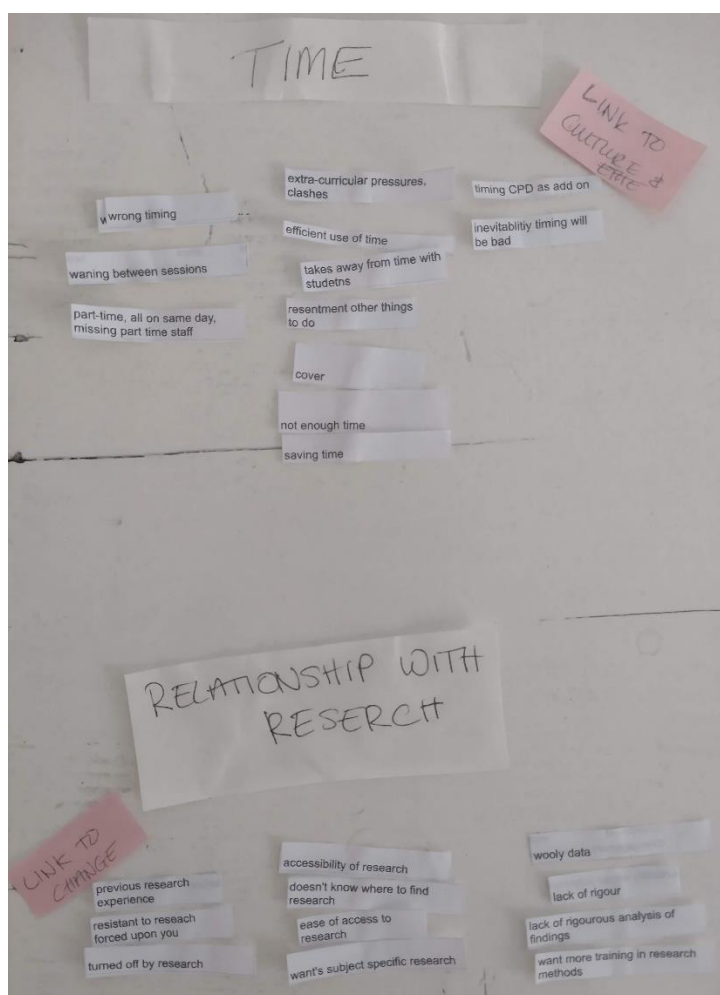
5.8.1.3 *Generating initial themes:*

The purpose of this stage is to collate codes into candidate themes, gathering all data relevant to support each candidate theme. In generating my initial codes, I analysed and broke down my data. The aim at this stage was to synthesise new meaning from my deconstructed data (Saldana & Omast, 2018). However, it is important that care is taken not to lose meaning when consolidating

codes into themes. This can be avoided by first generating 'categories' for codes and then combining categories to form themes (Saldana 2021).

I collated all my candidate codes into a Google sheet, at this point I looked for obvious overlaps, things that were saying the same thing but with different wording (e.g. 'wrong timing' and 'not a good time') and merged them into one (e.g. 'wrong time'). I was very careful at this stage not to lose any nuances in my interpretations of the data and so would not merge for example 'Repetition of CPD content', 'fatigue of revisiting topics', 'heard it before' and 'looking for novelty and not finding it' as I felt there were subtle differences in these interpretations which may be accentuated as I further familiarised myself with the data. I then printed off all the codes and began to group them into categories and those categories into themes. Throughout, I kept in mind the importance of a central organising concept to ensure coherence and depth of the themes. I chose to carry out this stage manually as opposed to on a computer as I found it easier to be able to move the codes around and highlight links to consider how they might interact. Figure 5.3 shows an example of how I conducted this stage of the analysis.

Figure 5.3 - Example of sorting codes into categories and themes



The themes I identified at this stage acted as what Braun and Clarke describe as ‘candidate themes’. I then entered my candidate themes into a Google sheet. I created a Table with the theme name, sub-theme, and code. An extract of this Table can be seen in Table 5.7. As previously mentioned, the Reflexive Thematic Analysis approach is not a linear one and the researcher will move back and forth through the different phases, this meant that I was continually revisiting and re-evaluating my themes throughout the analysis process. My candidate themes were continually being reworked throughout the data analysis and write up process.

Table 5.7 - *An extract from my final data analysis Table*

Theme - Central organising concept	Subtheme	Code	Data Points
Learning With Colleagues - there is general consensus that working with colleagues is preferable to working independently and my interpretations of the data indicate a number of benefits to conducting professional learning in groups. However, questions arise around which colleagues to work with, the different roles different colleagues play within the group, the dynamics between different members of the group - data in this theme are interpreted and sorted into barriers and enablers to shed light on these nuances	Relationships	Tie strength	Simon: what you're doing is you are doing in house training so people understand the context in which they are teaching so they can have discussions about how things work within this school specifically and it nurtures that sense of a shared you know community within the school as well because you know what was it X was talking about yesterday, tie strength you know and I genuinely I genuinely agree with that, I think I had conversations with people from departments that I never have an interaction with.
		Uniting otherwise distant members of the school community	Jill: Yeah, I think they were fun. Because they were very different people from very different subjects and backgrounds, and I think that that allowed a lot of sort of cross referencing of ideas not just because we were in different subjects but because we were really different people as well. Eve: it was just two random people from school that you might not ever talk to usually and you were both standing at this poster, and you were both actually discussing something and some kind of research and seeing whether it would work for you or how it works for them or how it wouldn't work for them so that stimulating discussion was really nice.

Theme - Central organising concept	Subtheme	Code	Data Points
		Interaction with colleagues not met before	Robin: That's something else and you know what that probably was something that was a big aspect at (My old school), it was about a third of this size, each year group was about 4 tutor groups and so when you were in a room you knew everyone pretty well and there's something like, it's like big city mentality isn't it, the sort of behaviour get from kids and adults for people in cities is you get nasty elements that wouldn't get in a small town because people feel an anonymity and that lacks engagement and so I think it is important to pull people together, I think each time sorry while we're on that, like people should, there is this assumption that you know everyone in the room, I've been and spent some time in room and walked out I wonder who the hell that was and still to this day I don't know maybe we should have little labels or something. So maybe as painful as it is, whoever is chairing should introduce everyone 'guys in the room, we have this this this and this and this is what they do' because then it gives context.
		Bringing practitioners together and boosting morale	Jill: Yeah, I like it. I thought it was really beneficial. I mean some parts of it weren't very productive, but I don't think that really mattered in the bigger scheme of things because there was a real social comradery in the group as well as what we were actually there to do.
		Positive tool for collaboration	Simon: I've seen conversations that practitioners have had that they would not have had, with someone from a different department, erm someone with different ideas about how to teach and how to track specifically erm and that has led to some really really fantastic ideas and that is what I have seen in those session, if the least that came out of it was actually those discussions, I would have been happy because I thought it was really good.

5.8.1.4 *Developing and reviewing themes:*

This step entails checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic ‘map’ of the analysis. It is helpful to consider a central organising concept for a theme at this stage as being able to state a clear rationale to theme suggests it is coherent and valid (Connelly & Peltzer, 2016).

In this stage, I went back to my coded transcripts, field notes and questionnaire data and began to populate the data points sections of my spreadsheet with examples from the data. As I was doing this, I spotted further similarities between codes, and I could see where some further codes could be merged. For example, ‘Relevance to extra-curricular’ and ‘Not applicable to subjects with a bigger co-curricular load e.g. performing arts, PE’ were merged into ‘Relevance to subjects with a bigger co-curricular load e.g. performing arts, PE’. Again, I used my increasingly in-depth knowledge of the data set to ensure that I was not losing any of the nuances in my interpretations.

5.8.1.5 *Refining, defining, and naming themes:*

This stage sees ongoing analysis to refine the specifics of each theme, and the overall story it tells, generating clear definitions and names for each theme. It was when I first reached this point that I realised some of my analysis was not deep enough, it took surface level, semantic meanings which led to some elements of my themes being underdeveloped and unexciting. For some of them, I was struggling to find coherent central organising concepts which truly illustrated the latent meaning of my data. It was here that I really appreciated the non-linear process of Reflexive Thematic Analysis which encourages movement back and forth through the stages of analysis as deemed necessary. I also realised that my analysis was not sufficiently focused on my secondary research question which this element of my thesis was aiming to address. This was further fuelling the lack of coherence and confusion as the data collection tools were designed to elicit data relevant to the research question. At this point, I separated my codes, categories and candidate themes into two separate spreadsheets, one with codes which were addressing my central RQ and might come in useful at a different point in my thesis, and the other with codes which explicitly address my

secondary research question which was guiding this case study. This helped me to realise for example that ‘relationship with research’ which I was previously treating as a sub theme, seemed to form a coherent theme on its own. From the data points, codes, categories and candidate themes, I refined, defined and named my themes which now had greater depth, scope for richer discussion and addressed the latent level of my interpretation of the data.

5.8.1.6 *Producing the report (writing up):*

Producing the report is the final opportunity for analysis. It involves the selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, and producing a scholarly report of the analysis. My themes continued to evolve as I wrote. In writing, the themes became crystalise, often it was the case that there were significant overlaps in themes and the fluency of the final report benefited from combining these. Sometimes, what I thought could be a theme once written was short and thin and benefitted from being merged with another theme or becoming a sub theme.

Figure 5.4 is an example of how I merged two sub-themes while writing the ‘Relationship to Research’ theme. It illustrates that I selected the vignettes I found most vivid and compelling, and I put them into an early draft of my theme. I wrote some sentences to form a loose structure around these vignettes before printing the document. I then re-read what I had written and realised that there was considerable overlap between the sub theme ‘research is intimidating’ and ‘research is inaccessible’. I then decided to merge the sub-themes and give them the overarching heading of ‘accessibility’. I then read back through the vignettes I had included and the sentences I had already written and identified four key points in them. I ordered the key points into a logical sequence which I felt would read well when written and gave each key point a number. 1) perception of research, 2) interview and survey data supporting perception of research, 3) awareness of research summaries from platforms such as the EEF and, 4) breaking down barriers. I then read back through my text and numbered different paragraphs and sentences according to the key point they addressed. In the soft

copy of this text, I then reordered my words according to my numbering system and re-wrote the subtheme.

Figure 5.4 - An example of continued Reflexive Thematic Analysis throughout the writing process

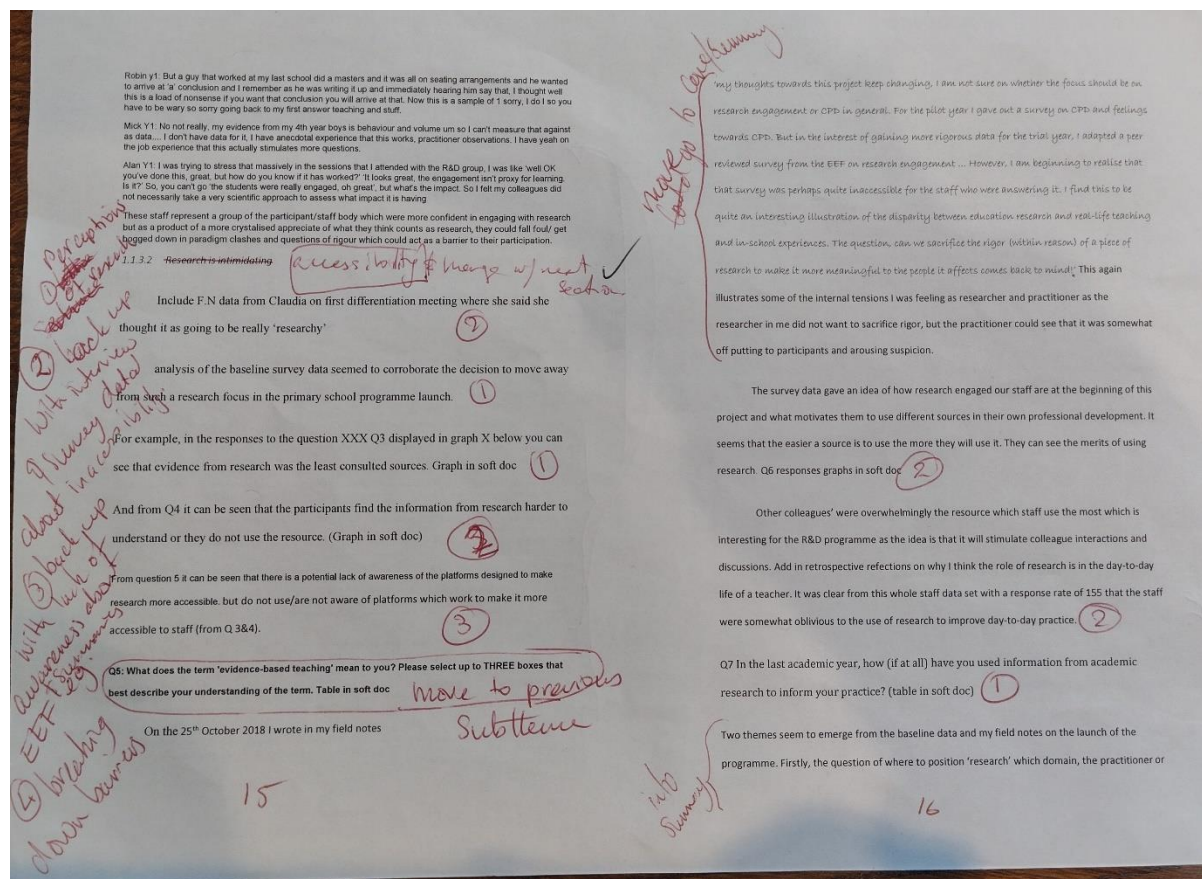
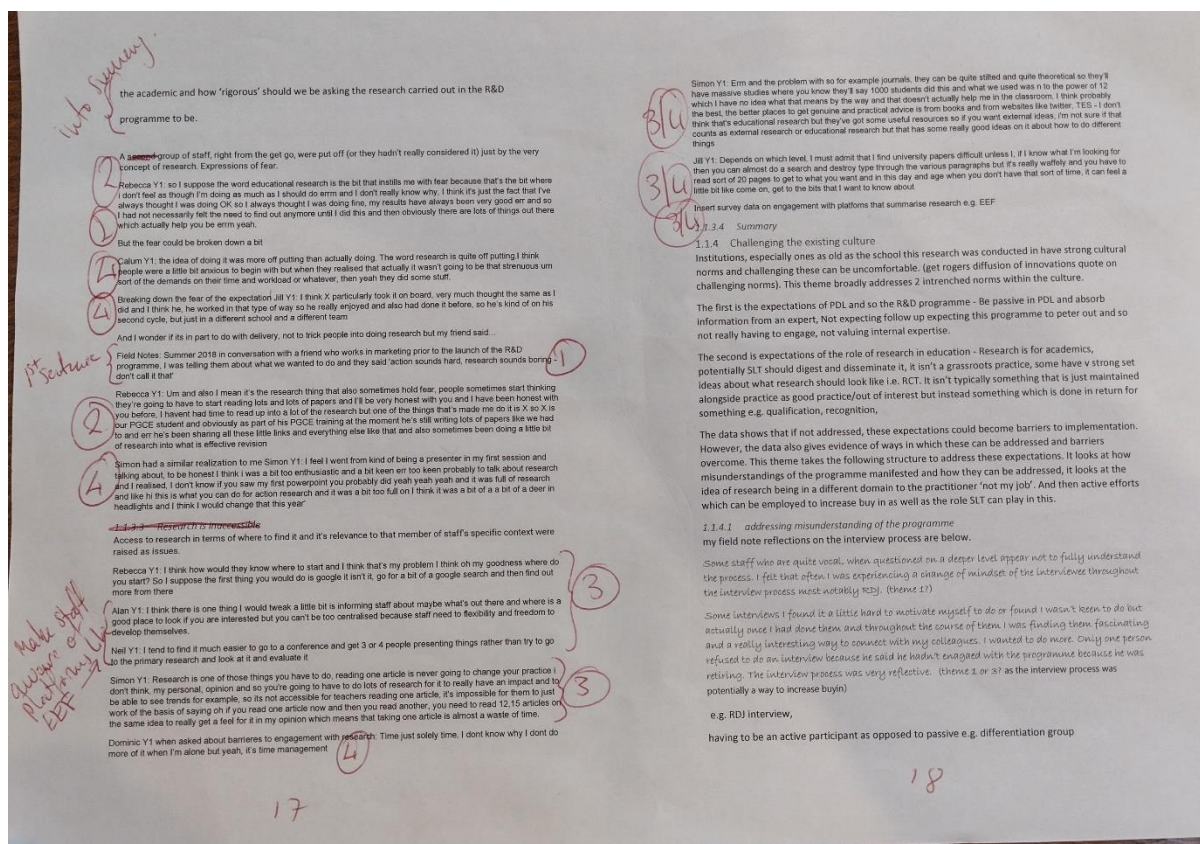


Figure 5.4 cont. - An example of continued Reflexive Thematic Analysis throughout the writing process



5.8.1.7 Limitations

As with all qualitative methods where the researcher is the key tool for data collection, analysis and interpretation, Reflexive Thematic Analysis is open to subjectivity bias (Attia & Edge, 2017). Through being transparent about my process and my positionality within my research, and through adopting a reflexive approach throughout, I hope to minimise this bias or at least make it explicit. Reflexive Thematic Analysis is also a time-consuming process and determining the point of data saturation can be challenging. There is scope to over-complicate the data analysis process and generate too many themes especially when analysing large sets of qualitative data. Equally, if not enough data is collected, themes will be thin and underdeveloped (Connelly & Peltzer, 2016; Finlay, 2021). I continued my data collection process up until I felt that no new information was coming out of my interviews or from my survey data, I made every effort to present coherent themes with minimal overlap which delved into the latent meaning of the data I had collected but which did not lose its original meaning. Due to the flexible nature of the Reflexive Thematic Analysis method, it is

vulnerable to misapplication. Braun and Clarke (2019) state that there are several examples in the literature of its misapplication. Through transparently outlining the stages of my analysis, I open it up to appraisal so that its quality can be assessed.

5.8.2 Frequency Data

My initial plan was to collect the names of respondents alongside their questionnaire responses so that their data could be paired at the beginning and at the end of the case study. I would have given the qualitative Likert responses a numerical value which would have allowed me to calculate means of the data sets and carry out a paired t-Test to establish if there were any significant changes in the mean responses from the start to the end of the case study. However, changes had to be made to my planned data collection as a result of changes to school management who required questionnaires relating to PDL to be answered anonymously and COVID-19 lockdowns which meant that surveys were carried out at home instead of in a lecture theatre and which saw a drop in response rates. Response rates for each questionnaire are given in Table 5.2.

Upon reflection, I feel my quantitative survey data to be a feature of my initial research plan designed to appease the anxiety I felt as a novice ‘big Q’ qualitative researcher coming from a semi-scientific background. The initial plan was to use this data as baseline and outcomes data from which statistically significant claims could be made about changes or lack of changes to research engagement of the practitioner body over the two years of my case study. This would have led to the creation of a similar case study report but adopting a mixed methods approach to data collection and analysis. However, I then truly witnessed firsthand the fabulous chaos of working with people, not test tubes. From hurdles such as changes of management meaning differing levels of access to the field, to global pandemics meaning that the final outcomes survey was conducted during remote work and only saw a lower response rate. However, it would be remis to disregard this data entirely as illustrative figures can be used from it to highlight claims made in an attempt to add to the detail of the picture while acknowledging the limitations of this ‘real world’ data set. For example, the preference for practitioners to learn from each other as their primary means for PDL is a theme I saw

clearly in the qualitative data and is also corroborated by the fact that in the baseline survey data 85.2% of respondents said they consulted colleagues 'a lot' when deciding on approaches to support pupil progress.

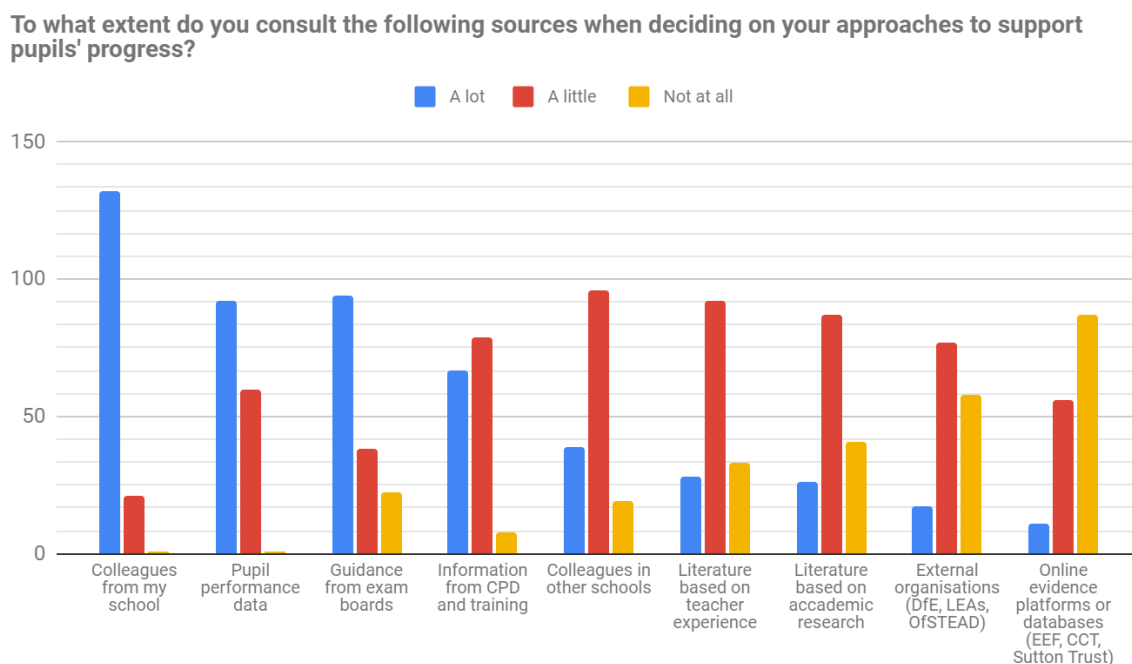
To process the quantitative data generated from Likert scales and multiple-choice questionnaire items, I first tabulated responses in a Google sheet. An example of this can be seen in Table 5.8, it includes the raw data which is the number of times that item was selected by respondents, and it includes the responses as a percentage of the total responses (n). I then represented this data graphically as seen in Figure 5.5 to help illustrate patterns in responses.

Table 5.8 - Extract of raw survey data

Question: To what extent do you consult the following sources when deciding on your approaches to support pupils' progress? September 2018 Responses

	A lot		A little		Not at all		No response		n	
Source	Raw	%	Raw	%	Raw	%	Raw	%	Raw	%
Colleagues from my school	132	85.2	21	13.5	1	0.6	1	0.6	155	100.0
Pupil performance data	92	59.4	60	38.7	1	0.6	2	1.3	155	100.0
Guidance from exam boards	94	60.6	38	24.5	22	14.2	1	0.6	155	100.0
Information from CPD and training	67	43.2	79	51.0	8	5.2	1	0.6	155	100.0
Colleagues in other schools	39	25.2	96	61.9	19	12.3	1	0.6	155	100.0
Literature based on teacher experience	28	18.1	92	59.4	33	21.3	2	1.3	155	100.0
Literature based on academic research	26	16.8	87	56.1	41	26.5	1	0.6	155	100.0
External organisations (DfE, LEAs, Ofsted)	17	11.0	77	49.7	58	37.4	3	1.9	155	100.0
Online evidence platforms or databases (EEF, CCT, Sutton Trust)	11	7.1	56	36.1	87	56.1	1	0.6	155	100.0

Figure 5.5 - Example of graphical illustration of frequency of responses taken from September 2018 survey data



Throughout my thesis, I present the findings from my survey data as frequency of responses given as percentages and I use the raw data to generate illustrative graphs such as Figure 5.5. These are used as an indicator of opinions of the wider practitioner body. At times, to illustrate changes in preferences among the research population over time, percentages of responses from different surveys were compared as can be seen in Table 5.9. However, this was done with caution and in consideration of the fact that response rates for the different surveys varied.

Table 5.9 - Comparison of percentages of responses from different surveys

Question: In the last academic year, how (if at all) have you used information from academic research to inform your practice?

Statement	Sept 2018 (%)	May 2020 (%)	Change (%)
To discuss best practice with colleagues	58.7	75.8	+17.1
To reflect on my own practice	67.1	75.8	+8.7
To change classroom practice (this could be starting, developing or discontinuing an approach)	51.0	59.1	+8.1
To contribute to my own research/enquiry	18.7	45.5	+26.8
To influence colleagues to change their classroom practice (this could be starting, developing, or discontinuing an approach)	21.9	19.7	-2.2
To improve my knowledge of a topic or subject	70.3	60.6	-9.7
I have not used information from academic research in the last year	11.0	7.6	-3.4

There are significant limitations to this data set. As such, this data is used to add colour to my themes and not as a centrepiece. It provides a snapshot of opinions at specific points in time but there could be response biases, especially in the smaller data sets, which limit the claims which can be made from them.

5.9 Chapter Summary

In this chapter I have outlined and justified my choice of a single, embedded case study design. I gave a description of the site of the case study and the practitioners taking part in it. I located myself within the case study which is essential to ensure a reflexive approach and consider how my positionality might affect my research. I explored the ethics of my research, outlining how I gained consent for the study and how I followed the BERA ethical guidelines as well as the advice outlined by Groundwater-Smith and Mockler (2007) pertaining specifically to practitioner research. I

presented and justified my data collection tools: field notes, questionnaires, and interviews, and I considered their limitations. I explained how these complemented my research designed and philosophical assumptions and so allowed me to collect the necessary data to answer my research question. I gave a detailed description of my approaches to data analysis for both my qualitative and quantitative data. This paves the way for the presentation of my findings in the next chapter.

6 Case Study Findings

In this chapter I present the findings from my case study of the implementation of the R&D Programme and begin to answer my secondary research question: *What can be learnt from a case study of the implementation of the R&D Programme in a school in Essex, UK?*

My findings are presented under the following themes: Learning from Colleagues, Relationship to Research, and Cultivating Practitioner Centred PDL. I use vignettes from interviews and qualitative survey data to thicken my description of themes with snapshots of participants' opinions and experiences. Quantitative survey data is presented as frequency data and adds further depth to my findings by providing an insight into the perspectives of the wider practitioner body at different points in time, such as their attitudes towards the programme and their understanding of the programme. One overarching thread – 'time' – ran through all of the identified themes. I start this chapter by exploring this element further before giving an in-depth description of each theme.

When considering the themes I present in this chapter, it is important to remember my positionality within the research. My role as a practitioner-researcher as well as my own personal philosophy, will have affected my interpretation of my data and therefore findings. I attempt to make my biases explicit through my positionality statement in Chapter 1 and locate myself within the case study in Chapter 5. I use first person throughout my thesis as a reminder of my role as the primary instrument for data collection and analysis, something which is particularly important to keep in mind as I present my findings.

6.1 Time

Time was an issue which permeated the R&D Programme in several ways. Commonly, there was a feeling that there was not enough time to properly engage with it. As the programme coordinator, I felt acutely in the first year that I did not have time to train the facilitators in its delivery and practitioners reported not having enough time to properly participate. However, the issue of time was not limited to a lack of it - mistimed delivery of certain elements of the

programme, feeling that it an inefficient use of time, and an anticipation that engaging in the programme would be a time burden were also issues.

In the first year of the programme, I was given a short slot in a T&L meeting, prior to each R&D group meeting, to train our facilitators. There were several items on the agenda for these meetings so, at best, only about 25minutes of that meeting were dedicated to facilitator training. From my field notes, it is clear that I did not feel as though I had enough time to properly prepare or deliver effective training, which I felt led to limited understanding of the programme among the facilitators. I wrote that 'I don't feel well enough equipped to teach my colleagues how to lead this programme in such a short amount of time' (Field notes, 26th February, 2019) and that 'it is clear that the facilitators of this programme need more training and alongside a full timetable and a lack of leadership experience, I do not feel qualified to do this' (Field notes, 28th March, 2019).

In the second year of the programme, we allocated time and funding to an external provider to help with the training of our facilitators. We also made a greater effort to ringfence the time given to the R&D group meetings throughout the year. This was possible as we had greater support for the programme from our SLT. This saw some knock-on benefits which I explore later in this chapter. Despite this, time remained a prominent issue. For instance, in her end of year two interview, Gemma said that she and others were too busy to engage with the R&D Programme. Myles appreciated and utilised the ringfenced time but still felt that there was not enough of it. These feelings were echoed in the survey data and my fieldnotes. Myles also felt that some of the R&D group meetings came at the wrong time of year, clashing with pinch points of high marking load and lots of parents' evenings. Ellie expressed the same concern saying that when an R&D session fell on a week with parents' evening, reports, or high marking loads, 'people were more reluctant to go and put themselves into it because they had so much else to do'. Imogen felt the pace of some elements of the programme was wrong, giving the example of a facilitator training session coming too late as she and her co-facilitator had already progressed their R&D group beyond the point that the training

was addressing. Perhaps due to mistiming, the programme sometimes felt like an inefficient use of time for practitioners. One facilitator said, partway through a training session, that 'she had 100 unread emails and that this was not an efficient use of her time' (Field notes, 3rd February 2020). For some, the issue was less time itself, but the misplaced expectation that the R&D Programme would be particularly time-consuming, which in turn created apprehension. For instance, Eve said she expected it to 'be a huge, big thing when in fact the poster didn't actually take long at all' she said she was 'afraid to jump in' but afterwards realised that 'it's actually not that much work and it probably is really interesting and beneficial'. Therefore, the issue of time, which was recurrent throughout the programme, manifests itself in different guises: not only the lack of time itself, but also mistiming, the inefficient use of time available, and expectations around the time burden of the programme.

As a team implementing the R&D Programme, we were sensitive to the tensions surrounding time but felt strongly that if fully understood and correctly applied, using action research as a method for PDL could in fact ease time pressures. Through increased scrutiny and appraisal of practice, superfluous and potentially time-consuming practices should slowly be weeded out. We realised that part of our job was to successfully sell the R&D Programme as a high value use of time which would not only diminish time as a barrier, but which also carried the potential to ease wider time pressures faced by practitioners. We appreciated the challenge of timing the programme to suit all 200 practitioners in a school with such a large co-curricular programme but maintained the ambition to tailor the programme to support individual progress through it. We listened to complaints about time pressures and tried to unpick what was behind the complaint, which often related to a perceived lack of relevance, leading to a reluctance to give up time.

The perceived relevance and pertinence of the R&D Programme to individual practitioners is therefore indissociable from the issue of time as a real or perceived barrier to engaging with the programme by those practitioners. In an environment where time is scarce, each session must justify

the time commitment required by practitioners by demonstrating its relevance and value to them. An example of a facilitator training session by the external provider which was not sufficiently tailored to the audience of facilitators, and therefore seen not to be a good use of time, exemplified the consequences of not meeting this standard. In my field notes I wrote that I felt 'the content covered wasn't as new to the practitioners as previous content had been'. One facilitator said he 'felt the trainer was underprepared' another said that 'he had been over all of this content before and that it was not helpful to him' (Field notes, 3rd February 2020).

This experience also highlighted a learning point for me. As the programme's leader in the school, I had a better understanding than the external training provider of the facilitators' prior level of knowledge and experience, and of their needs in terms of additional training. Engaging more extensively in advance, and crucially adopting a more assertive approach with the training provider in terms of the session's content, would have helped ensure better alignment between the training needs of the facilitators and the training actually delivered by the external provider.

Time can appear to be an inevitable barrier, which can lead to unwillingness to engage with it or to attempt to address it. After all, doing so may seem futile if time constraints are felt universally and can never be overcome. This point was made clear by the external trainer, who started her first facilitator training session by 'taking time off the table' when asking trainee facilitators about the barriers to engagement with the R&D Programme in its first year. This suggests a certain inevitability about the lack of time for PDL in education settings. This may reflect, in part, systemic issues surrounding workload and working conditions in schools across the UK. Other factors may be more specific to the school in question. The school my case study was set in was an independent school, and so has different pressures to the state sector. Typically, private schools have shorter terms, longer holidays, and higher pay. However, the school day is longer, and practitioners are often required to work weekends and take on extracurricular commitments such as coaching sports teams, which may explain some of the grievances around time that I found in my data. Regardless of the exact causes, taking time pressures as an inevitable and immutable feature

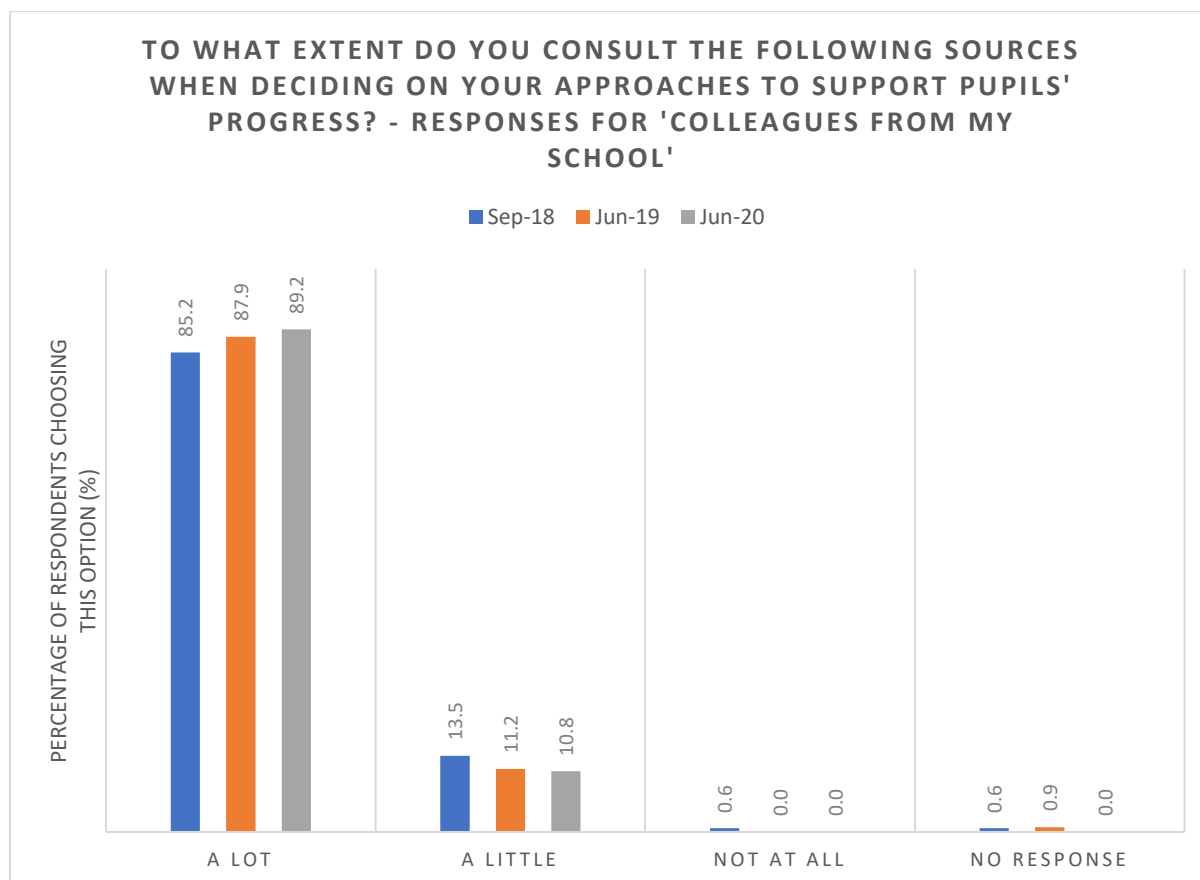
of practitioners' experience risks overlooking the multitude of elements and experiences that fall under the overarching theme of time, as well as some of the possible solutions that may alleviate, if not entirely eliminate, time as a barrier to engagement.

Through unpicking the themes I identified in my data collected, I now hope to explicate some of the issues which might have been behind complaints about time and provide ideas for how to make the programme feel like an efficient and worthwhile investment of time.

6.2 Learning From Colleagues

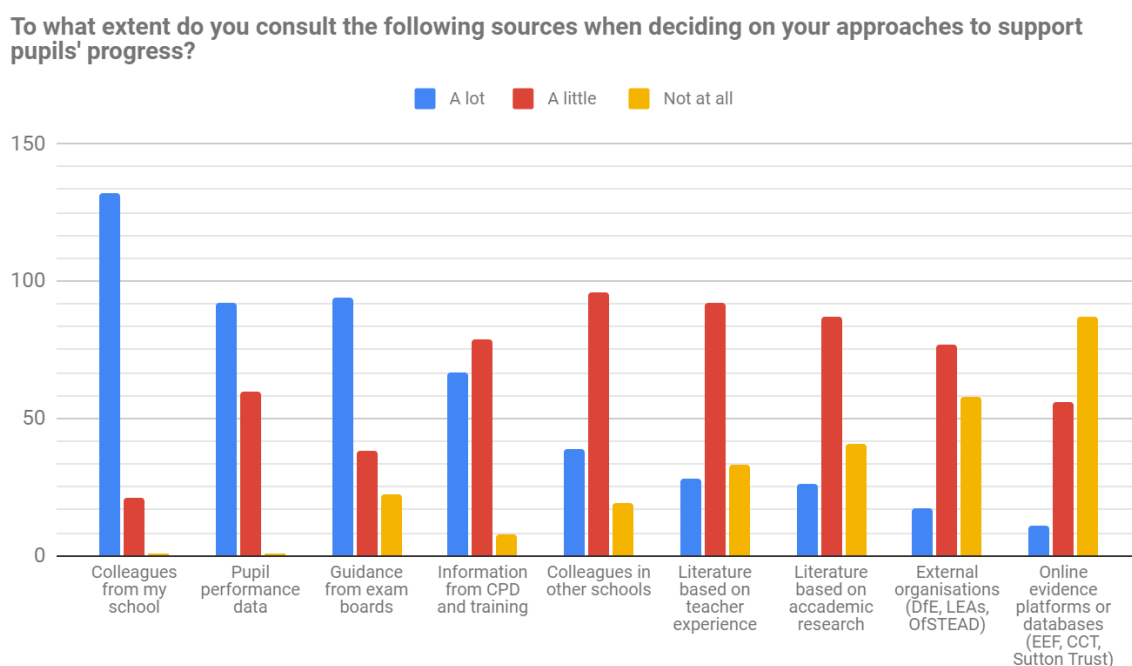
The question 'to what extent do you consult the following sources when deciding on your approaches to support pupils' progress?' was asked of all practitioners in questionnaires at three different points in my case study. The possible responses were 'a lot', 'a little' or 'not at all'. Figure 6.1 illustrates how, consistently, practitioners reported to consult the source 'colleagues from my school' 'a lot' throughout my case study.

Figure 6.1 - Graph showing responses to 'colleagues from my own school' item from the question 'to what extent do you consult the following sources when deciding on your approaches to support pupils' progress?' over the course of my case study



Furthermore, 'Colleagues from my school' was the source favoured over all others. Figure 6.2 illustrates the extent to which practitioners consult different sources when deciding their approaches to supporting pupils' progress from the September 2018 survey data and shows how strong the tendency to consult 'colleagues from my own school' was over other sources.

Figure 6.2 - Graph illustrating the extent to which practitioners consult different sources when deciding their approaches to supporting pupils' progress, survey data taken from the September 2018 questionnaire



A similar pattern could be seen in the June 2019 and June 2020 survey data. In June 2019, 87.9% of the 116 respondents reported to consult 'colleagues from my own school' 'a lot', which was 30.1% higher than the next most commonly consulted source, 'guidance from exam boards'. In June 2020, 89.2% of the 65 questionnaire respondents reported to consult 'colleagues from my own school' 'a lot', this was only 9% higher than the next most commonly consulted source 'pupil performance data' but 41.5% higher than the third most commonly consulted source, 'guidance from exam boards'.

The interview data echoed this preference for consulting colleagues over other sources for PDL. Dominic stated that discussions with peers were 'the most beneficial' training he had received in his career and Robin said that 'the best training I've had is just communication with people that happens naturally'. In a similar vein, Simon, an interviewee who by his own declaration 'loves research' said:

now I've read research around it [data tracking] and I've about four or five pages of different quotations about different critics but to be honest, that was less useful than just having the conversations [with colleagues] so I took a lot away from just those discussions.

Likely because of the strong preference practitioners had for learning from colleagues in our school over other sources for PDL, there was an appreciation for the opportunities the R&D Programme gave to professional dialogue. An anonymous respondent to the December 2018 progress questionnaire was quite critical of the programme in general, offering several suggestions for its improvement, but they ended their feedback with 'However, I do appreciate the hour long get togethers as it is always good to discuss issues face to face'. Rebecca echoed this in her interview stating that 'the other thing that was really important about R&D was actually having the professional dialogues which we don't have the time to do normally'.

In this theme of 'Learning from Colleagues', I unpick this preference further and consider how it was utilised by the R&D Programme. I do this through the presentation of three sub-themes. Firstly, 'mindset' considers some of the benefits and tensions that arise when shifting to view peers as 'experts' and a valuable source for PDL. Secondly, 'relationships' considers how the R&D structure brought previously distant members of the school community together and the benefits and tensions which arose from this. And finally, 'benchmarking' considers the impact of observing the PDL outputs of other colleagues.

6.2.1 Mindset

There seemed to be a consensus in my data that learning from colleagues within the structure of the R&D Programme was beneficial due to its high context specificity. Simon said: 'you are doing in house training so people understand the context in which they are teaching so they can have discussions about how things work within this school specifically'. Interviewees and questionnaire respondents indicated that they valued the sharing of practical knowledge gained from experience of working in our school. Robin offered an illustration of this saying 'it was nice to

hear the primary school talk about what they do in their science lessons and yes, I did utilise some of that when designing the first year [of secondary school] scheme of work'. My own experience of the facilitator training sessions supports this, where best practice was shared which strengthened the programme and the sense that we were working as a team. Ideas such as dividing the R&D groups into subgroups based on progress to allow for differentiated delivery of content arose from this.

However, upon closer examination of my interview data and field notes, it was obvious that there were differences in opinion about which colleagues could be learnt from. The framework for PDL provided by the R&D Programme was new to most practitioners in our school. It saw them sorted into groups of up to 30 colleagues who met six times throughout the academic year. They were guided through action research cycles by a trained facilitator, who was also a colleague. The end of year Ideas Fair was then an opportunity to share learnings from the action research projects between colleagues from different R&D groups. In essence, one of the core principals of the R&D Programme was to highlight the value of different kinds of practitioner knowledge. However, the degree to which practitioners agreed with this notion varied and tensions arose around exactly which colleagues they were open to learning from.

The practitioners who appeared to really appreciate and realise the benefits of the R&D Programme structure tended to be those with a broad conception of where expertise, valuable knowledge, and learning experiences could be found. These practitioners appeared to demonstrate open-mindedness and creativity in applying learning from colleagues to their own practice. For example, at the Ideas Fair at the end of the first year of the programme, Eve reflected that:

It was just two random people from school that you might not ever talk to usually and you were both standing at this poster, and you were both actually discussing something and some kind of research and seeing whether it would work for you or how it works for them or how it wouldn't work for them. So that stimulating discussion was really nice.

This demonstrated how she was open to learning opportunities and enjoyed the challenge of seeing how others' learnings could inform her own. In his interview, Dominic described how his department similarly picked and chose snippets of learning from the Ideas Fair to inform their own practice. When probing Dominic further on how his department managed this, he reflected on mindset saying:

You just have to go in with that approach and think right, how can this improve my teaching? That sort of mindset and I always thought...I can learn off someone from history, someone from science that I've never met. Some of it might be completely, kind of, irrelevant and you might think I wouldn't do that... but there might be a snippet where you think, great I can use that... in a certain lesson, with a certain individual, with a certain class.

Ellie also demonstrated a similar open-mindedness and a broad conception of where expertise could come from. She said it was nice to see how different departments do things as 'you might be doing something, and it is not working but it might be working well for somebody else, and you could see what they are doing differently to you and help yourself in that way'. Jill echoed this appreciation of exposure to different perspectives describing it as 'fun'. Describing the members of her R&D group, she commented 'they were very different people from very different subjects and backgrounds, and I think that that allowed a lot of sort of cross referencing of ideas not just because we were in different subjects but because we were really different people as well'.

However, others felt the amount they could learn from colleagues to be limited precisely because of these differences. The interviewee Martin said, 'I found that I spent most of my time working with my colleagues who are in my department, which is unsurprising'. His use of the word 'unsurprising' suggests that he presumed his perspective was shared by others. He felt it was of very limited benefit to him to discuss pedagogical strategies with practitioners outside of his department because 'fundamentally you spend more time with your faculty, you talk to them every day, you

have time for meetings'. He suggested that R&D would be better engaged with if organised on a departmental level. This sentiment was echoed by several questionnaire respondents. For example, when asked 'do you have any suggestions for how the R&D Programme could be improved?' in the December 2018 progress questionnaire, one respondent said, 'Whilst R&D is worthwhile, I do feel that it is better to do something subject specific and holistic as a department that could then be tracked and measured, rather than individually.' Mick felt buy-in could be higher if the programme was run within departments. He said:

People may be minded to help their department even if they had ill feelings towards the school ... and don't want to contribute to something for someone they barely know but if you can make people directly accountable to their direct colleagues you may have more mileage.

Further tension arose when considering the profiles of the facilitators. Neil, an interviewee who had been at the school for 42 years said of his experience of the R&D group studying the theme of questioning that 'there were a couple of people there whose view was, well I don't want some young guy from the primary school telling me how to ask questions which I've been doing for 40 years'. In a similar vein, anonymous survey feedback from December 2018 said, 'The sessions should be led by practitioners who have experience in their field/topic'. There seemed to be questions around the legitimacy of some facilitators to lead the R&D groups. One interviewee, Alan, made a comparison between the R&D Programme and a PDL course he attended outside of school and suggested a need for an external expert to validate and add gravitas to the programme. He said, 'I guess because it was external to the school, that made it a bit more formal and a bit more important. If it was internal, then one of your teams may not do it because it feels less important'.

The potential gravitas provided by a prestigious external provider was to some degree evidenced by the differences we saw in facilitator sign ups between the first and second year of the R&D Programme. In the first year, we had 14 facilitators, most of whom were classroom teachers,

alongside a couple of middle managers. When we partnered with our external provider to supply the training in our second year, the number of facilitators increased to 24. The demographic of our facilitators also shifted, with more middle and senior management signing up to the training, citing that it would look good on their CV. This increased interest in facilitator training may, of course, have been influenced by other factors such as increased internal recognition of the programme by our SLT from year one to year two but, nevertheless, it demonstrates a change in disposition.

In summary, even before the R&D Programme began, a large majority of practitioners chose colleagues from their own school as their primary source of information for PDL. However, when the R&D Programme put professional dialogues into a more formal framework, there was evidence of disagreement on which kind of interactions were most helpful. Some felt meaningful interaction should be limited to colleagues with the same specialism or in the same department, while others felt that they could learn from anyone and that there were benefits to engaging with colleagues across the school. Similarly, some practitioners embraced the idea of the R&D Programme being facilitated by a peer, while others felt there should be an external expert present to add expertise and gravitas.

6.2.2 Relationships

Prior to the start of the R&D Programme, there was a degree of anonymity between the 200 practitioners in our school. The primary and secondary schools were on different sites. Within the secondary school, practitioners spent a lot of time within their departments; in the primary school, year group teams tended to spend much of their time together. It would often be the case, for example, that a practitioner from the secondary geography department might not know somebody from the secondary art department and would be even less likely to know anyone from the primary school. Robin highlights this issue in his year one interview saying “[My old school] was about a third of this size...so when you were in a room you knew everyone pretty well...[here] there is this assumption that you know everyone in the room, I’ve been and spent some time in a room and walked out wondering who the hell was that, and still to this day I don’t know. Maybe we should

have little labels or something'. This had been identified as an issue within the school and a priority on the school development plan was to employ active strategies to address this.

While the R&D Programme was not set up with this as an explicit focus, its emphasis on learning from colleagues worked to foster new relationships within its R&D groups. The R&D groups were formed based on the area of study chosen by each practitioner. This meant that in any one group, there might be a mixture of practitioners from the primary and secondary schools, from different departments and different year teams. This meant that some people were put into groups with colleagues they had never met before. In her interview, Rebecca characterised this as a positive feature of the R&D Programme by saying:

I sat with the head of music, I sat with the head of sixth form, I had the mandarin teacher in there, there were lots and lots of people from different areas of schools which I think we don't often have enough chance to talk to. We are so separate in our own departments, and I think that is something that again is really important that we don't realise until we actually have that time to sit down with those people to have those professional dialogues.

Most interviewees and survey respondents similarly appreciated this feature of the R&D Programme. Alan suggested that the mixing of colleagues created greater 'tie-strength' within our school community. The concept of 'tie-strength' comes from prominent sociologist Granovetter and underpins Social Networking Theory. Alan applied it to our context suggesting that through creating many weak ties between different practitioners, ultimately the R&D Programme facilitates the interconnection of our practitioner body. This idea was picked up on by Simon in his year one interview. He said:

It nurtures that sense of a shared community within the school as well because, what was it Alan was talking about yesterday, tie-strength, you know, and I

genuinely, I genuinely agree with that, I think I had conversations with people from departments that I never have an interaction with.

Simon elaborated further suggesting that this allowed for greater cross pollination of ideas as well as a more cohesive practitioner body:

I've seen conversations that practitioners have had that they would not have had, with someone from a different department, someone with different ideas about how to teach and how to track specifically erm and that has led to some really really fantastic ideas and that is what I have seen in those sessions.

This benefit was seen to be so significant by Simon and Jill that they suggested, should conversations between otherwise distant members of the school community be the only thing to come out of the programme, that would in itself be a success and worthwhile. Jill said, 'some parts of it weren't very productive but I don't think that really mattered in the bigger scheme of things because there was a real social comradery in the group'. I documented an example of this in my field notes, when a facilitator of the R&D Programme came into the Biology office to talk to a member of his R&D Group and help her with something for her son, entirely unrelated to R&D. Afterwards I asked her how she knew him, she said "I'm in his R&D group he's helping me with some English stuff for [my son], such a nice guy'. I asked, 'did you know him before R&D?' she said, 'not at all' (Field notes, 6th February 2019).

Others, such as my interviewee Myles, did not find relationships to be a particularly important part of the process. He did talk about how there was a sense of cohesion in his group and how he valued the relationship he built with his cofacilitator who was previously unknown to him. But he preferred to maintain a degree of professional distance between himself and the members of his R&D Group, as he felt this helped to get the work done. When considering the progress of the differentiation R&D group, there is evidence that he is right and that the R&D Programme has to be about more than good conversations and creating new relationships. After the very first R&D Group

session in year one of the programme, I recorded in my field notes how a member of the differentiation group told me how fantastic their session had been and how interesting the conversations were. However, throughout the year, the differentiation group was identified as one which needed more support, and, by the end of the year, they had not produced any research projects. I recorded an observation of the differentiation group which read:

One member said they had joined the group because they find it hard to differentiate in their lessons due to the practical nature of their subject. She expressed that she had expected to learn new strategies but had found the whole process a little bit of a waste of time as she had not. I asked had she investigated or researched anything herself and she said she hadn't the time to and was surprised when I said that the time in the sessions was supposed to be designated to doing that. (Field notes, 5th March, 2019)

This suggests that in an R&D group, positive relationships are not sufficient by themselves to maintain interest and momentum.

In summary, the R&D Programme brought practitioners together whose paths otherwise would not have crossed. Largely, practitioners reported this as an unexpected benefit of the programme. A field note on a remote R&D group meeting during the Covid-19 pandemic noted 'Feedback from this seemed to be positive - reports of practitioners finding it really nice to touch base with practitioners outside of the immediate circle during lockdown' (Field notes, 18th May 2020). Some felt that if new relationships and increased professional dialogues were the only things to come out of the R&D Programme then that in itself would constitute a success. However, there was evidence that, to demonstrate progress in the R&D Programme, wider action was needed alongside these new relationships and dialogues.

6.2.3 Benchmarking

To benchmark is to evaluate by comparison with a standard. We systematically shared good practice throughout the R&D Programme, often using thought and practice leaders from our

practitioner body as a positive benchmark for quality and to increase engagement. Sometimes this benchmarking was planned, sometimes it happened as a natural byproduct of the programme's emphasis on collaboration, sharing ideas, and learning from colleagues. In my data, I found benchmarking to have the effect of inspiring others to engage more with the programme, but also of creating a sense of peer pressure that encouraged action and engagement. Robin commented in his interview 'I don't know whether this is your intention, but subtly it allows people to observe the tireless work some people put in some places and makes them realise they probably could pull their socks up a bit.'

In my data, I found a few key moments where benchmarking was prominent, most notably the end of year Ideas Fair, a showcase of the action research projects practitioners had completed throughout the year. When reflecting on the Ideas Fair, Eve echoed Robin's feeling of guilt and expressed some regret at not having engaged more. She said, 'I felt a little bit guilty, and a little bit of regret that I hadn't actually put a little more effort into it myself throughout the year when I saw the interesting and amazing projects that other people had done'. Dominic said of it, 'a lot of people put a lot of effort in, and you could see that'. There was a degree of surprise about the quality and quantity of work which had been produced, as evidenced by Alan. He said, 'I was quite impressed by the amount my colleagues had done and what they actually presented...it just showed much higher engagement levels and also output compared to previous years...I was pleasantly surprised' Alan, was sometimes sceptical of the R&D Programme's efficacy and so it might be inferred that the work he saw from his colleagues challenged his preconceptions about their engagement with the programme. Simon described the Ideas Fair as a 'pivotal moment' within the programme as it not only showed the 'amazing' work practitioners had done but was also an opportunity for them to receive praise and appreciation for that work from colleagues, including the SLT.

Benchmarking was also evident within the R&D group meetings, specifically in the strategy we employed to help differentiate delivery of the programme. Within the R&D group, we advised

the facilitators to divide the practitioners into three groups based on the progress they had made through their action research project. One group for practitioners who were yet to start their action research project, a second for those who had collected data and needed to analyse it and a third for those who had analysed data and were planning next steps. Eve enjoyed working in these differentiated groups as it allowed her to work with colleagues 'on the same level'. Concerning those who found themselves in the group yet to start their projects, Eve said, 'it motivated them to actually do some of the research and do some of the data collection because it would have been embarrassing if you were in that group the entire time'. I recorded a similar observation in my field notes where I similarly reflected that this strategy 'put a bit of pressure on those who were in the least advanced group' (Field notes, 5th March, 2019) and that it worked particularly well for bigger groups (ca.25 people) and for groups with facilitators who had really grasped the concept of the programme as it allowed them to monitor practitioners progress through the programme.

Again, Simon highlighted the role that the SLT played when circulating around the R&D groups in benchmarking progress. He said:

I think the Headmaster was good about it because he was asking people about what they had done and how they had contributed and it does also embarrass people if they have done nothing. On the flip side! But that's not what it should be about obviously but I think it's good that the people who have done a lot are rewarded for doing quite a lot because...there is a select bunch of people in the school who go above and beyond and there are some people who do absolutely nothing and don't really get any kind of awkward moment for that (laughs) you know, and they can get promotions because it's not noted who does lots of work and who doesn't.

This highlights how leveraging feelings of guilt or embarrassment can be uncomfortable but nevertheless, it is an effective strategy to increase buy-in.

Benchmarking had the knock-on effect of increasing engagement with the programme across the board through a positive feedback loop where actions taken by those most engaged and advanced were highlighted and communicated, which in turn motivated other participants to advance their own research. In this sense, positive behaviours were amplified and reinforced, encouraging similar changes in the rest of the community.

6.2.4 Summary of the Theme Learning From Colleagues

In this section, I have explored the theme of Learning from Colleagues. A clear finding from this section is that it is participants' strong preference to learn from colleagues over other sources for PDL. However, the degree and manner in which individuals are open to learning from colleagues varies. Some approached the opportunities to learn with an open-mind, viewing every interaction with another practitioner as a possible learning opportunity. These individuals were not put off by engaging with colleagues across the school, including in areas that did not appear immediately applicable to their practice, and sought to engage with others' work to find areas of commonality and mutual relevance. Others found it harder to see relevance beyond their immediate sphere of influence, generally speaking their department, and expressed frustration at having to engage with colleagues that they did not habitually work closely with. Despite the general preference to learn directly from colleagues, not all practitioners favoured being guided through the process by a facilitator who was also a peer. Some expressed the desire to be led by someone with greater 'expertise', on the basis that they may be able to learn more from them than they could from a colleague.

Working in diverse groups had a somewhat unanticipated impact on the sense of community within the school. It built weak ties throughout the community which had a cumulative uniting impact and allowed for the cross-pollination of ideas. Networks made only of strong ties can lack the access to the new ideas, practices and innovations which are central to the success of the R&D Programme. This supports the notion that more diverse R&D groups are likely to be more successful

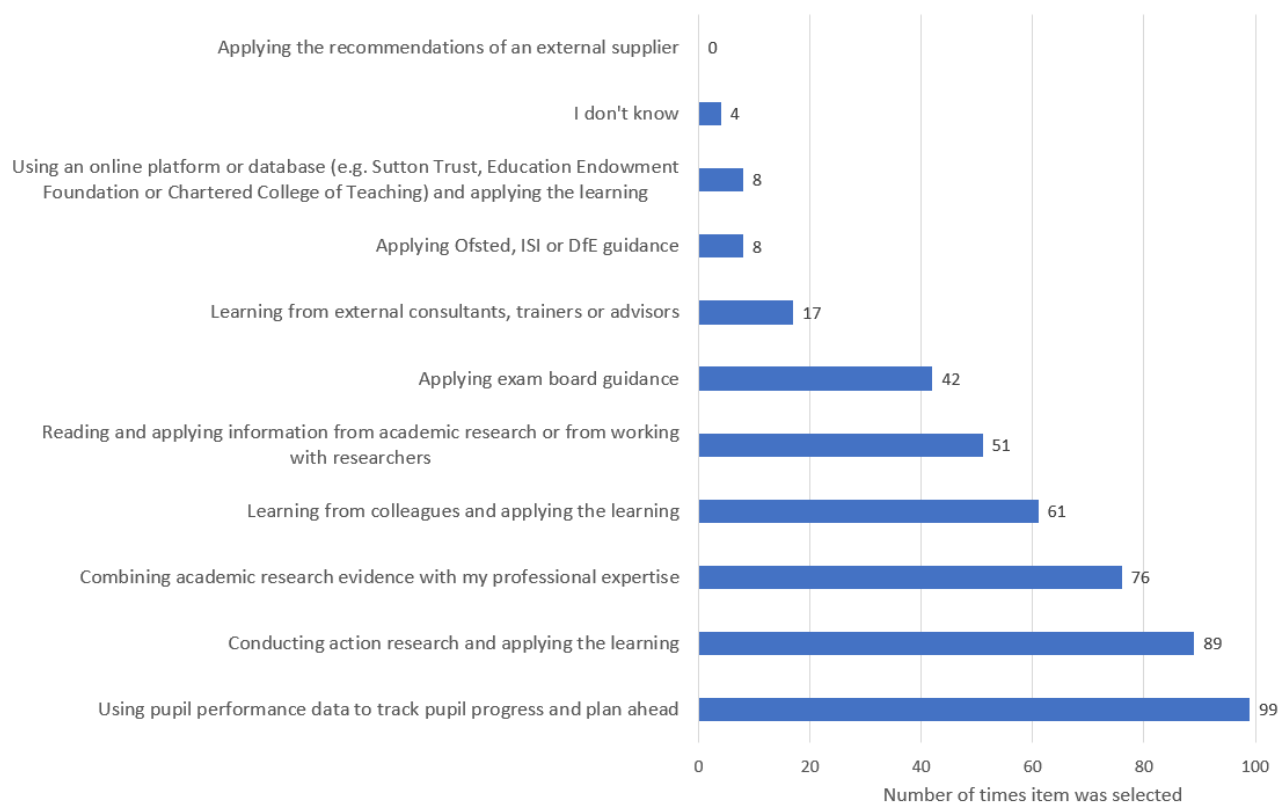
as they encourage the flow of information and best practice across a wider network, which may be picked up, adapted and incorporated by practitioners in new and unanticipated ways.

The above findings raise a number of considerations in the implementation of an R&D Programme in schools. There appears to be a trade-off between encouraging participants to work in diverse groups, which has uniting effects and encourages the Diffusion of Innovations and best practice, and the perceived relevance of working with others with whom individuals may have less in common. The balance between these two considerations is subjective and context-dependent, but there were clear benefits of having diverse groups in my school which became apparent where initial reluctance to work across departmental boundaries was overcome. My interpretation of the data surrounding the theme of Learning from Colleagues is that, for a PDL programme such as the R&D one to be successful, participants need to be encouraged to adopt a more inclusive idea of where expertise may come from, a more proactive approach to spotting learning opportunities which might not be immediately apparent, and a degree of creativity in incorporating ideas into their own practice. For some practitioners, this will mean reframing the concept of 'expert' and taking a more active role in their PDL. This might be met with resistance as change is uncomfortable and, linking back to the overarching thread of 'time' explored at the beginning of this chapter, this could be viewed as a time burden.

6.3 Relationship with Research

The R&D Programme asked practitioners to engage with and in research to begin to take an evidence-informed approach to change in their practice. The question 'What does the term 'evidence-based teaching' mean to you?' was asked of practitioners as a baseline in September 2018. Practitioners were given several items they could choose from and were asked to select up to three items which best described their understanding of the term. Figure 6.3 shows the number of times each item was selected in the September 2018 baseline data.

Figure 6.3 - Graph illustrating responses to the question 'What does the term 'evidence-based teaching' mean to you?', survey data taken from the September 2018 questionnaire.



This data shows that at the start of my case study, practitioners felt they understood what evidence-based teaching meant - 'I don't know' was only selected four times - but that that understanding was varied. This theme further explores these practitioners' relationships with research by considering three subthemes which I identified in the data. 'Different personal paradigms' explores the complexities centred around the varied positionalities within a teacher practitioner body, inexperienced researchers being intimidated by research, and research appearing inaccessible. 'Accessibility' deals with ease of access to research, ease of understanding of research, and its applicability to practice. 'Practitioner vs researcher' explores practitioners view on maintaining research alongside practice and their feelings towards the mantle of practitioner-researcher.

6.3.1 Different Personal Paradigms

Teachers in the UK must have an undergraduate degree and so all practitioners within a school will have been exposed to research during their studies. An idiosyncrasy of a school as a workplace is that its practitioners come from varied academic disciplines which occupy different paradigmatic spaces. For example, a science teacher might feel more comfortable working within a positivist framework while a history teacher might favour interpretivism. Ultimately, the R&D Programme was asking all practitioners to engage in strongly interpretivist practitioner research, which not all staff were comfortable or familiar with. I now explore the relevance of these personal paradigms for the R&D Programme.

Some practitioners appeared more willing than others to explore beyond their paradigm. For example, Imogen was one of the biggest champions of the R&D Programme and took over the head of R&D role after I had left the school. She had a PhD in chemistry which was situated firmly in a positivist paradigm. However, she fully embraced the interpretivist nature of action research. She commented in her interview that she had to 'learn to work with people, not test tubes' which demonstrated a degree of reflexivity. For others, engaging in action research which differed to their own paradigmatic stance prompted them to raise fundamental questions about the rigour, validity, and usefulness of the entire programme. One of the biggest critics of the programme again had a strongly positivist PhD in Physics and struggled to see any value in interpretivism, writing blogs about action research and interpretivist approaches to PDL being a waste of time. This sentiment was echoed somewhat by Alan, who had a background in Economics. He dismissed the research of the R&D Programme as 'not real research', although he did see the wider value of evidence informed decision-making, stating 'I find it very frustrating when decisions are made, or policies are proposed, or even promoted, that clearly lack any kind of evidence or don't seem to be based on anything other than just a hunch'. Mick, a philosophy teacher, commented that 'if [research] is getting too data heavy and there's too many graphs going on, I struggle to link that in to how I practice. If it's

done on a narrative... I'm quite interested in it. So, if it's sort of philosophical and theoretical then it's fine.'

Other practitioners commented on the inherent challenges of conducting research in a school environment. Robin, a physicist, voiced concerns about the number of variables there are to account for when researching in a school and the challenges of trying to 'control' them. He said, 'What I would like to do is split each year group into four and give them a different teaching style, but I think you're not allowed to for ethical reasons or something.' I echoed this concern about controlling variables in my field notes. At the end of the first year of the R&D Programme I listed the variables which had changed; 'my timetable, my line manager, my job description for my wider R&D role, people's attitude, attendance of practitioners, parameters of what I was allowed to do and not do, collect and not collect in the name of my research, are just a few', I reflected that 'a school is organic and ever evolving. It's so hard to research in it' (Field notes, 3rd July 2019). This partly reflects the paradigm tensions present within myself, as detailed in my positionality statement (Chapter 1) and when locating myself within the case study (Chapter 5). My natural sciences background meant that I felt most comfortable working in a positivist framework at the beginning of my PhD journey. Over time, I have come to appreciate that conducting robust research within a school is possible but requires a compatible methodology.

These stances are mirrored in practitioners' interpretations of what counts as valid evidence and research. Practitioner observations as a form of valid evidence was a more comfortable concept for Mick, the Philosopher who said, 'my evidence from my year 7 boys is behaviour and volume... I have anecdotal experience that this works, practitioner observations. I have on the job experience that this actually stimulates more questions.' Others were less convinced that robust conclusions could be drawn from the available evidence. Alan, the Economist, commented:

I was trying to stress that massively...I was like 'well OK you've done this, great, but how do you know if it has worked?' 'It looks great, the engagement isn't proxy for learning. Is it?' So,

you can't go 'the students were really engaged, oh great', but what's the impact. So, I felt my colleagues did not necessarily take a very scientific approach to assess impact.

Robin, the physicist, expressed suspicion at the potential biases of practitioner research giving an example of an old colleague who was undertaking a master's. Robin said, 'he wanted to arrive at 'a' conclusion...I thought well this is a load of nonsense, if you want that conclusion you will arrive at that...so, you have to be wary'.

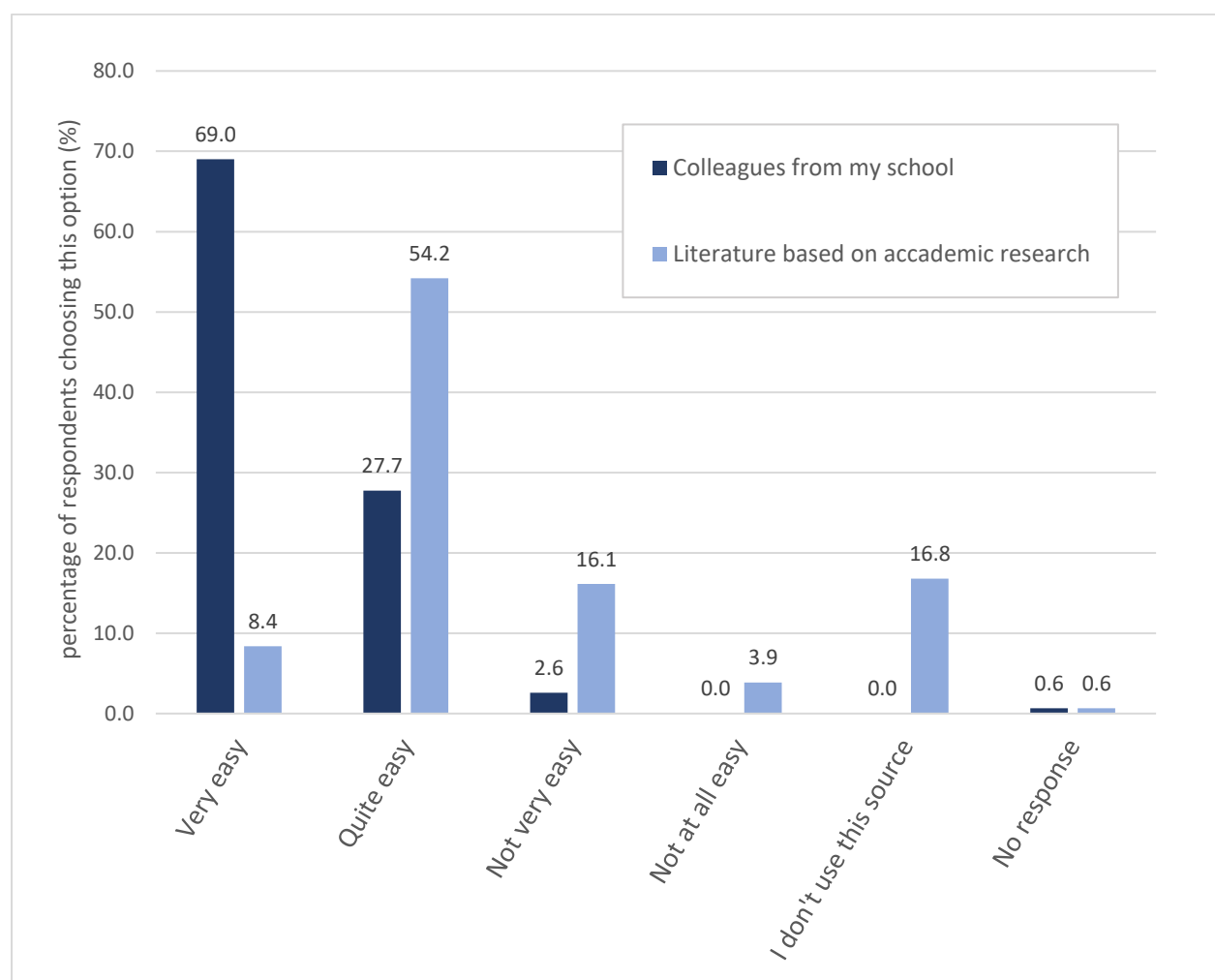
In addition to holding different views on their own relationships to research, practitioners also made assumptions about their colleagues' understanding of and relationship to research, sometimes erroneously. Myles, the Linguist, commented that maths teachers 'will love the data stuff' and so engage with the R&D Programme. However, Gemma, the mathematician and classicist reported that, within the maths department, there was a lot of scepticism towards the programme and its research validity, whereas members of the classics department seemed more engaged. In some instances, practitioners who were more confident in engaging with research manifested more rigid views around what should count as research, and consequently demonstrated less flexibility in engaging outside of their own paradigm. This could act as a barrier to their full participation in the programme, as they were less bought in to the research methodology.

6.3.2 Accessibility

My questionnaires asked our practitioners several questions which aimed to explore their research engagement. The survey data shown in Fig 6.2 illustrated the extent to which practitioners consulted different sources when deciding their approaches to supporting pupils' progress. It shows how, at the beginning of my case study, sources based on research, such as the EEF, and academic literature were the least commonly consulted. A reason for this could be accessibility, as the source which was most consulted by practitioners, 'colleagues from my school', was also the source which they reported to understand most easily. As an illustration of this, Figure 6.4 compares the responses for the sources 'colleagues from my school' and 'literature based on academic research' from the baseline survey data (September 2018) when practitioners were asked 'How easy do you

find it to understand the information that these sources provide about how to support pupils' progress?'.

Figure 6.4 - Graph illustrating responses to the question 'How easy do you find it to understand the information that these sources provide about how to support pupils' progress?', survey data taken from the September 2018 questionnaire



While most practitioners self-reported that they found it 'quite easy' to understand 'literature based on academic research', they found it noticeably harder to understand than information from 'colleagues from my school'. A similar trend was seen in the survey data from the June 2019 and the June 2020 outcomes questionnaires, suggesting this perception did not change much throughout the course of my case study. The relative difficulty in understanding information

from research serves as a starting point from which to explore obstacles participants might encounter when it comes to engaging with action research for PDL.

The same baseline questionnaire asked practitioners 'How (if at all) do you use research information in your work?'. To reduce response bias, practitioners were given several positively worded items and several negatively worded items to rank from 'strongly agree' to 'strongly disagree'. The survey data for this question is presented in Figure 6.5.

Figure 6.5 - Graphs illustrating the responses to the question 'How (if at all) do you use research information in your work?', survey data taken from the September 2018 question

How (if at all) do you use research information in your work? - negatively worded options

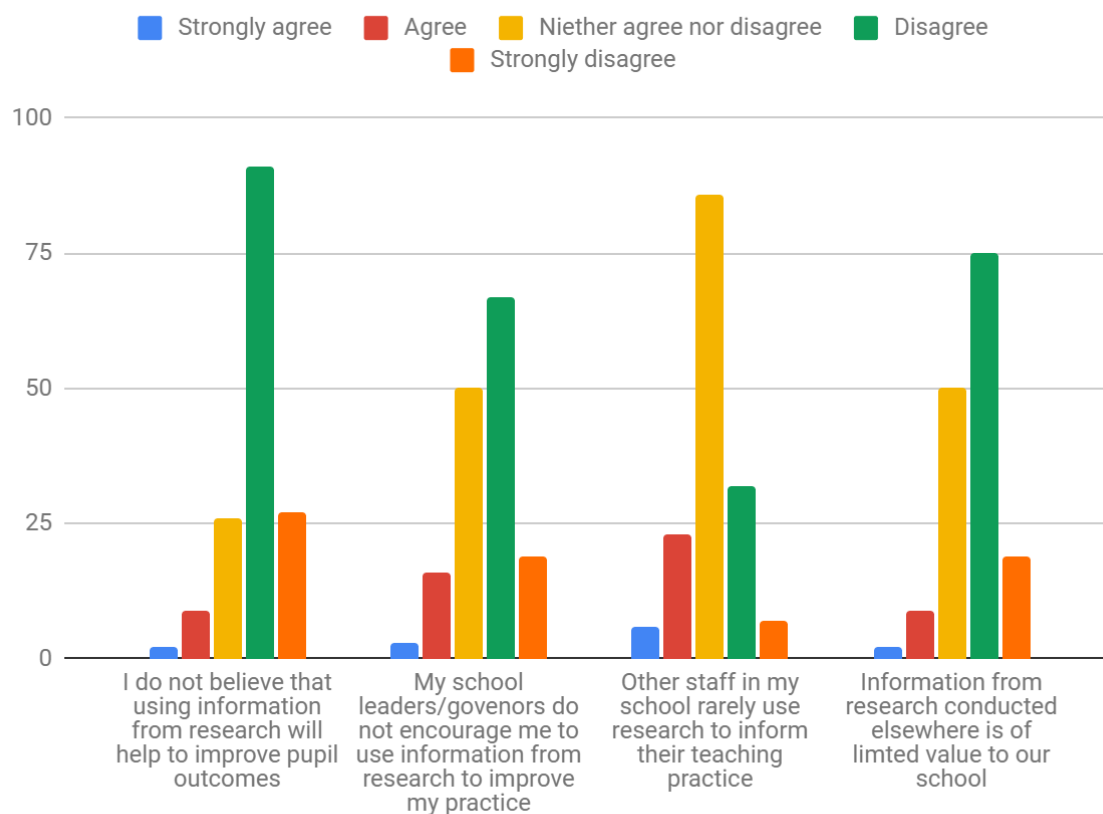
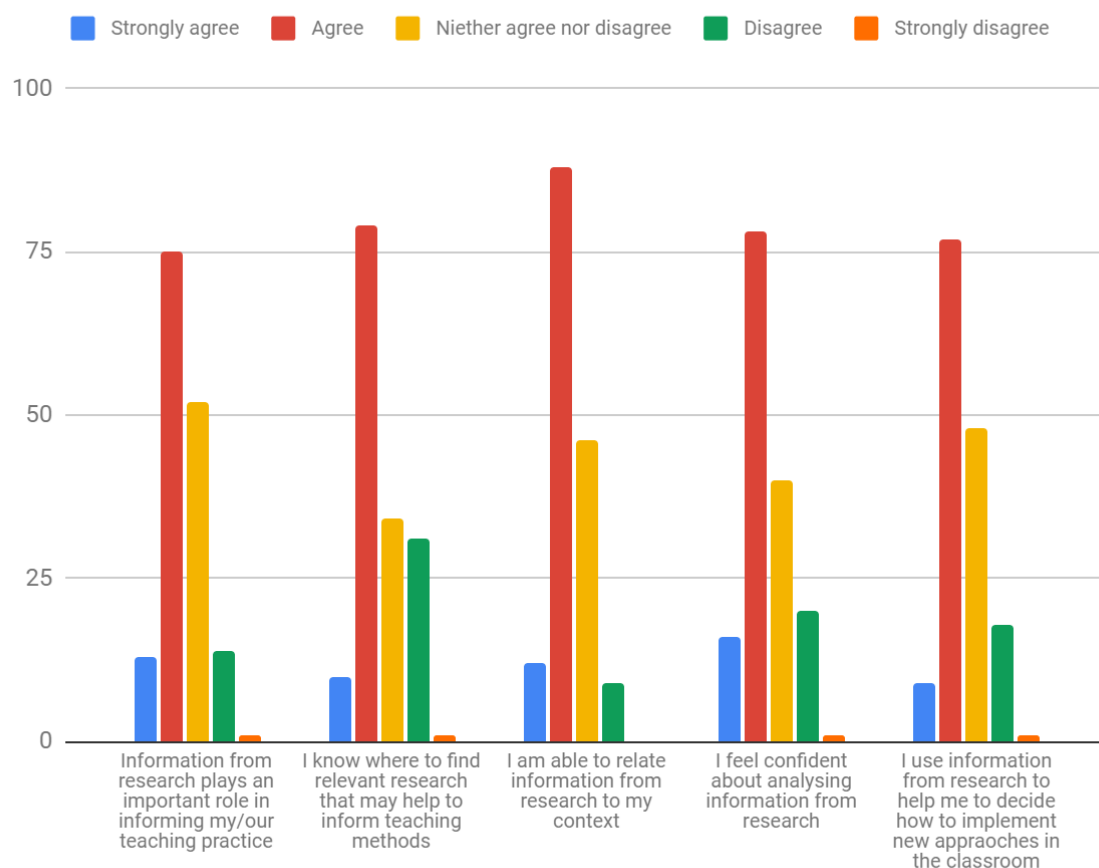


Figure 6.5 cont. - Graphs illustrating the responses to the question 'How (if at all) do you use research information in your work?', survey data taken from the September 2018 questionnaire

How (if at all) do you use research information in your work? - positively worded options



A few findings can be inferred from this data. Firstly, when considering the responses to the positively worded item 'Information from research plays an important role in informing my/our teaching practice' and the negatively worded items 'I do not believe that using information from research will help to improve pupil outcomes' and 'Information from research conducted elsewhere is of limited value to our school', it can be inferred that, at the beginning of my case study, practitioners saw the merits of using information from research to inform practice. Secondly, practitioners self-reported that they felt able and confident in their ability to use and analyse research to inform practice and felt confident about where to find research. However, from the large

number of neutral responses to the item 'other staff in my school rarely use research to inform their teaching practice', it can be inferred that research is not something discussed widely between practitioners, as they are not aware of what research others are doing. It can also be seen that 44% of practitioners did not feel that research was actively encouraged by senior leadership at the beginning of my case study. Interestingly, the responses to this item saw a noticeable shift over the course of my two-year case study, something which is discussed further in the theme 'cultivating practitioner centred PDL'.

While Figure 6.5 showed that practitioners self-reported confidence in their ability to find research relevant to their practice, Figure 6.2 showed that practitioners were not using some of the key platforms which summarise, breakdown and make research findings more accessible for practitioners. Figure 6.2 also shows that practitioners more frequently consulted the sources which they would encounter naturally throughout their day and professional practice, for example 'colleagues from my own school' and 'pupil performance data'. These sources were easier to find, whereas sources based on research required additional effort outside of expected practice to consult. In addition, this data suggests that practitioners more frequently consulted sources of 'local knowledge', generated from their own workplace, rather than 'general knowledge', based on research in educational settings outside of their own.

Beyond the question of which sources were consulted, to further explore how practitioners were using the research in practice, it is helpful to consider the responses to the question 'In the last academic year, how (if at all) have you used information from academic research to inform your practice?', which can be seen in Table 6.1.

Table 6.1 - Table displaying the responses to the question 'In the last academic year, how (if at all) have you used information from academic research to inform your practice?', survey data taken from September 2018 and June 2020 questionnaires

Item	Response rate given as a percentage of the total responses (%)	
	Sept 2018	June 2020
To improve knowledge	70.3	60
to reflect on my own practice	67.1	75.4
to discuss best practice with colleagues	58.7	75.4
To change classroom practice	51	58.5
To influence colleagues to change their classroom practice	21.9	20.0
To contribute to my own research/enquiry	18.7	44.6
I have not used information from academic research	11.0	7.7

Note: more than one item could be selected therefore percentages sum to more than 100

The data presented in Table 6.1 suggest that practitioners' research use did not translate into direct action, for example to change practice in their own classroom or in that of their colleagues, as statements linked to direct actions were less frequently selected. This may reflect a more passive engagement with the research, rather than proactively looking to inform their own practice through research. However, there is evidence that this changed over the course of my case study as the response rate for the item 'to discuss best practice with colleagues' increased by 16.7 percentage points and the response rate to the item 'to contribute to my own research/enquiry' increased by 25.9 percentage points.

In summary, the survey data supports the view that practitioners saw the merits of using research to support pupil progress, but did not find it as easy to access as other sources of information. Practitioners self-reported feeling able and confident in their ability to use and analyse research, but when they did use research, it was more commonly to inform thinking as opposed to

change practice. Practitioners also did not feel research was actively encourage by the SLT and they did not seem to discuss research with other practitioners. While my survey data is limited, as discussed in Chapter 5, these findings hint at several challenges surrounding the accessibility of research which are corroborated by my interview data and field notes.

A group of practitioners were, from the start, put off by the very concept of research. Callum said, 'the word research is quite off-putting' and Rebecca said in her interview that research 'instils me with fear' as it was not part of her usual practice. She put this down to the fact that her students were always getting very good results and so she felt she was 'doing OK'. She provided evidence for the fact that using research to inform practice was not expected as part of her day-to-day job and so she did not engage with it unless specifically required to do so. She also said she did not know where to start when looking for research: 'I think oh my goodness where do you start? So, I suppose the first thing you would do is Google it isn't it, go for a bit of a Google search and then find out more from there.'

While in the survey data practitioners had reported feeling confident in knowing where to find research applicable to their practice, this was not reflected in the interview data. It was also not consistent with the lack of use and awareness of platforms like the EEF, which are designed to make research use easier for practitioners. We had tried to promote the use of such platforms but from interviewee feedback, it is evident that, despite our best efforts, awareness was still low, or they did not know how they worked. Alan suggested we needed to inform practitioners more about the available research and signpost them to specific resources. Neil and Simon spoke about the need for summaries of multiple pieces of research, as opposed to just reading individual articles and making decisions based on that. Neil said he would rather go to a conference and see someone give a presentation on research summaries, as opposed to go to the primary source. Simon commented that practitioners would 'need to read 12 to 15 articles on the same idea to really get a feel for it'. Clearly, not all practitioners have the time to go to conferences or to read multiple articles on an

idea, which is where platforms such as the EEF can be helpful for practitioners. However, despite our promotion of such resources, it is apparent that many practitioners remained unfamiliar with these research tools.

Fear or apprehension of doing research was a recurrent theme that appeared as a barrier to engagement, which often appeared to be linked to the unfamiliarity of doing research in schools. For Callum, 'the idea of doing it was more off-putting than actually doing it...I think people were a little bit anxious to begin with, but when they realised that actually it wasn't going to be that strenuous...they did some stuff'. Jill said of a particularly engaged member of her R&D group that he had participated in a similar programme at his previous school as so was 'kind of on his second cycle'. Simon reflected through the process of facilitating his R&D groups that research can be intimidating and off-putting for some, and that adapting his style could help with this. He commented that he was 'a bit too keen' in his first session, presenting a lot of research from the front, and that he 'was a bit too full on'. He resolved to change this in his next cycle of facilitation. The above evidence suggests that if a practitioner can be successfully supported through the first cycle of action research, the barriers to engaging may be diminished in future, as they become more familiar and confident with the approach. Facilitators can play a key role here in acknowledging that practitioners may find research intimidating and helping to break down the barriers for them.

6.3.3 Practitioner vs Researcher

By asking our practitioners to engage in action research, we were asking them to take up the mantle of practitioner-researcher. At the core of practitioner research is the suggestion that an individual can simultaneously occupy the spaces of practitioner and researcher. However, my data would suggest that the role of researcher and practitioner were often viewed as mutually exclusive within our school. On the surface, our school was supportive of practitioners maintaining research alongside practice, for example offering funding for practitioners to carry out further qualifications such as a master's degree. However, prior to the R&D Programme, it was rare that this research was explicitly integrated into practice, especially beyond the classroom of the practitioner undertaking it.

The nature of the R&D Programme, and the fact that I was studying it as part of my PhD, provided a litmus test for the degree to which the school was willing to embrace practitioner research. Certain tensions arose throughout the process, although the disposition did change over the course of the case study.

At the start of the case study, in discussion with the headteacher who gave initial permission for me to study the R&D Programme, I felt compelled to make it clear to them that the priority was always the running of the programme for the benefit of the practitioners and school, rather than the completion of my PhD research. I found the fact that I needed to justify this surprising and superfluous, as ethical research would be terminated were there any indication that it was detrimental to participants. However, this discussion with the headteacher is illustrative of the suspicion which sometimes arose towards the adoption of a research stance to change management within the school. A further example of this suspicion at a senior leadership level in year one of the case study can be seen in my reflections on a meeting I had with members of the senior leadership team. In this meeting, I had voiced concerns that practitioners were disengaging from the R&D Programme. I suggested that we conduct a short questionnaire to see if we could identify barriers to engagement and try to capture the impact the programme, to ensure that it was beneficial to the practitioners engaging in it. In response, I was told 'Sophie, you're going to have to put your PhD to one side for a minute'. To hear this from a member of the SLT knocked my confidence as a practitioner-researcher. I reflected that 'I had been thinking it could make a good data set for my PhD, but I had the complementary goal of making sure the programme was well understood by our practitioners and successfully tailored to their needs' (Field notes, 18th November 2018)

My intention throughout was to systematically gather evidence on the progress of the R&D Programme, to allow me to monitor its impact and ensure it was improving practice and not adversely affecting participants. I also intended to use this evidence in my thesis, but I was clear that these two goals were complementary and mutually beneficial. However, to others, perhaps more suspicious of a research stance, this symbiosis was perhaps not so clear. Rebecca made an

interesting comment in her interview at the end of the first year of the case study on how the programme made her feel like a stakeholder in her PDL. I wanted to probe this further:

Me: You were saying that there was this idea that you are a stakeholder in your own professional development, do you think that was understood by your colleagues?

Rebecca: No.

Me: Why not?

Rebecca: I don't know if I'm honest. But I think a lot of it was that there was resentment about the fact that they had to do it, there was the resentment about the fact that, I'll be honest, you know you're doing your PhD through it and people thought that they were just getting data for your PhD and you know that as well because that has been something that people have said to your face. I think that it's something that probably needs to be more explicit when we start the course next year, in the fact that this is to make you a stakeholder in where you are going next. But how you do that, I don't know.

As a colleague, I found this feedback uncomfortable and hard to navigate. It occupied a large space in my mind over the course of the case study and contributed to a lack of confidence in my role as a practitioner-researcher. It may also reflect the reality that the space of the practitioner-researcher is a tricky one to occupy, requiring confidence and experience on the part of the individual and priming of the wider environment, including at senior levels, to embrace it fully. These encounters are illustrative of suspicions at SLT level in year one of the case study. However, this did evolve with a change in senior leadership from year one to year two, which is discussed further later in this chapter.

This tension also played out in the practitioner body more widely. One interviewee, Martin, felt very strongly that it was not within his job description to be doing research and that the R&D Programme was a distraction from his core responsibilities of working with students and arranging extracurricular opportunities. Anonymous responses from the progress questionnaire in December

2018 included 'unfortunately I do not have time to do extra 'homework' on a project - I am not doing a master's or PhD so I would rather use my small amount of 'frees' to mark, plan and make digital resources'. Another respondent suggested we make the programme 'a little less about teachers wanting to do their masters' and a further respondent said: 'it needs to be just reading. No one will want to do a research cycle without having some sort of reward at the end of it e.g. master's.' This suggests that, to these practitioners, research is for academic gain and not to be maintained alongside practice.

These tensions are perhaps illustrative of a misunderstanding of the action research agenda, as the R&D Programme could actually be used to complete the very tasks that these respondents feared it was taking them away from, and do so in a rigorous, evidence-informed way. It has the potential to provide the practitioners with greater confidence that changes they were making to their practice, or new resources that they were developing, were in fact improvements. Action research was asking them to be practical in their PDL, using a research methodology to develop these resources in a more evidence informed manner, and helping them to reach their own professional goals.

On the 25th of October 2018 I wrote in my field notes:

My thoughts towards this project keep changing, I am not sure on whether the focus should be on research engagement or CPD in general. For the pilot year I gave out a survey on CPD and feelings towards CPD. But in the interest of gaining more rigorous data for the trial year, I adapted a peer reviewed survey from the EEF on research engagement ... However, I am beginning to realise that that survey was perhaps quite inaccessible for the practitioners who were answering it. I find this to be quite an interesting illustration of the disparity between education research and real-life teaching and in-school experiences. The question, can we sacrifice the rigour (within reason) of a piece of research to make it more meaningful to the people it affects comes back to mind! (Field notes, 25th October 2018)

This again illustrates some of the internal tensions I was feeling as researcher and practitioner, as the researcher in me did not want to sacrifice rigour, but the practitioner could see that it was somewhat off-putting to participants and arousing of suspicions.

6.3.4 Summary of the Theme Relationship with Research

A spectrum could be seen in our practitioner body from fully embracing engagement with research for the purpose of PDL, to strongly opposing. More specifically, there were differing degrees of awareness among the practitioner body about their own philosophical assumptions and how willing they were to challenge them. Although this may be linked to prior research experience, this was not sufficient by itself to explain differences in engagement in and with research for the purposes of professional development. It was not the case, for example, that practitioners with PhDs or with other significant research experience embraced the R&D Programme significantly more than practitioners without a research background. Many different personal paradigms, levels of awareness of those paradigms, and willingness to challenge the belief sets that accompanied them were observed among the practitioner body. This made it challenging when trying to encourage all practitioners to participate in a programme for PDL which was relativist and social constructivist in its philosophical underpinnings.

Tensions also arose when asking practitioners to occupy the space of practitioner-researcher. Practitioners reported that it was hard to access research, both to find relevant literature in the first place but also to understand it once it had been identified. In addition, there was a degree of suspicion around the research agenda and research engagement was often viewed as within the purview of the academic, rather than that of the practitioner. A commonly held belief was that research should only be undertaken in the pursuit of a higher qualification and not simply maintained alongside practice.

Overall, the practitioners who engaged most constructively were not those I might have first expected – perhaps reflecting my own biases or prejudices – based on their experience, discipline or associated paradigms. Instead, a better indicator of engagement may be reflexivity and participants'

ability to suspend preexisting paradigms, something which the programme can support and reinforce. While practitioners who had pursued qualifications beyond Bachelor level were more likely to be aware of their positionality and more confident in expressing their relationship to research, they also tended to be more entrenched in their paradigm. A greater awareness of platforms such as the EEF, as well as more training in research methods, is needed to help practitioners breakdown the barrier of accessibility. Efforts also need to be made to help practitioners see the benefit of maintaining research alongside practice.

6.4 Cultivating Practitioner Centred PDL

The R&D Programme aimed to use practitioner research to create a bespoke experience, which put the practitioner at the centre of their own PDL. From the data collected, I identified three subthemes pertaining to cultivating a truly practitioner centred experience, which I explore in this section. The first was the importance of investing time and energy into finding the correct focus for individual action research projects. The second was working on the understanding of the programme, as disengagement was often seen in parallel with misunderstandings of its aims or methodology. Sufficient time is required to address misunderstandings, challenge existing thinking, and provide multiple starting and entry points. The final sub-theme was creating an enabling environment. This explores factors such as the need for a permission to experiment, as well as appreciation and validation of the work put into the programme, which can be internal or external. These factors work together to create an environment which enables action research for PDL.

6.4.1 Finding the Correct Focus

My data suggests that for practitioners to view the R&D Programme as an efficient use of time, the focus of their action research projects needs to be driven by individual practitioner needs, not whole school priorities. In the first year of the programme, we let practitioners choose from a predetermined list of priorities, with some flexibility within that to choose their specific focus. In the second year, we progressed to giving practitioners complete freedom to select their own focus. This was more complicated logistically, requiring us to sort through all 200 practitioners' proposals to

create coherent R&D groups, with a common thread running through them. However, my data suggests this effort was worthwhile, as it made action research projects more relevant, while allowing members of each R&D group to share ideas and learn from each other. Ellie's comparison between her first year in the R&D Programme and her second-year support this, saying 'It was all like, what do *you* want? What are *you* getting out of this? As opposed to what can you do for the school? ... It was more for you individually as opposed to the school as a whole.'

Greater relevance in project focuses gave practitioners greater agency over their work, making it intrinsically more relevant and motivating. For example, Gemma reflected on her experience of the second year of the R&D Programme:

Most of the people in my group really cared about the thing they were doing, so like the rev was in my group and he was looking at bereavement with students. And that is obviously something that he is really passionate about, which I think helps. I'm not sure that everyone had a topic that they were passionate about, and I think that if they didn't care about it as much then I think that they wouldn't have worked necessarily as hard in the sessions. And wouldn't have enjoyed it as much.

Ellie said on year two of the programme,

Everyone was definitely a lot more enthusiastic, really into it, and kind of really gelled as a group. And everyone's ideas kind of bounced off each other and everyone was really helpful because we were all doing different things. It was nice to present something different to a group and get their feedback on it. Whereas last year, it was everyone doing the same thing, yeah, we were looking at different marking techniques, but there wasn't that same level of interest. I think last year it seemed like people were just there because they had to be, whereas this year, yeah obviously the odd person was there because they were ticking a box, but most people were really invested in their project and what they were doing.

This increased relevance noted by participants helped projects to be viewed as something which was fully integrated into normal practice. My data illustrated how, when practitioners were

not given the freedom to explore a topic of their choosing, or not supported by the facilitator in finding a topic which really interested them, then the experience was less motivating. Daniel was initially sceptical of the programme but, during my interview with him, we were able to pinpoint an area of his professional practice which he was passionate about and explore how the R&D Programme could be utilised to help him develop this idea. He realised he had misunderstood the aims of the programme and hadn't used it to his benefit. Shortly after the interview, he signed up for facilitator training, to become a facilitator for the subsequent cycle of the programme. I had a similar experience with Robin in his interview, at the end of which he was motivated to pursue a project that he could publish.

Influential or vocal practitioners who denounce the programme or try to steer it in a different direction to that intended can move the programme away from being practitioner centred. We saw evidence of this in both years of the programme. Strong personalities could derail the programme or affect the mood of a group, creating a negative spiral as opposed to a positive one. Robin describes in year one that his sessions were 'hijacked' by a practitioner who wanted to steer the conversation in a different direction. Robin felt that the facilitator was not strong enough in keeping the group on track and in line with an agenda which suited everyone. Robin's use of the term 'hijacking' was interesting as it was echoed in Amy's interview, who was the Deputy Head responsible for the programme, in her end of year two interview:

Early on, we encountered a bit of hijacking where the programme was diverted, or an attempted diversion for middle leaders to suit a school agenda ... there was the emerging of a new group that hadn't gone through us. Which could have had quite a negative impact because it could have eroded buy-in, you know it went against what our ethos was, which was that it had to be bespoke, it had to be what the individuals were motivated in. As opposed to something they were directed in. But fortunately, it didn't really come to much.

The event which Amy is referring to in this excerpt was followed by an influx of emails from practitioners asking to switch to this new group. We managed this by having individual conversations, trying to identify the reason behind the switch and explaining to the individual if we thought it would help them or not.

Another example of 'hijacking' by influential individuals to steer the programme in a direction which suited a school agenda, instead of a personal one, was seen in the co-curricular group in year two. It saw practitioners steered in a direction by the facilitators which suited another agenda at the cost of their own interest and buy-in. We gave the co-curricular group extra flexibility to improve relevance but, without buy-in from the facilitators, this had limited success. I wrote the following field note on one of their sessions that I attended:

The atmosphere didn't seem great - I feel as though the facilitators have pointed the group into working on an agenda which suited them. One member of this group had a really great research proposal at the beginning, but this project didn't seem to be running and instead she was looking into a completely different area. (Field notes, 18th October 2019)

The practitioner to which I am referring in the field note had initially submitted a proposal to carry out a research project into the use of growth mindset language in half time team talks with her netball team, to see if it could have an impact on the result of the game. She was a member of a group (our PE department) which was identified as hard to reach in year one of the R&D Programme yet had proposed a focus which could really work with the action research model. Her proposal had therefore piqued my interest, and I set aside time to help her plan out her research project in detail. She also agreed for me to use it as a worked example in the PowerPoint which all our facilitators would be using. I was therefore surprised and somewhat disheartened when I found that she was no longer completing this project.

In my data, I also found a link between length of service of staff and their engagement in the programme. This may be because individuals who had been in the profession for a long time, and

seen many initiatives come and go, may be less likely to quickly adopt new initiatives or practices. This was suggested by several of my interviewees, with Mick saying 'I've got an experienced department and sometimes I think older teachers can be difficult, you know old dogs new tricks'. Simon reported that a member of his R&D group was retiring this year and had therefore decided that he would not be engaging in the programme. Dominic suggested a degree of inevitability surrounding disengagement of longer serving practitioners, saying that two practitioners in his department who had been there 15 years are 'naturally going to be opposed to it'. Neil's commentary was particularly interesting as he himself had been at the school for over 40 years but engaged well with the R&D Programme. He agreed, however, that there might be greater disengagement among longer serving practitioners:

A lot of older colleagues, and at times myself, have thought well we've heard all of this in some sort of guise or other and it's not necessarily that useful and we could make better use of the time and so on and so on. I'm not saying this is right, but this is a view, whereas I think probably younger practitioners are more receptive to the development.

Neil was not the only example of a longer serving practitioner who engaged well in the programme. In my field notes, I recorded an interaction with a longer serving practitioner, who did not appear to be engaged with the programme, but who I found out to be passionate about the uptake of his subject (economics) by girls. He explained that he had long been fascinated by this, because his daughter-in-law has found a career in economics to be complementary to being a working mother. I reflected that 'he clearly has a keen, pre-existing interest in this topic, this is what we want to capture and utilise in the programme' (Field notes, 11th November 2019). This conversation demonstrated that length of service need not be a determining factor for engagement with the programme, but that some individuals may require additional time to find a focus relevant to them, or additional support to understand the relevance of the R&D Programme to explore preexisting areas of interest.

Overall, practitioners found it empowering to be given the flexibility to find the correct focus for them for their R&D project, even if some required support to identify that focus. Supporting practitioners through one-on-one conversations was time consuming but valuable, leading to greater engagement with the programme. I also found evidence that, on occasion, practitioners might be steered away from the focus which best suited their needs as influential peers ‘hijacked’ the direction or substance of projects, creating a challenge for delivering genuine practitioner centred PDL. There was a preconception that longer serving practitioners would be less likely to engage in the programme, but this could be overcome through additional support in finding the right focus and areas of interest.

6.4.2 Aiding Understanding

When asked ‘What do you understand the aims of the R&D Programme to be?’ in the December 2018 progress questionnaire, several respondents gave answers which were vague, general, or uncertain, suggesting a low level of understanding of the programme's aims. Others did not give a response at all. Some of the responses included; ‘To improve learning and teaching’, and ‘I am not sure, as it is not clear. In my group, we have discussions about effective marking, but I don’t know what the research has to do with it really’. One response to this question was particularly salient, ‘personally, I do not need to do research, as I prefer being practical and implementing things gradually’. In reality, action research for PDL is precisely asking practitioners to be practical and implement gradually. However, not all practitioners could immediately see how action research can be used to support their existing practice through offering a more rigorous framework for implementation and evaluation of impact.

During my second-year interview with Daniel, he expressed frustration at being forced into a project he saw as irrelevant. Over the course of the interview, we identified that he was effectively already doing an R&D project on something of his own interest, in his own time. However, he had not recognised it as an R&D project and had not seen how he could use the R&D Programme to help him with it. In general, it seemed that some practitioners, who did not understand the methodology

as well, felt the need to create a new action research project, which then was not in line and complementary to their practice, rather than integrate it into their existing work.

Ensuring that the programme is well understood is critical to its success. However, I underestimated how much time was needed for practitioners to understand and engage with the R&D Programme. As can be seen from my positionality statements in Chapters 1 and 5, I have a natural disposition towards maintaining research alongside practice. It never felt like a chore to carry out an action research project in my classroom; I found it intriguing and exciting. In my data, I found evidence that not all practitioners shared this sentiment and so it was important that the R&D process was broken down and explained in an accessible way.

In her interview, our external provider emphasised the need to not be afraid to challenge practitioners on their understanding of the programme. My interview process was an opportunity to do this. I found that some practitioners who were quite vocal against the programme did not fully understand the process when questioned on a deeper level. Previously in this theme, I mentioned how practitioners' perceptions of the R&D Programme changed over the course of my interviews. The evidence collected suggests this was partly a product of gaining a better understanding of the programme and how it could benefit practitioners over the course of the discussion. This may reflect that the fact that I was better able to convey the aims of the programme to practitioners than some facilitators. Facilitators are central to aiding practitioners in gaining understanding of the programme and guiding them through an action research cycle on an ongoing basis. Understanding how it feels to go through an action research cycle helps facilitators anticipate lulls in motivation and capitalise on periods of high motivation, giving practitioners confidence to persevere. In my field notes I wrote:

When practitioners were discussing their ideas of what they wanted to investigate and collecting baseline data, there seemed to be a spike in interest. There then seemed to be a bit of a lull around the time when practitioners had to design the innovation and engage with research. However, the practitioners that have progressed to the next step and been

able to begin to gather and evaluate the data on their innovation seem to have rediscovered that excitement and intrinsic motivation. (Field notes, 23rd February 2020)

A real emphasis for Myles in his interview was that that understanding was aided by clarity and simplicity. This was also commented on by Daniel who, at the end of my interview with him, asked me to restate the aims of the R&D Programme so that he could check his understanding, which I did. He then said:

That sounds great, it probably needs to be made more concise because...you're trying to sell an idea and yes you could have a punchy sound bite but then that needs to be broken down...I didn't ever think listening to you present this is a load of nonsense...but I had certainly lost track of what the central aim was.

When practitioners had a deep understanding of how the programme could be moulded to their existing practice, it helped them appreciate how this could be an efficient use of their time. It was the responsibility of the facilitator to help their R&D Group realise this and, while some did this very effectively, others struggled. In an attempt to ensure that each session was relevant to practitioners each at different stages of the research cycle, practitioners were divided into smaller groups within their R&D groups based on the progress they had made through the research cycle. Differentiated objectives were set for each group, corresponding to the next steps of the research cycle. While this helped some groups with clarity and progress, not all practitioners used the sessions effectively for planning and preparing the different parts of their project. I observed that:

There still seemed to be some people looking idle in the sessions saying that they didn't have anything to do. However, when I spoke through the projects with them, I could help them to identify the next stage they should be working on. There doesn't yet seem to be the independence from the practitioners as a whole to lead their own enquiry. I wonder if this is a hangover from the format PDL has historically taken, where practitioners took a more passive approach. I also wonder if it may be due to the fact that these sessions always

fall at the end of the day when practitioners are tired, and it is hard to find the motivation to get started. After having spoken through their project with them, one practitioner said, 'right I know what I need to do next, thank you, can I now go and do this in my own time'.

This seemed to be a mood reflected in some practitioners but not all - other groups were having what seemed to be productive and engaging discussions and working independently.

(Field notes, 9th February 2020)

The Deputy Head in her interview suggested that understanding 'generates genuine passion and enthusiasm' for the programme which will ensure its longevity as practitioners will begin to have confidence in it and champion it. In my data, I saw that without a deep understanding of the action research process, it could not be fully utilised and appreciated. This understanding needs to be initially at the level of the implementers, who pass it on to the facilitators, who in turn pass it on to the members of their R&D group.

The importance of the facilitators in aiding understanding and enhancing practitioners' experiences of the R&D Programme was highlighted in the qualitative feedback received in the June 2020 outcomes survey. When asked the question 'What do you feel the strengths of the R&D Programme have been this year?', several respondents highlighted the importance of facilitators. In this data set, facilitators were described as 'passionate', 'approachable', 'supportive', 'active', and 'able to direct us towards academic resources/papers'. One respondent wrote 'It felt like [my facilitators] had gone to an incredible amount of work for each session and I really appreciated their feedback'. Another wrote '[our facilitators] knew our end goal and that was communicated to us at the beginning ...they understood the time constraints and were willing to help us all individually and give us ideas to stretch us further'. It appears the programme was most effective when facilitators knew their practitioners well and understood their proficiency in the action research method. This meant they could effectively support practitioners and, as a further respondent wrote, facilitate practitioners through 'as big or as small a project as [they] can handle'.

6.4.3 Creating an Enabling Environment

Of her R&D group experience in year two of the programme, Ellie said:

I think just openness to listen and to give everybody a chance to standup, to present their idea and then open the room up for discussion...I never felt like they were putting down my idea, I always felt like they were building on it and helping...I think my facilitators started that off really well and just their overall communication to us really really helped. The sessions, anything they put on Google classroom, like if X found an interesting article on something that somebody was looking at, she would put it up on the classroom and be like 'hey guys found this, might help, have a look', which was really nice because it showed like, not only were we invested but so were they.

This was a description of an R&D group which had successfully establish an environment which enabled the R&D process. Every member of it produced a poster or gave a presentation at the end of year Ideas Fair. Ellie's quote illustrated the atmosphere of mutual respect and appreciation that was present in their R&D group.

If the right environment could be set up in an R&D group, then its participants were more likely to share their research process and findings, which was reported to be beneficial. Anonymous feedback from the June 2019 questionnaire said the R&D Programme 'gave us time to complete and plan the project with likeminded individuals, sharing and inspiring each other'. Another respondent wrote 'being able to select my own project and have a small group to bounce ideas off made it more engaging as an activity'. I recorded an observation of an R&D group which had a sense of community, encouraging practitioners to share work:

I started with X group to see the presentations of the work they had completed so far. The atmosphere in this room was fantastic, the facilitators really seem to have set up a community. I watched one member of the group present their work to the other members of the group and it was clear from the questions asked that practitioners have been engaging not just with their own projects but

with the projects of the other members of their R&D group. Questions were asked such as 'how did you overcome X which last time we met you thought was going to be an issue'. I think establishing the learning community and setting it up as a space for idea sharing is vital to the success of the programme (Field notes, 25th February 2020)

At the facilitator level, the most effective facilitators had a really thorough knowledge of what each and every member of their R&D group was studying and how they can support them with that. Facilitators would employ their own strategies to encourage sharing. Imogen, for example, kept a shared spreadsheet which members of her R&D group filled out as they progressed through their action research cycles. This meant that she always knew what each member of her group was looking at and how they were progressing. This made members of her group feel valued and listened to and inspired them in their action research projects. Despite this, Imogen said in her interview that she still found it hard to encourage practitioners to share their work and progress, something she found frustrating as she thought their work was of huge value.

Despite important efforts on the part of the facilitators, it was not always the natural disposition of practitioners to try to create new relationships within their R&D Groups, which would allow them to build a sense of community and a safe space to share their work. Calum said of one of the members of his R&D group that:

He took full part, did all the research, but didn't want to kind of broadcast that in front of his other peers of the same age group...he turned up first so it was only me and him and I was chatting to him about it and then when he got to it I said 'oh do you want to share what you [have done]'...and he said 'oh no I don't think it will work up on the board'... You don't expect [that], you'd expect that from child but not an adult.

You would often see practitioners within an R&D group gravitate to sit within and work with people they already knew. I reflected that:

I then circulated around other rooms where this [sharing of work and progress] seems to be happening less effectively. The conversation didn't seem to be flowing as freely but, when prompted, practitioners had a lot to say on their different projects. There does seem to be a reoccurring theme that when you actually ask practitioners about their projects, they are excited to talk about them. (Field notes, 25th February 2020)

To overcome this challenge required a certain mindset from practitioners, open to forming new relationships in which they can be vulnerable enough to share their work. Not all of our practitioners appeared to be ready for this and so efforts to cultivate it could feel quite stilted. I observed an example of when efforts on the part of the facilitator to create community were not successful:

A focus in this session was to set up the learning community and set rules on how they wanted to work as a learning community. In the group I started off with, this conversation seemed a little stilted and practitioners weren't all that keen to join in. I was also concerned about the time pressure as we only really have 45 mins once everyone is in and settled, I fear that too long is spent with the facilitator talking and setting rules, and not enough time 'getting down to business' I am always very aware that practitioners want to feel as though this is a productive use of their time. (Field notes, 17th November 2019)

We saw the ability to create a sense of community as a hallmark of successful facilitation. The sense of community the R&D Programme was beginning to foster was something we had identified as a benefit at the end of the first year of the programme. We actively tried to build on this in the facilitator training in the second year. More details on this can be seen in section three of Chapter 4. However, there was variation in the degree to which these relationships were formed in the different R&D groups. Some groups successfully created a sense of belonging which allowed for vulnerability in sharing research and progress, while others struggled to do this. I felt we could have

done more to ease this process in our design of the programme. For example, on group size I reflected that:

Some groups really do feel a little bit too big, it feels as though some members are a little bit lost. I don't think this is due to the facilitating, simply the size of the group makes it hard for the facilitators to stay on top of everything. (Field notes, 25th February 2020)

The same observations apply at the next level of organisation up, in relation to the facilitator training and the organisation of the programme itself, where creating a sense of belonging and community can help foster constructive relationships and more productive engagement. In that sense, the facilitator training mirrored what happened in the R&D group sessions with attempts to make facilitators part of a wider team.

Outside of the R&D groups, the SLT played a crucial role in establishing the necessary environment for the R&D Programme to flourish. At the implementation level, a key difference between year two and the previous year was the change in senior leadership. The new Headteacher and Deputy Head were vocal advocates for the programme, celebrating and championing it in practitioner meetings, R&D sessions and elsewhere. This increased commitment on the part of the SLT was recognised by the wider practitioner body, as evidenced in Table 6.2 where there is a 26.3 percentage point increase in the number of respondents who disagree or strongly disagree with the statement 'my school leaders/governors do not encourage me to use information from research to improve my practice', between September 2018 and May 2020. This may also explain the higher levels of engagement recorded across the board over this period.

Table 6.2 - Table displaying the responses to the question ‘How (if at all) do you use research information in your work?’, survey data taken from September 2018 and June 2020 questionnaires

Positively worded statements and data for strongly agree and agree

Statement	Strongly Agree/Agree		
	Sept 2018 (%)	June 2020 (%)	Change (percentage point)
Information from research plays an important role in informing my/our teaching practice	56.8	59.1	+2.3
I know where to find relevant research that may help to inform teaching methods	57.4	63.6	+6.2
I am able to relate information from research to my context	64.5	69.7	+5.2
I feel confident about analysing information from research	60.6	65.2	+4.6
I use information from research to help me to decide how to implement new approaches in the classroom	55.5	66.7	+11.2

Negatively worded statements and data for strongly disagree and disagree

Statement	Strongly Disagree/Disagree		
	Sept 2018 (%)	June 2020 (%)	Change (percentage point)
I do not believe that using information from research will help to improve pupil outcomes	76.1	78.8	+2.7
My school leaders/governors do not encourage me to use information from research to improve my practice	55.5	81.8	+26.3
Other staff in my school rarely use information from research to inform their teaching practice	25.2	40.1	+14.9
Information from research conducted elsewhere is of limited value to our school	60.6	72.7	+12.1

The improvements seen may also be attributable to the programme having gone through one full cycle, which meant that there was greater understanding and familiarity with the programme and its objectives. However, the step change in engagement from SLT also led to more time and

money being dedicated to facilitator training, with facilitators feeling more prepared and better resourced as a result. The ramp up in SLT support also impacted me personally as the project's lead. During the first year, I had at times felt isolated in my efforts to implement the programme and gain buy-in from colleagues. I reflected:

I personally am finding it hard to keep enthusiastic about the project. I feel quite unsupported. I've never had to lead anything on this scale before and have had relatively little training and advice on how I should do so. I've learnt to be a little more detached from the project in an attempt not to take any failure or set back personally. (Field notes, 26th February 2019)

A conversation with the incoming Deputy Head, a member of the SLT who was clearly impassioned and enthusiastic about the programme, gave me renewed motivation to proceed with the programme with confidence, knowing that I had the SLT's backing. This newfound confidence seemed to have a trickle-down effect to facilitators. Similarly, the Headteacher of primary clearly signalled the importance he attached to the programme at the launch evening, strengthening my own credibility with staff, creating an expectation that practitioners should engage, and giving them the time and space to do so. I reflected in my Field notes:

What was really helpful was that the headteacher of the primary school was present at the meeting, he has been very supportive of the programme from the off. When I gave the presentation at the primary school, he reiterated to the practitioners that the time dedicated the R&D Programme was protected and that all after school clubs were to be cancelled on that day so that practitioners can focus on their projects. I felt like this really supported and added gravitas to what I was saying.' (Field notes, 13th September 2018)

It was the role of SLT to uphold the commitment made to the R&D Programme and it was noticed by practitioners when they were not doing this. Simon said, 'so people get that sort of

satisfaction that the Headteacher or the Deputy Head is wondering around and talking to them, I would have liked perhaps X Deputy Head to be more present, I didn't see them actually'. In reference to the same Deputy Head at the Ideas Fair, Robin said:

There were maybe 10 in my room [at the Ideas Fair] and two SLT were there obviously making up the numbers, both of them just doing emails the entire time. And that wasn't good. They should lead from the top, not that I'm a stickler for any of that kind of thing, do you know what I mean, but why aren't I doing my emails, you know, when I could be?

Indeed, it was the same Deputy Head who I recorded a conversation within the corridor one evening while the R&D group sessions were in progress. He said, 'he felt it [the R&D Programme] was just turning into a moaning session where people would complain about what they are doing/have to do, as he suspected it would' (Field notes, 27th October 2018). It is crucial therefore that SLT do not accidentally undermine the programme as it could lead to an erosion of buy-in.

One way the commitment to the R&D Programme was upheld was through the running of catch-up sessions for practitioners who could not attend their R&D group session. I reflected that it was a lot of work to organise these sessions but was effective in reducing attrition of practitioners attending sessions. In my field notes, I reflected:

I had to run three different catch-up sessions between each session, but it meant that practitioners felt more accountable... as they know they will subsequently be asked to attend a catch-up. It also illustrates further the school's commitment to the programme.

The Deputy Head in charge of the programme ran some of these which added weight, and she stressed the importance of making the provision seem like an invitation not a telling off in how we phrased emails we sent out. (Field notes, 11th November 2019)

As well as helping to improve overall engagement with the programme, the new SLT played a crucial role in creating the right culture and environment for successful action research, both by

granting practitioners permission to experiment, and by recognising and celebrating success. On experimentation, Callum said: 'you're being told you're allowed to do it... we are rule followers as teachers and I think sometimes the idea that you're going off piste a little bit can worry some people. So, if you've got the confidence and the backing of people saying we want you to do this, we want you to try things, it's not going to be some kind of comeback if it doesn't work, is really helpful because you've got that backing [and] reassurance to do it'. Mick similarly highlighted the need for an 'admission from senior management that things might go wrong but don't worry about it, try stuff out...a culture of failure being OK...that sense of goodwill to try something out and that's looked on favourably. We keep saying to kids that it's OK to fail, so we should be saying that to teachers'.

Several practitioners fed back in their interviews the importance of recognition as a motivating factor in completing action research. Ultimately this method for PDL as a product of putting the practitioner at its centre required a lot more work on the part of the practitioner. The Ideas Fair was designed, in part, to provide that opportunity for public recognition of the work that had been completed. But still, on the Ideas Fair Rebecca said that:

There was a lot of time put into those posters and I don't think anybody read them.

Because it was where the coffee was, and it was just on boards, and I just don't think there was a chance for everybody to really digest everything that was there.

How to get practitioners to meaningfully engage with others' work, how to adequately celebrate the work that has gone into research projects and preparing posters and presentations, and what to do with this work after the cycle finishes were issues we considered carefully at the end of the second year. This ultimately led to the concept of our in-house research journal to both capture and celebrate the work that had been done. It gave practitioners recognition from both SLT and governors. Simple gestures of appreciation included the provision of teas, coffees, and biscuits at sessions; inviting the year one facilitators to attend Ed fest; or sharing and celebrating good progress

in whole practitioner meetings. Alan suggested the programme could be linked to pay progression, and those discussions were starting to take place by the end of the second year.

Facilitators establish the environment needed for a practitioner centred PDL experience in their R&D groups which facilitates sharing and vulnerability. They can do this through showing a genuine interest in the projects of their practitioners, which make them feel valued. SLT can establish the environment in the wider school through championing the programme, giving permission to experiment, celebrating successes and upholding the commitments made to the programme.

6.4.4 Summary of the Theme Cultivating Practitioner Centred PDL

The survey data presented in Table 6.2 suggest that, over the course of the programme, there was a shift in culture within the school with regards to how research was viewed and used by practitioners, alongside an increase in engagement with research by those practitioners. While limitations in the data mean that these results should be interpreted with caution, the findings are broadly corroborated by qualitative and interview data that I collected. Cultivating practitioner centred PDL is central to implementing a programme that is both relevant and tailored to practitioners.

In part, this is about finding the correct focus for individual action research projects, allowing for the emergence of a bespoke research project which motivates and engages practitioners. In my experience, achieving this in practice came with a number of challenges. Some interviewees struggled to find novel professional learning experiences, especially those who had been in the profession for some time. There was also evidence that, in some instances, the programme was being 'hijacked' to push practitioners into studying a topic which might not be relevant to them but was seen to be a priority by the department or by more influential peers. More generally, finding the right focus can require time, effort and introspection. However, practitioners who achieved this were rewarded, feeling engaged and motivated to pursue a project of personal significance to them.

Finding the correct focus was underpinned by a deep and clear understanding of the programme and its objectives, which in turn allowed participants to engage effectively and achieve truly practitioners centred PDL. Facilitators were key in this regard. It was crucial that facilitators understood the programme well enough to be able to implement it with fidelity, but could also demonstrate flexibility, allowing them to mould the programme to fit individual projects. Less successful facilitation was often accompanied by less detailed understanding of practitioner enquiry as a method for professional development.

Facilitators also played an important role in creating an enabling environment for practitioner centred PDL. They did this by setting the parameters of the R&D sessions, ensuring group members had sufficient time to progress their work, employing coaching methods and ensuring there was a culture that permitted and encouraged experimentation. By tracking progress and providing support, the best facilitators made practitioners feel valued, seen and motivated to stay on track. Less effective facilitation tended to allocate too much time to talking at the front and allocated insufficient time in the R&D sessions for planning, implementation, and evaluating projects. The SLT were also crucial in setting the overall tone within which the programme operated, which filtered down to facilitators and practitioners. The change of SLT at the end of year one had profound consequences for the way in which the R&D Programme was viewed within the school and the importance attached to it, demonstrating the importance of senior leadership in creating an enabling environment.

6.5 Chapter Summary

Implementing change can be uncomfortable, especially in established institutions such as the school where this study was undertaken, where some practitioners had been employed for over 40 years. Prior to the R&D Programme, PDL was often viewed as a passive activity by practitioners. This often involved listening to information presented by an external expert, who may suggest areas of change or innovation to existing practice. However, there would be no systematic follow up as a result of the intervention, and new ideas or programmes could often be expected to peter out and

be replaced by another next time round. This created a passive relationship to PDL, as practitioners did not expect to have to meaningfully engage or necessarily incorporate PDL initiatives into their practice. It also reinforced a bias towards external contributors as the main source of expertise, to the detriment of valuing internal expertise and learning from peers. At the end of the second year of the R&D Programme, attitudes and approaches to PDL had started to shift, with evidence that institutional norms and biases were beginning to evolve.

Survey data taken from the start and end of the study suggests that there was a noticeable shift in how research was viewed and used by practitioners in the school. Table 6.2 shows that, across all survey questions, there was an increase in engagement. This survey data has a number of limitations, most importantly that the sample size decreased from 155 to 65, and there may be a selection bias in the individuals who chose to answer the survey at the end of year two, with more engaged individuals being more likely to participate in the survey. Nonetheless, the results are encouraging for the practitioner-researcher. It suggests that, at the very least, a subset of 65 staff increased their use of research materially within just two years. In addition, certain themes stand out as being particularly strong. These include; a reported increase in the use of research information to inform practice, a greater appreciation of the value of external research to practice, and greater support from SLT in the use of research in practice. While this data set was limited, these themes were also identified in the qualitative and interview data that I collected and discussed throughout this chapter.

In this chapter, I have presented the findings from my case study, divided across three themes, which each explore aspects of the implementation of the R&D Programme and its impacts. The first theme, 'Learning from Colleagues' explores the strong preference of practitioners to consult their colleague over other sources for PDL. It unpicks this preference and considers how learning from colleagues can be impeded or aided by 'mindsets' surrounding learning opportunities. Those with a broader definition of where expertise might be found seemed to gain more from the

R&D Programme than others. The uniting effect the R&D Programme had on the, previously somewhat divided, practitioner body through bringing previously distant practitioners together for periodical meetings, created new ties between practitioners. The implication this had on the Diffusion of Innovations through the practitioner body was explored under the subtheme 'relationships'. This theme then looks at the notion of 'benchmarking' as a further subtheme which explores the motivational effect that observing the work and efforts of peers had on the practitioner body. There were also challenges associated with working with colleagues in this way and these are also considered in this theme.

The second theme explores participants' 'Relationship to Research'. The baseline evidence that I gathered here painted a picture of practitioners who did not often consult sources based on research when considering how to support pupil progress, nor did they find such sources as accessible as alternative sources, such as colleagues and pupil progress data. They were often unaware of platforms such as the EEF and Chartered College of Teaching, which aim to support the use of research in everyday teaching practice by breaking down and increasing the accessibility of research for teachers. Evidence from my school suggested that this was not simply a question of a lack of engagement or indifference towards research; beyond this, there was a certain suspicion around the motives of maintaining research alongside practice. Largely, research was viewed as being a feature of the academic domain, not of the practitioner domain, and was most valued in the context of pursuing a formal qualification, rather than being maintained alongside practice. This suspicion was reinforced by the fact that the R&D Programme was the subject of study for my own thesis, leading some to question the motives for implementing a rigorous R&D Programme, whereas I viewed both elements as mutually reinforcing and mutually beneficial. There were, however, many examples of practitioners who demonstrated positive relationships towards research, as well as participants whose attitudes towards research evolved over the course of the programme. These participants reported and demonstrated through their work the benefits to maintaining research alongside practice.

The third theme presented in this chapter is ‘Cultivating Practitioner Centred PDL’, which is made possible when individual practitioners can identify and act on areas of focus that are relevant and meaningful to them, and there is deep understanding and support at all levels of the organisation concerning the objectives and methods of action research for PDL. In turn, both of these elements work best when supported by an enabling environment, where SLT and facilitators in particular can play a critical role. A change of SLT at the end of year one emphasised in my case study the catalytic effect of securing strong senior leadership support, which set the tone for staff engagement, boosted my own confidence in leading the programme, and had a cascade effect through the practitioner body. Combined, the above elements come together to create a specific culture with regards to practitioner centred action research for PDL. This culture can be reinforced by employing proactive strategies to increase buy-in, maintain momentum and celebrate practitioner success, such as through the organisation of an Ideas Fair, capturing and valuing learning through research posters and journals, or ensuring SLT recognition of practitioner contributions.

Time – and specifically the lack of it – was a recurring thread that ran through all themes and constituted a challenge throughout the implementation of the R&D Programme. Several practitioners reported not having sufficient time to meaningfully engage with the programme, and time was also a concern when delivering facilitator training. However, the evidence collected suggests that, while time is an important factor, it is not an immutable barrier to successful implementation of the R&D Programme. A number of strategies were employed to ease the real and perceived time-burden of engaging with the programme. These included making sessions as relevant as possible to the needs of participants, highlighting how action research can be incorporated into day-to-day practice, demonstrating the potential for action research to ease time-pressures, and gaining SLT buy-in to carve out time for PDL. This suggests that time should not be ignored on the basis that it constitutes an inevitable barrier; on the contrary, it should be considered and managed proactively from the outset. Evidence from my case study supports the view that doing so can help

to overcome time as a barrier and allow for meaningful engagement with action research at all levels of the organisation.

7 Discussion & Conclusions

I started my thesis from the viewpoint that action research can be a powerful model for PDL. This stemmed from both engaging with literature on the topic and my own experience of using it as a framework to implement change in my classroom. The benefits of engaging in action research for PDL are well documented. It provides opportunities for collaboration and sharing of professional knowledge, which leads to a more cohesive and supportive culture within a school. It helps practitioners adopt a reflective stance, which enables them to develop a deeper understanding of their practice, facilitating self-improvement and professional growth. It empowers practitioners, by allowing them to take ownership of their PDL, increasing autonomy and confidence in practitioners who feel valued and better able to instigate change. It allows teachers to put student outcomes at the centre of their PDL, on the basis of evidence informed decision-making. Finally, it is a more sustainable form of PDL than one-off workshops and lectures, with the potential to embed a culture of lifelong learning amongst the practitioners in a school (Cochran-Smith & Lytle, 2009; Dana & Yendol-Hoppey, 2019; Lofthouse et al., 2012; Timperley et al., 2017; Zeichner & Noffke, 2001). In my own experience, I have found action research to provide a dynamic, progressive, and personalised approach to PDL, which has inspired and empowered me to improve my own practice in an evidence informed way. Because of this, when tasked with creating a PDL programme for the practitioners in my school, it was clear to me that it should be underpinned by a model of action research.

The previously listed benefits of action research for PDL are to a degree theoretical: realising these potential benefits requires successful implementation, which can by no means be taken for granted. Indeed, while general advice for implementing change in schools is available, I struggled to find specific advice for the implementation of action research, especially on a whole school scale. This is not necessarily because whole school models do not exist; for instance, practitioner enquiry is strongly encouraged for all practitioners in Scotland (GTC Scotland, 2020). However, as evidenced by the comparatively few records identified in my systematic review, these models are not well documented in the literature. It was therefore the aim of my research to further understand the

practical implementation of action research for PDL, with a focus on implementation for all teaching practitioners in a school. The central research question guiding my research was:

What are the barriers and enablers to the implementation of action research as a model for professional development and learning in schools?

Generalised guidance for effective implementation in organisations exists (Fixsen et al., 2005; Fullan, 2011; Greenhalgh et al., 2004; Sharples et al., 2024), which practitioners can use to inform the implementation of various initiatives in schools. However, my objective was to understand the barriers and enablers pertaining specifically to the implementation of action research for PDL. As would be expected, I found there to be some overlap with some of the barriers which are common to implementing wider initiatives, for example the issues of time, support from school leaders and incentives such as career progression, recognition, and financial rewards (Fullan, 2011; Sharples et al., 2024). However, through exploring my secondary research questions I was able to shed light on the nuances of these in relation to action research, as well as identify barriers and enablers which pertained specifically to action research.

I considered two secondary research questions. The first was: Through the lens of Diffusion of Innovations theory, what is understood about the implementation of action research for PDL in schools? I conducted a systematic review of the existing literature to answer this question. The second was: What can be learnt from a case study of the implementation of the R&D Programme in a school in Essex, UK? To answer this question, I conducted a two-year case study of the implementation of the R&D Programme in the school in which I was working.

This chapter begins by briefly outlining the findings to each secondary research question, before bringing them together with theory from the existing literature to answer my central research question. I then go on to discuss the implications of my research on practice and research, before considering its limitations. In this chapter, I again borrow terminology from Diffusion of

Innovations theory and refer to individual(s) responsible for implementing action research for PDL in a school as 'change agents'.

7.1 Through the lens of Diffusion of Innovation theory, what is understood about the implementation of action research for PDL in schools?

I identified three themes in the data of my systematic review. The first was the malleability of the action research model on a cultural, organisational, and individual level. General implementation guidance advises the tailoring of an innovation to the organisation in which it is implemented (Fixsen et al., 2005; Greenhalgh et al., 2004; Rogers, 2003; Sharples et al., 2024). However, I found one theory particularly pertinent in capturing the features of action research which enable it to be tailored to a specific setting. This concept, outlined by Greenhalgh et al. (2004) describes an innovation having a hardcore (the indisputable elements which must be adhered to) and a soft periphery (the surrounding features which can be moulded to fit an organisation). The harder and clearer the core and the softer and more malleable the periphery, the more an innovation is likely to stick, as it can be moulded to fit the organisation without compromising its core principles. This describes well the characteristics of action research: the cyclical steps of the model illustrated in Figure 2.3, constitutes a clear hard core, while the variety of forms that action research can take demonstrate the malleability of its periphery, as evidenced in my systematic review. For instance, the structure of sessions, how they are facilitated, how practitioners are sorted into groups, when those groups meet, and how often they meet can all be tailored to the existing structures within a school. This malleability, if taken full advantage of, is an enabler to the implementation of action research for PDL in a school.

The second theme considered the implications for democratisation of engaging in action research for PDL. The democratic nature of action research is again something which is well documented (Kemmis & McTaggart, 2005; McNiff, 2013). However, when analysing the records included in my systematic review, I identified how this can both be an enabler, by empowering the practitioner and placing them at the centre of their PDL, and a barrier, when action research is

implemented in strongly hierarchical societies or organisations. As such, implementors need to be aware of the dynamics within their organisation and how the democratisation of decisions of action research might challenge or complement them. In addition, there is a case for reframing the idea of the expert, as action research requires practitioners to give weight to the expertise of their colleagues, as well as to the expertise of more traditional authorities such as academics or external speakers.

The third theme was that of reflexivity and experimentation, which explored the power of the reflective space provided by engagement in action research which, when used most effectively, progresses to reflexivity. In this theme, I also discussed the need for an environment which encourages experimentation and celebrates risk taking. Creating a culture of risk taking is something which has long been written about (Fullan, 2015; Robinson, 2011) and the findings of my systematic review substantiate the benefits of this.

In addition to these themes, two overarching threads ran through the findings of my systematic review: these were time (and specifically the lack of it), which I will discuss in detail later, and culture shifts.

I found that the specific characteristics of action research that I identified went some way to setting up the culture it required to thrive. In addition, several records reported on the shifting identities of practitioners engaging in action research. To a degree, action research appeared to be self-reinforcing: starting to engage with it can lead to setting up the structures that it needs to survive and grow over time. Action research for PDL built a sense of community and trust within the school, which was key to mitigating the fear of exposure and providing confidence in challenging existing hierarchies and norms which are associated with action research. As a result of practitioners engaging in action research, the social system became more appreciative and accepting of change and innovation, regardless of whether it be grassroots or top down, so long as it was evidence informed. Such culture shifts will embed and ensure the longevity of action research for PDL (Rogers,

2003). However, a school needs to be ready for and open to a change in mindset which will allow for this culture shift to happen. By starting small and engaging a few practitioners who already have a positive pre-disposition to action research for PDL and then scaling up, change agents can encourage this culture shift to occur organically. By celebrating the outcomes of action research for PDL, the benefits will become observable, increasing the likelihood of other practitioners adopting the innovation and participating in action research for PDL (Rogers, 2003).

As a result of my systematic review, I was able to derive the following practical advice for practitioners and change agents looking to establish action research as a method for PDL within their organisation: articulate a version of action research for PDL which is moulded to the organisation in question, create opportunities for professional discussions, give practitioners time to adapt to a potentially different method for PDL, ensure the process is democratic, allow practitioners to opt in, allow practitioner to choose the focus of their action research projects, teach practitioners reflection and reflexivity, anticipate trepidation and hesitancy to experimenting with practice. This advice is expanded upon later in this chapter when I present how it can be integrated with the findings of my case study and the existing literature to distil the key barriers and enablers to the implementation of action research for PDL.

7.2 What can be learnt from a case study of the implementation of the R&D Programme in a school in Essex, UK?

Through completing my case study, I gained a deep understanding of the implementation of action research for PDL and how it interacted with the specific context of the school in which I was studying it. This generated insights and hypotheses which are likely to apply in other settings and can be tested by future research. The inclusion of diverse voices in telling the story of the implementation of the R&D Programme makes its findings tangible and hopefully relevant to practitioners as well as researchers. I now revisit the findings of my case study in light of the existing literature pertaining to this topic.

7.2.1 Time

The issue of time appeared as a constant thread running through the data of my case study. Time is a commonly cited barrier to engaging in many changes to practice (Earley & Bubb, 2004; Sharples et al., 2024) and, as can be seen from the findings of my systematic review, action research is no exception in this regard. By exploring this theme further throughout my case study, I was able to unpick the nuances surrounding the issue of time specifically in relation to action research for PDL. While insufficient time was a recurring issue, other aspects included the mistiming of delivery, the inefficient use of allocated time, and the perception or anticipation of the R&D Programme being a time burden. I will return to the issue of time when answering my central research question, but it is worth noting for now that a more detailed and nuanced understanding of the barrier of time through my case study findings allows for a more holistic and hopefully more effective set of hypotheses around how the barrier of time can be mitigated.

Three themes were identified in the data from my case study; learning from colleagues, relationship with research, and cultivating practitioner centred PDL.

7.2.2 Learning from Colleagues

In the theme of Learning from Colleagues, I found that the mindset of practitioners was a key variable in explaining practitioners' openness to and engagement with action research. This echoed the findings of my systematic review and highlighted the need for a broad definition of expertise, including the acceptance of local knowledge as a valid form of expertise, as practitioners can learn as much from each as from external sources. My case study provided additional insights into how this played out in practice with, for example, some practitioners feeling that they could learn most from colleagues close to them, such as colleagues within their own departments, and, by extension, had little to learn from colleagues from other disciplines. By bringing previously distant members of the school community together, the R&D Programme fostered new relationships and increased tie strength, allowing for the cross pollination of ideas. A final component of Learning from Colleagues was benchmarking, which saw colleagues learning about standards and expectations from each

other. Observing the work of their peers served to both inspire and pressure practitioners into greater participation in the R&D Programme.

The subthemes explored above – the mindset of practitioners, their relationships and the role of benchmarking – can all be viewed within the framework of social networking theory. As outlined by Granovetter (1973), this states that weak ties are characterised by infrequent contact and low emotional closeness, but they play a crucial role in the spread of information and resources within an organisation. They allow practitioners to access new information not available in their immediate circle. Strong ties are important for emotional support and trust, which is why it might feel uncomfortable for practitioners to work outside of their departments and year teams. Change agents implementing action research for PDL need to think about the types of ties they want to nurture when setting up their equivalent of R&D groups. Weak ties have the potential to create a more innovative and interconnected workplace, with benefits for R&D and beyond. However, a safer environment is likely to be established if groups are set up around strong ties, for example in departments. This could lead to an increased tendency to share ideas and be vulnerable.

7.2.3 Relationship with Research

It is documented in the literature that negative prior experiences can lead to practitioners being sceptical of the efficacy and practicality of action research for PDL (Zeichner & Noffke, 2001). In the context of action research for PDL, I found that this held not only with respect to prior experiences of action research, but also with respect to prior experiences of research more generally. In the theme Relationship with Research, I explored the variety of personal paradigms present in the practitioner body of a school. This variety arose from the fact that each practitioner, as a minimum, had an undergraduate degree in a discipline related to the subject they teach. This being the case, a physics teacher is likely to have a differing paradigmatic stance to an art teacher. As paradigms guide the shared assumptions, beliefs, methods and practices pertaining to research (Kivunja & Kuyini, 2017), challenges arise when asking all practitioners in a school to engage in action research. While action research can operate within a positivist framework, asking practitioners to

carry out research on a small scale, in their classrooms, as a form of practitioner enquiry using subjective interpretations of small data sets could sit uncomfortably with practitioners with a more positivist paradigm. However, it is important to exercise caution in making assumptions or relying on preconceptions relating to personal paradigms as, for example, I found examples of chemists and physicists who embraced action research, despite their training and possible predisposition to more positive paradigms. These practitioners demonstrated good skills of reflexivity and were open to paradigm plurality.

Exploring the sub theme of accessibility, I found that research was often perceived to be hard to access, with practitioners reporting that they had insufficient time for engaging with research, and that they were largely unaware of platforms such as the EEF which aim to facilitate access to research. The findings from my case study suggest that the theme of accessibility, which has been documented elsewhere, remains a barrier to practitioners engaging with research and that supporting practitioners to engage with and embed research into practice should remain a priority (Brown, 2015; Goldacre, 2013).

Mobilising the practitioner as a researcher is something which is celebrated within the literature (Lofthouse et al., 2012; McNiff, 2013; Timperley et al., 2007) and can be empowering for the individuals concerned (Zeichner & Noffke, 2001). However, exploring the roles of practitioner vs researcher, I found that some practitioners were averse to the idea of becoming researchers, considering it to be beyond the scope of their roles and, in some cases, considered it to be a distraction from their ability to deliver their core role as practitioners. However, my research also highlights examples of how this barrier can be overcome by presenting the roles of practitioner and researcher not as a pairing that is in tension, but as a mutually reinforcing combination. Ultimately, the practitioner can improve their practice and deliver their 'core' role more effectively by engaging with research and becoming a practitioner-researcher.

7.2.4 Cultivating practitioner centred PDL

The theme Cultivating practitioner centred PDL, corroborates what is already known about the importance of finding the correct focus for an action research model for the individual, which in turn can generate motivation and stimulate the desire to engage (McNiff, 2016). In this theme I also address the need to fully understanding the model, as there is evidence that practitioners and facilitators with superior understanding of the model's objectives and methods were more willing to engage and champion it. I emphasise the importance of addressing misunderstandings, including through one-to-one discussions if necessary. These discussions had several of the characteristics of effective coaching conversations outlined in the literature (Robertson, 2009), something which is explored further later. The final sub theme considers ways in which an enabling environment can be established. Practitioners need to feel supported to experiment with practice and feel safe within their R&D groups to share their work and open their practice up to increased scrutiny. SLT play a crucial role in establishing this environment, championing action research for PDL and ensuring that practitioners received the recognition for their work which they desired. The importance of SLT working to establish this environment cannot be underestimated as through promoting PDL they can make a profound difference to pupil outcomes (Robinson, 2011).

7.3 What are the barriers and enablers to the implementation of action research as a model of PDL in schools?

Through the aggregation of findings from multiple studies, my systematic review gives a comprehensive coverage of the existing research and so produced more generalisable findings with increased reliability. Through the extensive and in-depth exploration of a single case, my case study findings offer insights into how an action research model for PDL interacts with a real-world environment. Through telling the story of the design, implementation, and development of the R&D Programme, I make the complex issues surrounding it more understandable and engaging. This allows me to illustrate context specific findings in a way that is tangible and relatable for practitioners as well as academics. The sum of this research places me in a good position to provide answers to my central research question.

In answering my central research question, I am not trying to provide a general guide for good implementation; these exist already (Fixsen et al., 2005; Greenhalgh et al., 2004; Rogers, 2003; Sharples et al., 2024). Instead, I am distilling the key features specific to action research for PDL which could act as barriers and enablers to implementation. A barrier is defined as anything which impedes adoption of action research for PDL while an enabler is anything which facilitates it. These barriers and enablers can then be used with existing guidance on good implementation to ensure that, if a school were to choose action research as their model to underpin their PDL provision, it would have the greatest chance of success. Most often it is the case that, if due diligence is not paid to ensuring an enabler is fully realised, it can become a barrier. For example, there are several known enablers to successful PDL generally; providing time, resources, training and building partnerships with external organisations for additional support and resources, alongside providing strong leadership with a clear vision (Earley & Bubb, 2004; Easton, 2008; Filges et al., 2019; Goodall et al., 2005; Guskey, 2002; Sharples et al., 2024; Stoll, 2012). If inadequate time, resources, or training are provided and leadership does not have a clear and strong vision, these become a barrier to implementation. Similarly, the documented enablers for action research specifically include; leadership working to establish a collaborative culture which celebrates experimentation and risk taking, encouraging an evidence informed approach to change, and alignment of action research focus with personal and organisational goals (Cochran-Smith & Lytle, 2009; Dana & Yendol-Hoppey, 2019; Lofthouse, 2014; Menter et al., 2011; Timperley et al., 2007). If a collaborative culture celebrating risk taking is not established, an evidence informed approach to change is not encouraged, and focuses of action research projects are misaligned with personal goals, these features too will become barriers. In essence, I view a barrier and an enabler to be opposite sides of the same coin and so I present them as such in this discussion.

Through looking for points of convergence and divergence between the findings of my systematic review, the findings of my case study and the existing literature, I identified the key barriers and enablers which I now present. As with all the work I have presented in my thesis, this is

a subjective assessment of the points which I argue to be important to consider when implementing action research for PDL in schools.

7.3.1 Barriers and Enablers

I identified several core items for consideration when implementing action research for PDL which, depending on the pre-existing variables they interacted with within the organisation, could either be a barrier or an enabler. I present a summary of these items in Table 7.1, before giving a more detailed description of each.

Table 7.1 - *Summary of the identified barriers and enablers to the implementation of action research for PDL*

Item	This is a barrier when...	This is an enabler when...
Time	inadequate time is allocated to the programme, action research is perceived as an onerous task, links to existing practice are not obvious	sufficient time is allocated to the programme, action research for PDL is viewed as having the potential to make innovations to practice more efficient and evidence informed, links to existing practice are obvious
Decision to participate	participation is an authority decision and practitioners have not been able to observe the benefits of engaging in the programme	participation is an individual decision, and practitioners have seen the benefits of engaging in the programme
Tailoring	the hard core of the action research cycle is not maintained, and the methodology is not well enough understood for it to be manipulated by practitioners	the soft periphery of action research as a model for PDL is moulded to fit the setting in which it is being implemented and practitioners have a deep understanding of the methodology and so can exploit the model to meet their needs
Environment	Practitioners are suspicious of experimentation and untrusting	Practitioners celebrate experimentation and is trusting
Pre-existing perceptions of research	a strong focus on research and rigour becomes off-putting to practitioners who view it as 'not their job'	the links between research and practice are explicit, and engaging in action research does not feel removed from practice
Definitions of expertise	definitions of where expertise can be found are narrow	definitions of where expertise can be found are broad
Reflexivity	practitioners are not given the opportunity to be reflexive or do not know how to be reflexive	practitioners are facilitated through a reflexive process and maybe even explicitly taught the skills of it
Relationships	practitioners cannot be vulnerable in their relationships with their colleagues and do not enjoy	practitioners are able to be vulnerable in their relationships and can draw on weak ties to foster creativity

Item	This is a barrier when...	This is an enabler when...
	working with practitioners outside of their close ties	

The first barriers and enablers which I explore; time, decisions to participate and tailoring, are arguably applicable to good implementation generally, but I draw out the elements which I argue to be more specific to action research for PDL. The subsequent barriers and enablers which I explore are more specific to the characteristics of action research for PDL, but this does not mean they are more important to consider than the first ones I explore.

7.3.1.1 Time

Time is a well-documented barrier to engagement in PDL for teachers (Darling-Hammond et al., 2017; Earley & Bubb, 2004; Hargreaves & Fullan, 2012) and it was an overarching thread which ran through both the findings from my systematic review and my case study. It was commonly viewed as a barrier, perhaps the biggest barrier to engagement. The barrier of time is challenging to overcome in a climate where the workforce already feels over stretched and time poor (Department for Education, 2023). Time is also a barrier to the implementations of all innovations unless change agents ensure enough time is carved out for the innovation in the planning stages (Sharples et al., 2024). As such, it is crucial that change agents within an organisation carry out an honest appraisal of their organisation's capacity to carve out ringfenced time to allocate to a programme of action research for PDL. This allocation of time must be honoured otherwise there is a risk of accidentally undermining the programme.

If change agents cannot confidently find the time within their organisation to allocate to a programme, then now is not the time to try to shoehorn in action research as an innovation to PDL. It is advised that schools generally should implement fewer initiatives, but do so more diligently (Sharples et al., 2024). Otherwise, the practitioners within an organisation may suffer from innovation fatigue as a result of a learned helplessness, derived from participation in too many innovations they have not felt to be successful (Chung et al., 2017). If a school is unable to secure the

necessary time for action research for PDL, they could consider the de-implementation of other initiatives to make space for it, or they might consider offering it as an optional PDL opportunity which the most eager practitioners might sign up for and be willing to give up time for. These early adopters could trigger a snowballing effect of buy-in, as seen in Aldridge et al. (2020), something which is explored further when considering decisions to participate.

If change agents within an organisation are confident that they can ringfence the necessary time for action research for PDL, then they can begin to consider how they might overcome the other factors associated with time as a barrier; namely, correctly timing the delivery of the programme, making it feel like an efficient use of time, and anticipating the anxiety of it being a time burden. To ensure that the timing of the delivery of different sessions is correct, practitioners need to be given multiple points of entry to the programme and the ability to progress through it at their own pace. This should help the programme feel like an efficient use of time so long as everything from the facilitator training to the sessions with practitioners are well planned and as bespoke as possible. More details on this are explored later when considering tailoring.

I found evidence in my systematic review and case study that the anxiety of the time burden linked to participating in action research for PDL diminishes once practitioners have experienced a cycle and have a better understanding of how it works. Again, this is common for innovations generally as there is often a lag in adoption as practitioners work to fit the innovation into their existing schema (Rogers, 2003). Therefore, the advice here is to keep monitoring the impact of action research for PDL and, provided there is enough evidence that it is having a positive impact, persevere. It can take at least two years for a large and complex initiative to convincingly implement within a school (Fixsen et al., 2009). However, it is important to remain cautious and continually monitor impact to ensure the efficacy of the programme.

Undoubtedly, time will be one of the biggest barriers to the implementation of an action research model for PDL at a whole school level. It was a thread which ran through all of the

identified themes in my data sets and so is an item which links to all the barriers and enablers presented here. It is an issue which the external provider in one of the facilitator training sessions said she would take off the table when asking about barriers to engagement, as it is an inevitable source of frustration. However, the fact that it is so present in my data set suggests on the contrary that it cannot be ignored. Careful planning and preparation of action research for PDL, or any new implementation, is necessary to reduce the barrier of time.

7.3.1.2 The decision to participate

In my data set, I found evidence that practitioners should be given autonomy over their decision to participate in action research for PDL. This is substantiated by the literature, which states that optional decisions to participate enable the longevity of innovations as a product of greater investment on the part of the participants (Rogers, 2003). Mandating participation in action research can have the effect of affronting those who do not feel it is their job to do research. This was evidenced in my case study where my interviewee Martin and other anonymous survey respondents did not see the value of maintaining research alongside practice. Mandating participation also conflicts with the democratic nature of action research for PDL which is commonly cited as one of its strengths (McNiff, 2013; Somekh, 2005) and which, through my research, I found to be an enabler of its implementation.

In my case study findings, under the subtheme of benchmarking, I discussed the power of observing the work of colleagues in promoting engagement in the programme. When the benefits of an innovation are observable, individuals are more likely to want to engage with it (Rogers, 2003). Participants in my case study found that events such as the Ideas Fair inspired them to engage further in the programme, sometimes due to feelings of guilt at not having participated as much as their peers. One study included in my systematic review documented a snowballing of participation in their action research programme for PDL (Aldridge et al., 2020). Their programme started as a provision for a small number of practitioners, but overtime became an embedded part of the PDL provision for the whole school.

It is commonly advised to start small with implementations and scale up (Fullan, 2015; Guskey, 2002; Robinson, 2011). This is perhaps a mistake we made in the implementation of the R&D programme. We did start small, with one 'strand' conducting action research in the year prior to the official start of the R&D programme, but we scaled up too quickly. This meant that we had to work hard to generate buy-in. We found one-to-one conversations powerful in bringing resistant practitioners along with the new programme; this links to theories surrounding coaching in PDL. Through the manner in which we conducted these conversations, we were able to build trust and respect which allowed us to identify and challenge the preconception practitioners had about the R&D Programme and which were acting as barriers to their engagement (Robertson, 2009). Without fail, we were able to help practitioners realise a way in which they could use the R&D programme to their advantage.

In light of this, my advice to practitioners would be to first facilitate a group of volunteers through a cycle of action research, ensuring they have a detailed and rigorous introduction to action research for PDL which improves their understanding and their research literacy. Hopefully, having observed the outputs of this first action research cycle through events such as Ideas Fairs and publications of in-house journals, more practitioners will want to participate in future cycles of action research. For subsequent cycles, it can be effective to invite the participants from the first cycle to become facilitators of their own groups of practitioners. This way, the facilitators are more likely to truly champion the programme, as they have gained a detailed understanding of its benefits and therefore can honestly champion it in subsequent cycles. Implementation conducted in this way should better secure the longevity of the programme.

7.3.1.3 Tailoring

Tailoring an innovation to the existing structures within an organisation is again something which is seen as good practice when considering implementation (Fixsen et al., 2009; Rogers, 2003; Sharples et al., 2024). The malleability of action research as a model for PDL was evidenced in my systematic review, where each original piece of research included in the review presented a

different model of action research for PDL, developed to fit its own context. This malleability is a product of the clear 'hard core' (observable action research cycles) and 'soft periphery' of action research, which can be moulded to various settings (Greenhalgh et al., 2004). My case study evidenced the necessity to maintain the hard core of action research cycles, as while some interviewees and questionnaire respondents suggested that the conversations the R&D programme facilitated between practitioners were enough of a PDL experience on their own, when the practitioners in the R&D groups were not carrying out clear cycles of action research (such as in the group looking into differentiation in year one), they lost momentum and direction. The research evidence practitioners are collecting from practice provides the material to stimulate continued discussions. On an organisational level, change agents looking to implement action research for PDL must maintain the research cycles, but mould the structures around them to fit their setting. Examples of elements of the programme which should be moulded include how practitioners are grouped, how often they meet, who facilitates the groups, and how those facilitators are trained.

Tailoring also needs to happen at the practitioner level as effective PDL is based on the assessment of individual as well as school needs (Stoll, 2012). By its nature, action research for PDL is far from a standardised, one-size fits all approach to PDL. Rather, it is a bespoke and practitioner centred experience which allows for the practitioner to put the outcomes of their students at the centre of their PDL, as the most effective PDL should (Guskey, 2002; Timperley et al., 2017). I found that utilising this to be one of the biggest enablers to the implementation of action research for PDL. In designing and developing the R&D Programme, we invested a lot of effort into creating a bespoke experience for our practitioners. From the first to the second year of the programme, we progressed to giving our practitioners full autonomy over the focus of their action research projects and we invested time into helping practitioners find their correct focus through developing resources and, when necessary, having one-to-one discussions.

Limited understanding of the action research methodology is a known barrier to engagement (Dana & Yendol-Hoppey, 2019) and again is something substantiated by my case study findings. Through the interview process I saw practitioners progress to greater understanding which seemed to herald greater engagement. Those with a better understanding of action research were better able to tailor it to suit their PDL needs. For example, one record included in my systematic review reflected on how the principal did not recognise that action research could be used as a means to implement her other initiatives (Hoover et al., 2016), something which I also saw in my case study. At the same time as implementing the R&D Programme, we were also trying to implement a new learner profile for our students which detailed the characteristics of what we felt a good learner should embody. We were asking practitioners to use full PDL days to come up with strategies to implement the learner profile and encourage students to develop the characteristics. I suggested this be brought in line with the R&D Programme as many of the projects that practitioners had expressed an interest in exploring for R&D were complementary to the characteristics we were trying to promote in students through the learner profile. However, this idea was dismissed, and it was decided we keep the two separate. To me, this was a missed opportunity for streamlining for a common goal. Instead, we presented our practitioners with what looked like two separate initiatives, thus risking innovation fatigue, diminishing returns, and decreasing buy-in (Chung et al., 2017).

Understanding is aided by simplicity and clarity and starting with the end in mind (Stoll, 2012). I found the facilitators to be crucial in aiding understanding as they needed to have a clear idea of next steps to allow practitioners to move at different speeds through the programme and keep momentum going. Facilitator understanding can be achieved through effective facilitator training, but also happens naturally in subsequent years of the programme. Once facilitators have been through a first cycle, they should be able to better tailor their delivery of the programme to

suit the needs of their group. New facilitators may benefit from being paired with experienced facilitators.

PDL is most effective when it has multiple points of entry and differentiates between a variety of needs (Stoll, 2012). The resources presented in my thesis for the R&D Programme allow for multiple points of entry which meant that, even if a practitioner had fallen behind, they could make the most of their R&D group meetings. However, it is ultimately the way facilitators deliver the resources which allows for multiple points of entry. As such, the quality of facilitation is a thread that runs through many of the themes but especially this one as high-quality facilitation means practitioners are steered towards the most appropriate research focus for them. Finding a focus which suits the needs of the individual practitioner promotes ownership of PDL and has positive impacts (Cochran-Smith & Lytle, 2009; Timperley et al., 2007). A key message for change agents looking to implement action research for PDL is therefore that it is worth investing time and resources into the training and resources available to facilitators. Doing so reduces the variability of the implementation of such a programme, which will maximise positive experiences among participants.

7.3.1.4 Pre-existing perceptions of research

Each practitioner's opinions and expectations of action research for PDL will have been shaped by their own world views and their prior experiences of PDL (Saldaña & Omasta, 2016). Negative prior experiences lead to practitioners being sceptical of the efficacy and practicality of action research for PDL (Zeichner & Noffke, 2001).

I found there to be an inevitable link between practitioners' perceptions of research and their perceptions of action research as a model for PDL. Different personal paradigms mean that

some practitioners viewed action research as an invalid form of research. Moreover, tensions arose when asking practitioners to be practitioner-researchers, as some rejected the label and concept. Research engagement was often viewed as in the domain of the academic or something only to engage with in the pursuit of further academic qualifications.

The summer prior to the launch of the R&D Programme, I was discussing its planned implementation with a friend who works in marketing. I recorded our conversation in my field notes, as I was intrigued when she said: ‘action sounds hard, and research sounds boring – don’t call it that’. But perhaps this is something to explore further. Lofthouse (2014) advocates for action research to be viewed as a further formalisation of the plan-do-review cycle, which most teachers already engage in. Expressly linking the outcomes of action research projects to appraisals and other formal teacher evaluation systems or accountability measures might make the process feel closer to practice than research.

One approach to securing buy-in from sceptical practitioners may be to ensure that action research is not viewed as too far removed from practice. As such, I would advocate for a soft approach to ‘research quality’ when implementing action research as a model for PDL and an emphasis on the similarities between action research and good, existing professional practice. It may be acceptable for the first iterations of an action research model for PDL to not produce high quality, publishable practitioner enquiry, but instead for it to produce something closer to a formalised and well-documented account of a ‘plan-do-review’ cycle. After all, the pinnacle of good PDL is the systematic evaluation of the impact changes to practice have on student outcomes (Guskey, 2002). I would argue that it is better to start doing this in an informal format, which may evolve over time, than not doing it at all.

7.3.1.5 Definitions of expertise

While many agree that good PDL is contextual (Buck & Francis, 2011) and combines local knowledge with external expertise (Cordingley et al., 2007; Timperley et al., 2007), this was not a notion routinely shared by practitioners. While records such as Cain (2015), included in my

systematic review, demonstrated compelling examples of the power of combining external expertise with local expertise, I still found that, often, external expertise was viewed as more prestigious and having greater validity. Bryk et al. (2015) advocates for moving away from academics being seen as 'knowers' and practitioners being seen as 'doers', and instead for them to be seen collectively as 'improvers'. However, I often found that the practitioners themselves did not seem to value their practical knowledge as much as external knowledge.

This was not, however, true in all cases and there were several instances where practitioners with broad definitions of expertise engaged in meaningful learning experiences with their colleagues. As such, change agents looking to implement action research for PDL will have to work to prime their organisation to broaden their definitions of expertise, allowing action research to draw on practitioner expertise. This can be achieved by celebrating and valuing the outcomes of action research projects. We can see from my case study that people cited the Ideas Fair as a turning point because success was observable, and this supported buy-in to the programme.

7.3.1.6 *Reflexivity*

Shifting identities, for example from practitioner to 'expert' in local knowledge, or to practitioner-researcher, and challenging existing paradigms is uncomfortable for practitioners and needs careful negotiation. Successfully leading practitioners towards greater reflexivity allows them to respectfully challenge each other's perspectives and collaboratively explore new ideas and evidence (Stoll et al., 2006). This leads to deep reflection which challenges thinking (Earl & Timperley, 2009; Little & Horn, 2007) and is a hallmark of effective professional development (Stoll, 2012). While action research requires a preexisting degree of reflexivity, through engaging in it for PDL, it can also teach practitioners how to be reflexive.

Reflexivity is akin to a metacognitive process (Wall, 2017) and is something which can be learnt. If practitioners are not reflexive, it becomes a barrier to engagement as practitioners are unwilling to challenge their existing thinking, which is key to successful action research. As such, change agents need to think how they will teach their practitioners the skill of reflexivity in a way

which keeps the concept close to practice. Modelling reflexivity is a good starting point, and this is what we did to a degree when we were having one-to-one coaching style conversation with practitioners who were resistant to engaging in the R&D programme.

7.3.1.7 *Environment*

For action research for PDL to successfully be implemented in a school, an enabling environment must be established which celebrates risk taking and experimentation. My systematic review highlighted the trepidation practitioners can feel when experimenting with practice and my case study illustrated the role that SLT can play in mitigating this apprehension.

The role SLT play in establishing nurturing environments is documented in the literature (Bryk & Schneider, 2002; Kaser & Halbert, 2009; Stoll, 2012). In my case study, the change from year one of the programme to year two was tangible and, while there were many other variables to account for, it coincided with a change in SLT which allocated more time and resources to the programme and championed participation in it.

Before implementing action research for PDL in a school, change agents need to ascertain if theirs is a culture which values vulnerability and experimentation over certainty and routine. If it is not, they need to work to establish that culture in parallel with their implementation.

7.3.1.8 *Relationships*

Both my systematic review and my case study findings suggest that the relationships fostered between practitioners while taking part in action research for PDL are a benefit of the model. It unites otherwise distant members of the school community, increasing the number of weak ties within the social network which allows for increased creativity through the cross pollination of ideas (Granovetter, 1973).

This can be challenging, and, in my case study, I found evidence that some practitioners wanted to work with colleagues they had a preexisting working relationship with. However, this was not always the case, with some practitioners relishing the opportunity to meet and learn from

colleagues they had not met before. As noted above, social networking theory would suggest that fostering these weaker ties will generate greater creativity as it allows for the cross pollination of more diverse ideas (Granovetter, 1973). However, allowing practitioners to work in groups with closer peers, such as colleagues from their own departments, can more quickly establish a trusting environment in which practitioners feel safe to be vulnerable and experiment with practice.

It is important for change agents to consider which of these characteristics they wish to foster when sorting their practitioners into action research groups. Both have their merits; however, I favoured more diverse groups to increase a uniting effect across the wider practitioner body and facilitate greater cohesion between practitioners.

7.4 Implications of my Research

Action research for PDL has the ability to promote teacher agency and reflective practice, integrate research and practice to lead to more evidence informed practice, and create collaborative, practitioner-centred PDL experiences. But without due consideration of how this can be implemented, none of these benefits will be realised. My research aimed to explore the barriers and enablers to the successful implementation of action research as a model for PDL, allowing me to formulate several recommendations for practice and research.

7.4.1 Recommendations for Practice

The barriers and enablers to the implementation of action research as a model for PDL that I presented in the previous section of this chapter offer advice to change agents looking to implement action research as a model for PDL in their schools. The barriers and enablers they may encounter on their journey of implementation are summarised in Table 7.1. I would recommend that practitioners consult these in conjunction with generalised advice on effective implementation. Enabling change agents to anticipate the barriers and enablers they may encounter specific to action research for PDL should allow them to amplify the enabling features and reduce the impact of the barriers.

Time is an item which cannot be ignored in the implementation process. Change agents must ensure they have enough time to allocate to it and few competing initiatives being launched at

a similar time. They need to tailor their model to fit their setting and make it a bespoke experience for their practitioners. They need to create the environment necessary to its success by challenging preconceptions of 'research', broadening definitions of expertise, celebrating reflexivity, experimentation and risk taking, and providing opportunities for practitioners to come together and collaborate.

For the wider profession, momentum is undoubtedly gathering behind more evidence informed approach to PDL and indeed the use of action research in schools. But it is important to continually seek opportunities in which to use action research for PDL in schools. For example, England is aiming for a fully trust led education system by 2030 (Department for Education, 2022a). Each trust has a trust growth strategy in which the leaders and trustees are asked to consider how to 'scale [their] model of school improvement consistently and at a high quality to welcome another group of schools?' (p. 12). In response, there may be a temptation to scale existing effective practice from one academy to the next without consideration of differences in context. Furthermore, trusts are asked 'Can you articulate how you plan to respond to parents' expectations that their child's school should 'feel local'?' (p. 12). Engaging practitioners in action research for their PDL could be used to facilitate an evidence-informed, bespoke approach to navigating these changes.

7.4.2 Recommendations for Research

Work is already being done to continue to build the evidence base which practitioners can use to adopt an evidence-informed approach to practice. This is evidenced by the re-endowment of the EEF and continuation of the work by the Chartered College of Teaching. Work is also being done to make research more applicable and digestible for practitioners through, for example, blogs such as TeacherToolkit, ResearchED events, and the EEF teaching and learning toolkit. But there is still work to be done in raising awareness of their existence among practitioners and how they might be used in day-to-day practice. Engaging in action research for PDL can provide practitioners with a framework for implementation of such research findings but, as evidenced by the questionnaire

responses in my case study and a NFER EEF survey into the use of such platforms (Nelson, 2017), many practitioners are still unaware of their existence or how to use them.

The findings I presented in my systematic review open the door to further research on this topic. For example, many schools implementing action research as a model for PDL do so in conjunction with a university or external organisation. It would be interesting to explore these relationships further and investigate how they can make the most impact. My systematic review was also limited to action research for PDL in a single school to better situate my case study which was also in a single school. However, a systematic review of action research for PDL used across school sites in a research network, scaling up the ideas in my systematic review, would also be interesting.

Further research could also build on the work that I did in my case study, for example considering the quality of the research produced by the practitioners engaging in an action research model for PDL. This could consider questions such as whether it counts as research, and whether it needs to count as research? Several of the practitioners engaging in the R&D programme suggested that the conversations alone which came out of the R&D programme were incredibly valuable to them. This raises the question of, if through guiding practitioners through a cycle of action research, the end product is not a rigorous, high-quality piece of research but instead a more reflective approach to practice, deeper engagement with colleagues and development of professional knowledge, is that enough? Action research for PDL has been described as a formalisation of the plan-do-review cycle which teachers typically already engage in (Lofthouse, 2014). Does this formalisation need to meet the standards of research set by academics, given that it is being carried out by practitioners with many other demands on their time? Further initiatives could improve the research literacy of practitioners; however, should listening to the needs of practitioners and valuing practitioner research for what it is, lead to broader definitions of what counts as research within an action research framework for PDL? At the very beginning of this process, when I ran a group of practitioners through an action research cycle, one gave the feedback 'One of the benefits of this

style of action research is that it's all about your students in your classroom, so you don't have to get bogged down with robustness and validity.'

Further research could look into linking action research for PDL with appraisal systems and other formal teacher evaluations and accountability measures, to make it even more bespoke to individual practitioners. Future iterations of the R&D programme could also be expanded to include operational staff working in the school. This could be interesting for several reasons, such as building a better sense of community and cohesion within the school and breaking down barriers which seem to exist between different operational areas of the school. Finally, it may be interesting to explore whether and how an action research model for PDL would translate into other professional settings. Anecdotal evidence suggests that implementing a rigorous and systemic approach to PDL is a challenge across a number of different industries; it is possible that the action research model in schools could provide inspiration for PDL approaches elsewhere.

7.5 Efficacy of my Research

I now evaluate my research project as a whole and consider how well my research addressed my original research aims, and whether it is 'quality' research. The aim of my research was to contribute to the existing knowledge on the implementation of action research as a model for PDL in schools. I took a two-pronged approach to satisfy this aim. Firstly, I conducted a systematic review of the existing literature on the implementation of action research for PDL. Secondly, I conducted a two-year case study of the implementation of the R&D programme.

By aggregating the findings of multiple studies into the use of action research for PDL, my systematic review enhances the generalisability of my findings and increases its reliability. However, its completion was not without challenges. It was hugely resource intensive in terms of time and effort. Ascertaining the quality of the original pieces of research and identifying their biases, and synthesising findings of studies with diverse methodologies was challenging. However, through the presentation of my rigorous methodology, I make explicit these limitations and biases and attempt

to reduce them through, for example, inclusion and exclusion criteria, double screening of records to check for relevance, and a certainty assessment. In aggregating the findings of so many pieces of research, it is inevitable that some of their nuances will have been lost, although every effort was made to ensure accuracy. The use of Reflexive Thematic Analysis to synthesise my findings will also have made my findings subject to my own, internal biases. In my positionality statement and through taking a reflexive approach to my study throughout, these biases should be identified and reduced. Systematic reviews are inevitably subject to publication bias as inconclusive or negative findings are less likely to be published. So, while my systematic review has better generalisability than my case study, it is still limited.

While less generalisable, my case study allowed for a deep understanding and contextual analysis of the implementation of the R&D programme. This generated insights and hypotheses which can be tested by future research. The inclusion of diverse voices in the telling of the story of the implementation of the R&D programme makes its findings tangible and relevant to practitioners as well as researchers. There were disruptions to my planned data collection as a result of the COVID-19 lockdowns and changes in senior management of the school in which I was working, however the flexibility of a case study as a methodology allowed me to adapt to these as they arose. These disruptions are also part and parcel of practitioner research, where the research as well as the researcher are on an iterative journey of development throughout. Again, this case study was time and resource intensive, with large amounts of data collected, making it challenging to replicate in practice.

I recognise that there are flaws and strengths to both of these methodologies but through the triangulation of findings within my case study and then between my case study, systematic review and existing literature, my final conclusions withstand the onslaught of a variety of incomplete measures which strengthens the validity and robustness of my research, its findings and conclusions

(Webb et al., 1981). My systematic review addresses points the case study misses and vice versa, so it is a complementary research design, the findings of which satisfy my research aims.

7.6 Concluding Thoughts

Throughout this thesis I have grappled with a key complexity, which is that the process has always felt quite ‘meta’ which, at times, made it challenging to clearly define. I was researching practitioners doing research. I was studying the implementation of an innovation to practice which was asking practitioners to, in turn, study the implementation of innovations to their practice.

I now realise that this captures one of my core philosophies that attention needs to be paid to measuring impact. It links back to the frustration I outlined in my rationale chapter 1 in my early career. In some ways, this thesis could be seen as a product of my bias that it is good practice to maintain research alongside practice, that it is a formalisation of the plan-do-review cycle which is already commonly accepted as good practice (Lofthouse et al., 2012). However, through the evidence presented, I argue that it is more than that.

I was working on the assumption that engaging in action research is beneficial, something I made clear from the outset. Action research has stood the test of time as, time and again, the education profession comes back to it as an effective method of researching about practice (Lewin, 1946; Lofthouse, 2014; Stenhouse, 1975). This efficacy could be due to its malleability and its ability to democratise, empower and provide a bespoke PDL experience.

Before beginning my thesis, I knew that attention had to be paid to implementation to ensure the successful diffusion of an innovation, but this crystallised in my mind through the process of completing it. Without due attention being paid to implementation, an innovation is far less likely to succeed, regardless of its strengths (Fixsen et al., 2005; Sharples et al., 2024). As such, through considering the unique feature of action research, change agents can predict barriers and enablers to its implementation within their setting.

A final thought which unites action research and implementation - good implementation is action research. Not only does action research map on to the plan-do-review cycle, but its hard core can be seen in other areas even, arguably, the positivist scientific method which, simplistically, makes a hypothesis, investigates it, replans based on findings, and cycles round again. The hard core of the action research cycle can also be seen in the April 2024 iteration of the EEF implementation guide, which presents a cycle of explore, prepare, deliver, sustain, and encourages behaviours which engage, unite, and reflect. Perhaps the best way for practitioners to implement action research as a model for PDL in their schools is through action research. Of course, keeping in mind the barriers and enablers which I've highlighted, and that they might encounter along the way. In their recent systematic review (Moore et al., 2024) stated that schools 'need to be empowered to make evidence-informed decisions about what they will implement and how they will implement it in their setting' (p. 7). I argue that school leaders and change agents could do just that by integrating action research into their practice.

To see action research embedded as a routine framework for PDL would require a system shift towards further evidence informed practice. Perhaps we are seeing the beginning of this in the UK with the new ECT framework. But from my experience of working in a school and especially, as I am now, working within a science department suffering from understaffing caused by a national shortage of teachers, there is not a system wide capacity to make time for a whole school PDL model based on action research.

I have been shaped by this research process. It has aided me in my practice to approach change from a more critical stance. It has made me aware of my biases and assumptions. While I still feel action research to be a powerful model for PDL in schools, I now better understand the complexities behind its implementation. Despite these complexities, I would advocate for the use of action research as a model for PDL as I have seen the transformative, empowering, and uniting impact it can have.

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Appendices

A. Databases searched and search strings used

Platform	Search Limit	Search String	Hits	Hits by Databases (hits)
First Search	Title Key Word Abstract - does not allow abstract search	((kw: practitioner w enquiry OR kw: practitioner w inquiry OR kw: action w research OR kw: practitioner w research* OR kw: teacher w research*) and (kw: professional w development OR kw: professional w learning OR kw: professional w training OR kw: professional w education OR kw: teacher w development OR kw: teacher w learning) and (kw: primary OR kw: secondary OR kw: elementary OR kw: junior OR kw: middle OR kw: high OR kw: kindergarten OR kw: preparatory OR kw: sixth w form AND kw: school*) and yr: 2012-2022) or ((ti: practitioner w enquiry OR ti: practitioner w inquiry OR ti: action w research OR ti: practitioner w research* OR ti: teacher w research*) and (ti: professional w development OR ti: professional w learning OR ti: professional w training OR ti: professional w education OR ti: teacher w development OR ti: teacher w learning) and (ti: primary OR ti: secondary OR ti: elementary OR ti: junior OR ti: middle OR ti: high OR ti: kindergarten OR ti: preparatory OR ti: sixth w form AND ti: school*) and yr: 2012-2022)	2	- ECO (1) - PapersFirst (0) - Articles First (1)
First Search	Title Key Word Abstract - does not allow abstract search	((kw: practitioner w enquiry OR kw: practitioner w inquiry OR kw: action w research OR kw: practitioner w research* OR kw: teacher w research*) and (kw: professional w development OR kw: professional w learning OR kw: professional w training OR kw: professional w education OR kw: teacher w development OR kw: teacher w learning) and (kw: primary OR kw: secondary OR kw: elementary OR kw: junior OR kw: middle OR kw: high OR kw: kindergarten OR kw: preparatory OR kw: sixth w form AND kw: school*) and yr: 2012-2022 and la= 'eng') or ((ti: practitioner w enquiry OR ti: practitioner w inquiry OR ti: action w research OR ti: practitioner w research* OR ti: teacher w research*) and (ti: professional w development OR ti: professional w learning OR ti: professional w training OR ti: professional w education OR ti: teacher w development OR ti: teacher w learning) and (ti: primary OR ti: secondary OR ti: elementary OR ti: junior OR ti: middle OR ti: high OR ti: kindergarten OR ti: preparatory OR ti: sixth w form AND ti: school*) and yr: 2012-2022 and la= 'eng')	245	- Worldcat Dissertations (245)

Platform	Search Limit	Search String	Hits	Hits by Databases (hits)
EBSCO	Title Abstract	AB ('practitioner enquiry' OR 'practitioner inquiry' OR 'action research' OR 'practitioner research*' OR 'teacher research*') AND AB ('professional development' OR 'professional learning' OR 'professional training' OR 'professional education' OR 'teacher development' OR 'teacher learning') AND AB (primary OR secondary OR elementary OR junior OR middle OR high OR kindergarten OR preparatory OR 'sixth form') AND AB school* OR TI ('practitioner enquiry' OR 'practitioner inquiry' OR 'action research' OR 'practitioner research*' OR 'teacher research*') AND TI ('professional development' OR 'professional learning' OR 'professional training' OR 'professional education' OR 'teacher development' OR 'teacher learning') AND TI (primary OR secondary OR elementary OR junior OR middle OR high OR kindergarten OR preparatory OR 'sixth form') AND TI school*	550	- BEI (55) - ERIC (208) - Education Abstracts (72) - Educational Administration Abstracts (32) - APA PsycInfo (183)
ProQuestLLC	Title Abstract	ab('practitioner enquiry' OR 'practitioner inquiry' OR 'action research' OR 'practitioner research*' OR 'teacher research*') AND ab('professional development' OR 'professional learning' OR 'professional training' OR 'professional education' OR 'teacher development' OR 'teacher learning') AND ab(primary OR secondary OR elementary OR junior OR middle OR high OR kindergarten OR preparatory OR 'sixth form') AND ab(school*) OR ti('practitioner enquiry' OR 'practitioner inquiry' OR 'action research' OR 'practitioner research*' OR 'teacher research*') AND ti('professional development' OR 'professional learning' OR 'professional training' OR 'professional education' OR 'teacher development' OR 'teacher learning') AND ti(primary OR secondary OR elementary OR junior OR middle OR high OR kindergarten OR preparatory OR 'sixth form') AND ti(school*)	326	- ProQuest Dissertations and Theses Global (326)

B. Exclusions at each stage by database

Database Searched	Total Records	Records Remaining after de-duplication	Records remaining after 1st Screen	Number of full texts not available	Records Remaining after 2nd Screen
APA PsycInfo	183	37	16	0	2
ArticleFirst	1	0	0	0	0
British Education Index	55	34	18	0	1
ECO	1	0	0	0	0
Educational Administration Abstracts	32	1	1	0	0
Education Abstracts	72	23	12	0	1
ERIC	208	153	64	1	5
Papers First	0	0	0	0	0
ProQuest Dissertations & Thesis Global	326	230	86	6	11
Scopus	281	185	64	1	6
Web Of Science	136	32	13	3	2
WorldCatDissertations	245	147	55	6	7
Totals	1540	842	329	17	35

C. Records reporting on the same original study

First publication	Subsequent publication reporting on same research
Badasie, R. G. (2014). Managing the professional development of primary school teachers by means of action research. Thesis.	Badasie, R. G., & Schulze, S. (2018). The professional development of mathematics and science teachers: insights gained from and action research project. <i>Journal for New Generation Sciences</i> , 16(2), 30-46.
Banegas, D. L. (2013). Teachers developing language-driven cliil through collaborative action research in Argentina (Publication Number U611252) [Ph.D., University of Warwick (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	Banegas, D., Pavese, A., Velázquez, A., & Vélez, S. M. (2013). Teacher professional development through collaborative action research: Impact on foreign English-language teaching and learning. <i>Educational Action research</i> , 21(2), 185-201.
Greenwood, J. (2016). Educational Professionals' Experience of English Educational Policy; Developing and Promoting Inclusive Practice Through Collaborative Action research (Publication Number 10836741) [Ed.D., The University of Manchester (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	Greenwood, J., & Kelly, C. (2020). Taking a cooperative inquiry approach to developing person-centred practice in one English secondary school [Article]. <i>Action research</i> , 18(2), 212-229.
Hajar, S., 2017. The Complexities of Implementing Classroom-Based Action research in a Remote School in Indonesia. Thesis (PhD). The University of Queensland.	Hajar, S., Honan, E., & Moni, K. (2020). Governmentality and reflective practice of EFL teachers through CBAR in a remote school in Indonesia [Article]. <i>Professional Development in Education</i> , 46(3), 454-466.
Ryan, M. G. (2016). Encouraging teachers to design their own professional learning through inquiry: An elementary principal conducts practitioner action research (Publication Number 10100052) [Ph.D., Montclair State University]. ProQuest Dissertations & Theses Global. Ann Arbor.	Ryan, M. G. (2017). Disrupting professional learning in schools by inviting teachers to design their own learning: an elementary principal conducts practitioner action research [Article]. <i>Planning & Changing</i> , 48(1/2), 43-65.

D. Summary of included records

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Ado, K. (2013). Action research: Professional Development to Help Support and Retain Early Career Teachers. Educational Action research, 21(2): 131-146.	Turkey	High School	Action research	Whole school approach 34 teachers, 4 administrators, 38 in total in total 20 are Early Career Teachers (less than 3 years experience)	A study of teacher-led, semester-long action research projects for professional development, run whole school but with a focus on early career teachers as 20 of the 34 participants fall into that bracket. Participation was compulsory and teachers selected focus of their action research from a predetermined list of topics that had arisen as high-need topics in the needs assessments that had been completed by all practitioners
Ahlawat, G. a. 2015. Participatory action research (PAR) as a professional learning community (PLC) strategy for secondary school teacher professional development (PD). M. Ed. Leadership; University of Waikato; 2015.	New Zealand	Secondary	Participatory Action research	Self contained focus group of teachers working as a PLC 4 teachers in total All female with 2-6 years teaching experience	A study of the effect of a purposeful and sustained professional learning community using a Participatory Action research methodology on teacher professional development evaluating teacher self-worth, changes to classroom practice and changes to student practice. Participants were purposively selected from a pool of volunteers and could self select the focus of their action research either from a predetermined list or something all together different

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Alam, S. (2020). Communicative space and working locally: A report of a participatory action research project in a remote rural school in Bangladesh [Article]. Action research, 18(2), 136-152.	Bangladesh	Secondary	Participatory Action research	Whole school approach 12 teachers in total	A whole school participatory action research approach to professional development in a small rural school in Bangladesh. it follows the development of a communicative space and how that enabled teachers to discuss and critique their work and strategically plan change. It evaluates the importance of a localised ground-up approach to professional development and its value for Bangladesh
Aldridge, J. M., Rijken, P. E., & Fraser, B. J. (2020). Improving learning environments through whole-school collaborative action research. Learning Environments Research.	Australia	Secondary	Collaborative Action research	Whole school approach but voluntary participation with numbers increasing in each year of the study 1st year - 28 teachers in total 2nd year - 66 teachers in total 3rd year - 77 teachers in total	A whole-school approach involving the use of student feedback to inform teachers action research for professional development with the goal of improving learning environments. It focused on the work of individual teachers as a means of bringing about whole-school change, especially in how teachers were engaged in reflection about and approaches to improving their practice. Participants were volunteers and they were assigned the whole school focus on learning environments and using student feedback as their action research topic. There was some flexibility to chose which class to focus on and innovation to use within that.
Badasie, R. B. G. (2014). Managing the professional development of primary school teachers by means of action research [Thesis / Dissertation ETD, WorldCatDissertations.	South Africa	Primary	Participatory Action research	Focus on Maths and Science Teachers A mixed group from different grades and management 15 teachers and 8 administrators	Managing the professional development of primary school science and maths teachers by means of action research. The aim of the study was to develop, implement and evaluate a site-based collaboration programme to promote the professional development of the teachers in these subjects. Participants were volunteers and the general topic of developing resources and lesson plans for a move to home-base teaching is given for the action research projects

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Badasie, R. G., & Schulze, S. (2018). The professional development of mathematics and science teachers: insights gained from an action research project. <i>Journal for New Generation Sciences</i> , 16(2), 30-46.	South Africa	Primary	Participatory Action research	Focus on Maths and Science Teachers A mixed group from different grades and management 15 teachers and 8 administrators	Managing the professional development of primary school science and maths teachers by means of action research. The aim of the study was to develop, implement and evaluate a site-based collaboration programme to promote the professional development of the teachers in these subjects. Participants were volunteers and the general topic of developing resources and lesson plans for a move to home-base teaching is given for the action research projects
Banegas, D. L. (2013). Teachers developing language-driven clil through collaborative action research in Argentina (Publication Number U611252) [Ph.D., University of Warwick (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	Argentina	Secondary	Collaborative Action research	Focus on English as a Foreign Language teachers 4 teachers in total	Focuses on content and Language Integrated Learning (CLIL) which is the integration of content and second/foreign language learning. This is an investigation of the beliefs, motivations, and overall experiences of a group of teachers and learners who adopted an indigenous language-driven CLIL version in a secondary school in southern Argentina through a collaborative action research project. participants were volunteers and made up on English as a Foreign Language Department. Action research topic was collaboratively identified

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Banegas, D., Pavese, A., Velázquez, A., & Vélez, S. M. (2013). Teacher professional development through collaborative action research: Impact on foreign English-language teaching and learning. Educational Action research, 21(2), 185-201.	Argentina	Secondary	Collaborative Action research	Focus on English as a Foreign Language teachers 4 teachers in total	Focuses on content and Language Integrated Learning (CLIL) which is the integration of content and second/foreign language learning. This is an investigation of the beliefs, motivations, and overall experiences of a group of teachers and learners who adopted an indigenous language-driven CLIL version in a secondary school in southern Argentina through a collaborative action research project. participants were volunteers and made up on English as a Foreign Language Department. Action research topic was collaboratively identified
Boswell, S. A. (2015). Exploring the creation of a collaborative learning culture for teachers through the lens of action research [Ed. D.; University of Georgia; 2015, WorldCatDissertations.	USA	Elementary	Action research	An ACTION RESEARCH team 7 teachers in total	This is an evaluation of the experiences of 7 teachers working through an action research process with an external consultant to develop a whole school PDL initiative based on lesson observations. The action research team was selected by the school principal. The action research team were given a problem to address but it seems as though they were steered to LOs as the answer to the problem by the consultant who is also the researcher

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Brown, A. E. a. T. E., Cooper, R., & Brown, A. E. (2016). Policy to Practice: The Perspectives of Teachers and Administrators on the Implementation of Common Core Utilizing Action research to Design a Professional Development Model [Ed. D.; University of California, Los Angeles; 2016, WorldCatDissertations.	USA	Middle School	Action research	Whole school approach 56 teachers, 3 counsellors, 7 coordinators, 4 administrators - 70 in total	Action research was used by the leadership team to design professional development for all teachers which itself was based on action research. This reports on experiences of this process. Participation was compulsory and the assigned focus for action research projects was on common cores, specifically 3 areas chosen by the senior leadership team.
Cain, T. (2015). Teachers' engagement with published research: addressing the knowledge problem [Article]. Curriculum Journal, 26(3), 488-509	UK	Secondary	Action research	One teacher from each of the school's faculties 8 teachers in total	Teachers were helped to implement findings from educational research through action research projects. This article assesses impact of educational research on thinking and practice of the participating teachers and how research knowledge can be transformed into pedagogical knowledge. Participants were purposively selected from a pool of volunteers. They were given the general area of support for G&T to focus on in their projects but then self designed projects and focus.
Flessner, R., & Stuckey, S. (2014). Politics and action research: An examination of one school's mandated action research program [Article]. Action research, 12(1), 36-51.	USA	Elementary	Action research	Whole school approach 29 teachers in total	An evaluation of mandating action research for PDL with a focus on political tensions arising from this. Participation was compulsory. It was not specifically stated how focus of action research projects were decided but it sounds like they were mandated

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Greenwood, J. (2016). Educational Professionals' Experience of English Educational Policy; Developing and Promoting Inclusive Practice Through Collaborative Action research (Publication Number 10836741) [Ed.D., The University of Manchester (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	UK	Secondary	Collaborative Action research	An ACTION RESEARCH group 3 from the pastoral team, 3 teachers including one who held SEN responsibilities and the school SENCO, 1 Literacy specialist teacher, 3 Higher Level Teaching Assistants (HLTAs), 1 trainee school psychologist - 11 in total	This study explore experiences of a group of educational practitioners developing person-centred practice in one English secondary school by means of a community of inquiry and action using and action research methodology. Participants were volunteers and they were given an overarching topic to focus on but the flexibility to explore areas of personal interest within that
Greenwood, J., & Kelly, C. (2020). Taking a cooperative inquiry approach to developing person-centred practice in one English secondary school [Article]. Action research, 18(2), 212-229.	UK	Secondary	Action research	An ACTION RESEARCH group 3 from the pastoral team, 3 teachers including one who held SEN responsibilities and the school SENCO, 1 Literacy specialist teacher, 3 Higher Level Teaching Assistants (HLTAs), 1 trainee school psychologist - 11 in total	This study explore experiences of a group of educational practitioners developing person-centred practice in one English secondary school by means of a community of inquiry and action using and action research methodology. Participants were volunteers and they were given an overarching topic to focus on but the flexibility to explore areas of personal interest within that

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Guerra, C., Hanratty, B., Onofre, A., Tedeschi, M., Wilenchik, L., & Knobel, M. (2015). Doing-It-Ourselves as Teacher Researchers: A Collaborative Action research Approach for Improving Literacy Support at Home. <i>Learning Landscapes</i> , 9(1), 81-99.	USA	elementary	Collaborative Action research	Teacher researcher group 5 teachers and reading specialists in training and 5 teachers - 10 in total	This paper describes what a group of teacher researchers learned from conducting an action research project in an urban elementary school serving a multilingual community in the northeastern United States. A key goal of the project was to enhance parents' and caregivers' support of students' literacy development in ways that built on home literacy practices. Participants were all volunteers and overarching focus for action research projects was given. There was flexibility within that to develop research question.
Hajar, S., 2017. The Complexities of Implementing Classroom-Based Action research in a Remote School in Indonesia. Thesis (PhD). The University of Queensland.	Indonesia	Secondary	Classroom-based Action research	Focus on English as a Foreign Language teachers 6 teachers in total	An evaluation of how classroom based action research works as a tool for professional learning for English as Foreign Language (EFL) teachers in a rural and disadvantaged school in Indonesia. Participants were volunteer and were free to choose their own focus for their action research projects
Hajar, S., Honan, E., & Moni, K. (2020). Governmentality and reflective practice of EFL teachers through CBAR in a remote school in Indonesia [Article]. <i>Professional Development in Education</i> , 46(3), 454-466.	Indonesia	Secondary	Classroom-based Action research	Focus on English as a Foreign Language teachers 6 teachers in total	The overall aim of this study was to build knowledge and understanding of how classroom based action research works as a tool for EFL teachers' professional learning in Indonesia. This paper reports one aspect of that study; how the EFL teachers' reflective practice was socially constructed through their participation in classroom based action research. participants were volunteers and focus of the action research projects were self selected

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Hoover, R., Hawk, M., & Mickelburgh, E. (2016). Catholic school teacher as action researcher: A project designed to empower and transform Catholic school teachers into instructional problem solvers and reflective practitioners (Publication Number 10118493) [Ed.D., Loyola University Chicago]. ProQuest Dissertations & Theses Global. Ann Arbor.	USA	High School	Action research	ACTION RESEARCH group 15 teachers in total	This is an evaluation of catholic high school teachers using action research for PDL with a focus on promoting instructional problem solving and increasing teacher reflective practice. Participants were volunteers and they self selected the focus of their action research projects
Kalamaras, J. I. (2015). Participatory action research as professional development in multicultural education: What are the effects on a staff in a New York City public school? (Publication Number 3703549) [Ph.D., City University of New York]. ProQuest Dissertations & Theses Global. Ann Arbor.	USA	Elementary	Participatory Action research	ACTION RESEARCH group 11 teachers in total	An evaluation of the effectiveness of participatory action research as a form of professional development for developing multicultural education in an elementary school setting. Participating teachers were volunteers and the focus of their action research projects were given to them.

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Leykina, V. (2014). Using teacher-participatory action research to improve the performance of high school teachers of students with limited English [Ph.D.; Capella University; 2014., WorldCatDissertations.	USA	High School	Participatory Action research	Focus on English as a Foreign Language teachers 6 teachers in total	An evaluation of changes in practice of monolingual content area teachers when teaching students with limited English, or English language learners before and after engaging in a cycle of action research. This focuses on self-evaluation, quality of instruction, impact of peer collaboration and changes in student performance. Participants were volunteers and were given an overarching theme to focus their action research projects on.
Lyngsnes, K. M. (2016). Reflexive eye on a collaborative action research project in school [Article]. Qualitative Report, 21(2), 196-211, Article 1.	Norway	Primary and Lower Secondary (focus)	Collaborative Action research	Whole school approach but this article focuses only on one ACTION RESEARCH team 4 teachers in focus team	This is an evaluation of a whole school, university researcher facilitated, action research groups approach to PDL. The focus is on reflexivity, how the relationship and collaboration between the teachers and the researcher developed, and how the process contribute to the teachers' professional development and teaching practice. Participation in the programme was compulsory and staff split into groups and allowed to choose their specific focus for action research in that group.
MacDonald, M., & Weller, K. (2017). Redefining Our Roles as Teachers, Learners, and Leaders through Continuous Cycles of Practitioner Inquiry. New Educator, 13(2), 137-147.	USA	High School teachers but in a	Practitioner Inquiry	Focus on biology and geometry teachers 8-10 teachers throughout the programme	Two teachers reflections on 10 years of action research for PDL in one school. They begin as novice inquirers examining classroom-specific problems of practice and evolve into experienced facilitators of practitioner inquiry, they continuously make their learning through engagement in practitioner inquiry public.

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Munson, C. (2021). Collaborative Teacher Action research: Improvement Science as Professional Development? (Publication Number 28154162) [Ed.D., Illinois State University]. ProQuest Dissertations & Theses Global. Ann Arbor.	USA	Middle School	Collaborative Action research	ACTION RESEARCH group 4 teachers	Collaborative action research using improvement science with a small group of primary teachers looking to improve maths skills. Evaluating this as a method for PDL and focusing on changes to practice and student learning. Also aiming to address how can teacher action research, using improvement science, can be used to close the gap among professional development, evaluation, student learning, and school improvement. Participants were purposively selected from a pool of volunteers. The teachers were selected, in part, due to their established collaborative pattern of work prior to the study. The focus of their action research was jointly decided.
Nawab, A. (2021). Using action research to initiate school-based teacher development activities: insights from Northern Sindh, Pakistan [Article]. Educational Action research.	Pakistan	Secondary	Action research	Whole school approach 45 teachers in total	A whole school approach to using action research for PDL in rural Pakistan with a focus on the transition of PDL leadership from the principle to the staff body. Participation in the programme was compulsory with voluntary opportunities for leadership of action research groups. Topic selection for action research projects shifted from chosen by leader or researcher to chosen by teachers themselves.

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Neil-Burke, M. B. (2016). Toward the design and implementation of stem professional development for middle school teachers: An interdisciplinary approach (Publication Number 10188572) [Ed.D., Morgan State University]. ProQuest Dissertations & Theses Global. Ann Arbor.	USA	Middle School	Participatory Classroom Action research	Focus on STEM teachers 5 teachers in total	Using action research to design and evaluate lessons designed to develop interdisciplinary teaching approaches in STEM in an urban middle school. Participation in the programme was voluntary. Participants were given a STEM focus but had flexibility within that to choose a specific focus
Ryan, M. G. (2016). Encouraging teachers to design their own professional learning through inquiry: An elementary principal conducts practitioner action research (Publication Number 10100052) [Ph.D., Montclair State University]. ProQuest Dissertations & Theses Global. Ann Arbor.	USA	Elementary	Professional Inquiry	Whole school approach 32 teachers in total	An evaluation of a whole school inquiry based professional learning structure implemented by the school principal. Participation in the programme was compulsory and participants were allowed to jointly decide the focus of their action research within their inquiry groups

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Ryan, M. G. (2017). Disrupting professional learning structures in schools by inviting teachers to design their own learning: and elementary principal conducts practitioner action research [Article]. <i>Planning & Changing</i> , 48(1/2), 43-65.	USA	Elementary	Professional Inquiry	Whole school approach 32 teachers in total	An evaluation of a whole school inquiry based professional learning structure implemented by the school principal. Participation in the programme was compulsory and participants were allowed to jointly decide the focus of their action research within their inquiry groups
Ryan, M., Taylor, M., Barone, A., Della Pesca, L., Durgana, S., Ostrowski, K., Piccirillo, T., & Pikaard, K. (2017). Teacher as Researcher, Teacher as Scholar, and Teacher as Leader. <i>New Educator</i> , 13(2), 102-116.	USA	Elementary	Action research	6 teachers, 1 principal/doctoral student, 1 university teacher educator	a university sponsored ACTION RESEARCH project in which 6 teachers in an elementary school, an elementary principal and a university teacher educator collectively self-studying the use of ACTION RESEARCH for PDL to get the perspective of the impact of action research on development from teachers as researchers, scholars, and leaders. The focus is on leadership. Participants are volunteers who jointly decided upon the focus of their action research projects.
Smith, S. (2017). Building teacher leadership in a rural elementary school [Ed. D.; University of Georgia; 2017, WorldCatDissertations.	USA	Elementary	Second-Person Action research	Leadership team 5 in total	An action research team working as a PLC, looking at leadership development with a focus on changing social roles, self-directed, job-embedded PDL and self-efficacy. Participants were purposively sampled from the leadership team and had to have less than 3 years leadership experience. Leadership was the overarching focus of the action research projects but there was flexibility to choose a specific focus within that.

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
St. Croix, M. J. (2020). Investigation of Action research within a Professional Learning and Development Model (Publication Number 27835799) [Ed.D., University of Portland]. ProQuest Dissertations & Theses Global. Ann Arbor.	Canada	High School	Action research	Whole school approach 59 teachers took part out of 80	Evaluating experiences of ACTION RESEARCH as a whole school model for PDL focusing on collaboration, feedback, student success, application of educational research, inclusivity and emerging technology. Participation was encouraged but not compulsory and participants were allowed to self select focus of their action research projects.
Sumler-Faison, J. E. (2019). Facilitating change in teacher practice through evidence-based professional development [Ed. D.; University of Georgia; 2019, WorldCatDissertations.	USA	Elementary	Action research	2 ACTION RESEARCH teams one of SLT planning evidenced based PD for the second IT ACTION RESEARCH team who implement it and feedback on it's effectiveness 5 on SLT ACTION RESEARCH team, 4 on IT ACTION RESEARCH team - 9 in total	Action research is used to establish a professional learning community and design evidence based PDL with a focus on transfer of new learning to classroom practice. Participants were volunteers and the focus of their action research projects were guided by professional development goals as well as the school improvement plan

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Thorgeirsdottir, H. (2015). Investigating the use of action research and activity theory to promote the professional development of teachers in Iceland (Publication Number 10134751) [Ph.D., University of Exeter (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	Iceland	Upper Secondary	Action research	School Professionals 21 in total	An evaluation of the impact of action research and Activity Theory to promote the PDL on teachers in an Icelandic school. Participation was voluntary and focus of individual action research projects was self selected.
Troiano, B. (2012). Developing Professional Teacher Researchers: Transforming Language Learning through Discourse Analysis ProQuest LLC]. ERIC.	USA	Middle and Elementary	Participatory Action research	ACTION RESEARCH team 3 teachers in total	An evaluation of using action research with discourse analysis as methodology to enhance English Language Learner's learning experiences. Participation was voluntary. Maths and science was given as a focus for the action research projects and there was flexibility to co-develop foci within that.

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population	Brief Description
Wagner, A. M. (2020). Teacher Driven Professional Development: Exploring Motivation to Engage in Practitioner Inquiry and How to Support Teachers Through the Process (Publication Number 27744303) [Ed.D., University of Florida]. ProQuest Dissertations & Theses Global. Ann Arbor.	USA	PK-12	Practitioner Inquiry	ACTION RESEARCH team 5 teachers in total	An evaluation of how teachers can be supported to use practitioner inquiry as a form of teacher driven professional development with a specific focus on what motivates teachers to engage with the process. Participants were purposively selected and focus of individual projects were jointly decided.
Wilkinson, D. (2016). The use of questions in primary science: a collaborative action research study (Publication Number 10593818) [Ph.D., University of Southampton (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	UK	Primary	Collaborative Action research	Action research team 3 teachers in total	Looking at how primary science teachers' questioning practices change as a result of collaborative action research specifically the type of questions posed, the use of a puppet and Thinking Dice to support children in asking and answering their own questions. Participation was voluntary and while the overarching theme for the action research was given, participants were allowed to decide on their own innovation to practice.

Reference	Location	Type of School	Type of ACTION RESEARCH	Characteristics of the research population		Brief Description
Yigit, C., & Bagceci, B. (2017). Teachers' Opinions Regarding the Usage of Action research in Professional Development. Journal of Education and Training Studies, 5(2), 243-252.	Turkey	Primary and Middle	Action research	ACTION RESEARCH team 6 teachers in total		An investigation into the contribution of action research to science teachers' professional development in a Turkish primary school

E. Certainty assessment

Certainty Assessment

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
Ado, K. (2013). Action research: Professional Development to Help Support and Retain Early Career Teachers. Educational Action research, 21(2): 131-146.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data Limited detail on data analysis process and data from Likert survey not explicitly represented in findings - likely due to it being a journal article and therefore having limited word count	The research design is appropriate for answering review question	The design features, all teaching staff within the school are engaging in action research for professional development, of this study make it highly relevant to this review Specific focus on early career teachers is worth noting but doesn't decrease the relevance of this study	This study contributes valuable evidence to the review
Ahlawat, G. a. 2015. Participatory action research (PAR) as a professional learning community (PLC) strategy for secondary school teacher professional development (PD). M. Ed. Leadership; University of Waikato; 2015.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data Planned triangulation of data through student voice surveys did not happen as permissions weren't able to be gained so limited data sources	The research design is appropriate for answering review question although there are limited sources of data	Staff are working within a PLC structure but are clearly using the action research method with an emphasis on collaboration. The focus on teacher self-worth is relevant. It is only a group of 4 teachers carrying out action research for professional development	This study contributes valuable evidence to the review. It is worth noting that it is only a small group of 4 teachers carrying out action research
Alam, S. (2020). Communicative space and working locally: A report of a	Clear research questions and qualitative approach to data collection appropriate to	The research design is	The design features of this study make it highly relevant to this review,	This study contributes valuable evidence to the review. It is worth

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
participatory action research project in a remote rural school in Bangladesh [Article]. Action research, 18(2), 136-152.	answer them. Findings adequately derived from the data No issues identified	appropriate for answering review question	all teaching staff within the school are engaging in action research for professional development. The specific focus on the development of a communicative space and 'ground-up localised' professional development is relevant, the focus is quite context specific as the study is carried out in a culture with an emphasis on hierarchy	noting the cultural context as the author states there to be strongly ingrained hierarchies which juxtapose the democratic nature of action research
Aldridge, J. M., Rijken, P. E., & Fraser, B. J. (2020). Improving learning environments through whole-school collaborative action research. Learning Environments Research.	Clear research questions and proposed mixed method approach to data collection appropriate to answer them. Sample for quantitative data collection is representative of the target population, the measurements use and statistical analysis are appropriate to answer the research question. Limitations to the quantitative data set are discussed and claims adjusted accordingly. Qualitative findings not clearly derived from entire data set- there are vignettes used from one teacher in the presentation of data, but the researchers made reference to more data sets e.g. unstructured interviews with the principal	The research design is partially appropriate for answering the review question. The quantitative element focuses on student perceptions which is outside the scope of this review however, the qualitative element focuses on the design and development of a	Findings are largely focused on student perceptions of changes to learning environment and these are used to draw conclusions on the effectiveness of action research for professional learning, this is outside of the scope of this review. However, the article offers a detailed description of the design and progress of an action research model for professional learning which becomes a whole school model, this element is highly relevant to the review although it is less clearly substantiated in evidence than the	This study contributes valuable evidence to the review in terms of design of an action research model for professional learning, the account offered is valuable but not so substantiated in evidence. However, the effectiveness of the programme can be inferred from the highly detailed analysis of student perceptions of the change in learning environments. It is therefore possible to state that this model of action research for professional development and

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
	and director of curriculum, it is unclear where these inform the discussion	programme of action research for professional development which is appropriate to this review.	evaluation of student perceptions of learning environments	learning is effective and should be used in this review.
Badasie, R. B. G. S. S. S. (2014). Managing the professional development of primary school teachers by means of action research [Thesis / Dissertation ETD, WorldCatDissertations.	Clear research questions and approach to data collection appropriate to answer them. Findings adequately derived from the data No issues identified	The research design is appropriate for answering review question	The design feature of the programme are right for this review however it is only a small group of practitioners carrying out action research. There is a specific focus on science and mathematics teachers which is worth noting but this doesn't decrease the relevance of the study	This study contributes valuable evidence to the review, it is worth noting the focus on science and mathematics teachers and the fact that it was only a small group of practitioners engaging in action research.
Badasie, R. G., & Schulze, S. (2018). The professional development of mathematics and science teachers: insights gained from an action research project. Journal for New Generation Sciences, 16(2), 30-46.				An abbreviated version of the above research so while not all information is presented in this journal article it is assumed that indicators of quality are the same as above
Banegas, D., Pavese, A., Velázquez, A., & Vélez, S. M. (2013). Teacher professional development through collaborative	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from	The research design is appropriate for	The design feature of the programme are right for this review however it is only a small group of practitioners	This study contributes valuable evidence to the review, it is worth noting the focus on the

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
action research: Impact on foreign English-language teaching and learning. Educational Action research, 21(2), 185-201.	the data No issues identified	answering review question	carrying out action research. There is a specific focus on the development of content and language integrated learning for English as a foreign language students which is worth noting but this doesn't decrease the relevance of the study	development of content and language integrated learning for English as a foreign language students and the fact that it was only a small group of practitioners engaging in action research.
Banegas, D. L. (2013). Teachers developing language-driven clil through collaborative action research in Argentina (Publication Number U611252) [Ph.D., University of Warwick (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data	The research design is appropriate for answering review question	This study focuses on a team of teachers who are using action research to develop a professional development model for the rest of the teaching staff in their school. The professional development model based on lesson observations is outside the scope of this review however, the work done by the team of teachers using action research to	An abbreviated version of the above research so while not all information is presented in this journal article it is assumed that indicators of quality are the same as above One part of this study contributes valuable evidence to the review, the findings pertaining to the experiences of the team of teachers using action research to inform the development of a programme based on lessons observations are therefore included in this review. it is worth noting that it is only a small group
Boswell, S. A. (2015). Exploring the creation of a collaborative learning culture for teachers through the lens of action research [Ed. D.; University of Georgia; 2015, WorldCatDissertations.	Analysis of quantitative survey data is limited to comparison of means which isn't appropriate for the small sample size. These findings aren't presented in great detail.			

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
knowledge problem [Article]. Curriculum Journal, 26(3), 488-509	No issues identified	answering review question	for achieving this but the specific focus is on how teachers mobilise the research findings and less on how action research runs as a model for professional development within a school	of research knowledge in practice which practitioners will encounter when engaging in action research. It provides less evidence on how an action research model for professional development might be implemented within a school.
Flessner, R., & Stuckey, S. (2014). Politics and action research: An examination of one school's mandated action research program [Article]. Action research, 12(1), 36-51.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data No issues identified	The research design is appropriate for answering review question	The specific focus of this study is on the mandating of action research for professional development for all staff and the political tensions which arise as a product of that	This study contributes valuable evidence to the review
Greenwood, J. (2016). Educational Professionals' Experience of English Educational Policy; Developing and Promoting Inclusive Practice Through Collaborative Action research (Publication Number 10836741) [Ed.D., The University of Manchester (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	This study did not follow a linear route through design, implementation and dissemination; dissemination happened throughout through the exploration of a cyclical process of theorising, action, widening participation, theorising and so forth. The research questions and aims are clearly articulated and this methodology seems appropriate to answer them. Some detail lacking in the description of data analysis	The research design is appropriate for answering review question	The specific focus is on using action research to develop person-centred practice. It is an account of an action research group comprised of professionals from different parts of the school	This study contributes valuable evidence to the review

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
Greenwood, J., & Kelly, C. (2020). Taking a cooperative inquiry approach to developing person-centred practice in one English secondary school [Article]. Action research, 18(2), 212-229.				This article is adapted from the above research so it is assumed that indicators of quality are the same as above
Guerra, C., Hanratty, B., Onofre, A., Tedeschi, M., Wilenchik, L., & Knobel, M. (2015). Doing-It-Ourselves as Teacher Researchers: A Collaborative Action research Approach for Improving Literacy Support at Home. Learning Landscapes, 9(1), 81-99.	Clear research aims stated and qualitative data collection approach is appropriate A very reflective piece in more of a journalistic style so not high research quality but contains interesting and relevant reflections from practitioners engaging in action research	This is more of a reflective article, it does not have a clear research design in the traditional sense. Nevertheless the reflections included in it are appropriate for answering the review question	The focus of this article is on practitioner reflections of engaging in action research which are relevant to this review	This study contributes valuable evidence to the review but it is worth noting that it does not follow traditional research designs and is more of a reflective piece
Hajar, S., 2017. The Complexities of Implementing Classroom-Based Action research in a Remote School in Indonesia. Thesis (PhD). The University of Queensland.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data No issues identified	The research design is appropriate for answering review question	The focus of this study is on the use of action research for professional development and so is relevant to this review. It is worth noting however that the focus is on a small group of English as Foreign Language teachers and that elements of it are quite context specific as the study is	This study contributes valuable evidence to the review. It is worth noting the cultural context as the author states there to be strongly ingrained hierarchies which juxtapose the democratic nature of action research

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
Hajar, S., Honan, E., & Moni, K. (2020). Governmentality and reflective practice of EFL teachers through CBAR in a remote school in Indonesia [Article]. Professional Development in Education, 46(3), 454-466.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data No issues identified	The research design is appropriate for answering review question	carried out in a culture with an emphasis on hierarchy The focus of this study is on the use of action research for professional development specifically looking at promoting instructional problem solving and increasing teacher reflective practice. This is relevant to this review	An abbreviated version of the above research so while not all information is presented in this journal article it is assumed that indicators of quality are the same as above This study contributes valuable evidence to the review
Hoover, R., Hawk, M., & Mickelburgh, E. (2016). Catholic school teacher as action researcher: A project designed to empower and transform Catholic school teachers into instructional problem solvers and reflective practitioners (Publication Number 10118493) [Ed.D., Loyola University Chicago]. ProQuest Dissertations & Theses Global. Ann Arbor.	Clear research questions and qualitative approach to data collection appropriate to answer them.	The research design is appropriate for answering review question but concern over lack	As well as using action research for professional development this study focuses on developing multicultural education within the school. this second focus is not relevant to this review however the	This study contributes some valuable evidence to the review but it would be better if there was a clear description of how data was analysed
Kalamaras, J. I. (2015). Participatory action research as professional development in multicultural education: What are the effects on a staff in a New York City public school? (Publication Number 3703549) [Ph.D., City University	No clear description of how data was analysed so			

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
of New York]. ProQuest Dissertations & Theses Global. Ann Arbor.	cannot follow the thread from data point through analysis and to findings.	of description of data analysis	autoethnographic account of the experiences of the participatory action research group are relevant.	
Leykina, V. a. V. R. P. (2014). Using teacher-participatory action research to improve the performance of high school teachers of students with limited English [Ph.D.; Capella University; 2014., WorldCatDissertations.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data The description of how data was analysed is very brief and a huge amount of data was collected therefore it is sometimes challenging to follow the thread from data point through analysis to findings. Percentages are used to describe quantitative data collected from only 6 participants.	The research design is appropriate for answering review question but concern over lack of description of data analysis	The focus of this study is on both the teacher experiences of engaging in action research for professional development and also how this impacted their understanding and delivery of education for students with English as a foreign language. The first focus is highly relevant to this review	This study contributes some valuable evidence to the review but it would be better if there was a clear description of how data was analysed
Lyngsnes, K. M. (2016). Reflexive eye on a collaborative action research project in school [Article]. Qualitative Report, 21(2), 196-211, Article 1.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data No issues identified	The research design is appropriate for answering review question	The focus of this study is specifically on how the relationships and collaboration develop within an action research group. The study is of a whole school approach to action research for professional development but this article focuses only on one action research team of 4 teachers	This study contributes valuable evidence to the review

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
MacDonald, M., & Weller, K. (2017). Redefining Our Roles as Teachers, Learners, and Leaders through Continuous Cycles of Practitioner Inquiry. <i>New Educator</i> , 13(2), 137-147.	Aim of the record is clearly stated and the qualitative nature of the data presented is suitable to meet this aim. A summary of reflection from 10 years of Running ACTION RESEARCH for DP - not a traditional aim, methods, findings research piece more reflections and story telling.	The research design is appropriate for answering review question but it is worth noting the highly reflective nature of the study which does not follow the traditional research format	The focus of this article is on describing the journey of two teachers towards greater research engagement through engaging in action research over a period of 10 years. It shows building of momentum and gaining of expertise.	This study contributes valuable evidence to the review in terms of personal, lived experiences of engaging in action research for professional development. It's contribution is limited however as it does not give information on how to situate a model of action research for professional development within a school.
Munson, C. (2021). Collaborative Teacher Action research: Improvement Science as Professional Development? (Publication Number 28154162) [Ed.D., Illinois State University]. ProQuest Dissertations & Theses Global. Ann Arbor.	Clear research questions and qualitative approach to data collection appropriate to answer them. It is not clear that the findings are always adequately derived from the data or that the interpretation of results is sufficiently substantiated by the data	The research design is appropriate for answering review question	The focus on evaluating action research as a method for professional development and exploring how it closes the gap between professional development, evaluation, student learning, and school improvement is highly relevant to this review	This study contributes valuable evidence to the review. it is worth noting that it is only a group of 4 teachers engaging in action research for professional development and learning
Nawab, A. (2021). Using action research to initiate school-based teacher development activities: insights from	Clear research questions and findings are substantiated by the data There is not that much detail on the data analysis process and participants are kept in the dark	The research design is appropriate for	The design features of this study make it highly relevant to this review, all teaching staff within the school are engaging in action research for professional development. Some	This study contributes valuable evidence to the review. It is worth noting the cultural context as the author states there to be strongly ingrained hierarchies which

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
Northern Sindh, Pakistan [Article]. Educational Action research.	about the research so methods for data collections are all a bit covert. Is that ethically OK?	answering review question	elements are quite context specific as the study is carried out in a culture with an emphasis on hierarchy	juxtapose the democratic nature of action research
Neil-Burke, M. B. (2016). Toward the design and implementation of stem professional development for middle school teachers: An interdisciplinary approach (Publication Number 10188572) [Ed.D., Morgan State University]. ProQuest Dissertations & Theses Global. Ann Arbor.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings seem to be derived from the data However, it is stated that a summary of data analysis is presented in Table 4 which could not be found in the text	The research design is appropriate for answering review question	There is a strong focus on STEM professional development and learning and interdisciplinary teaching approaches which are outside of the scope of this review. However, the findings pertaining to the experiences of engaging in action research for professional development are relevant	The elements of the study which focus on the experiences of engaging in action research contribute valuable evidence to this review
Ryan, M., Taylor, M., Barone, A., Della Pesca, L., Durgana, S., Ostrowski, K., Piccirillo, T., & Pikaard, K. (2017). Teacher as Researcher, Teacher as Scholar, and Teacher as Leader. New Educator, 13(2), 102-116.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data No issues identified	The research design is appropriate for answering review question	The focus is in line with the focus of this review, there is an emphasis on leadership	This study contributes valuable evidence to the review
Ryan, M. G. (2016). Encouraging teachers to design their own professional learning through inquiry: An elementary principal conducts practitioner action research (Publication Number 10100052) [Ph.D., Montclair	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data	The research design is appropriate for answering review question	The design features of this study make it highly relevant to this review, all teaching staff within the school are engaging in action research for professional development. The study gives an insight into the experiences	This study contributes valuable evidence to the review

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
State University]. ProQuest Dissertations & Theses Global. Ann Arbor.	No issues identified		of a the principal implementing action research for professional development and learning on a whole school level.	
Ryan, M. G. (2017). Disrupting professional learning structures in schools by inviting teachers to design their own learning: and elementary principal conducts practitioner action research [Article]. Planning & Changing, 48(1/2), 43-65.				An abbreviated version of the above research so while not all information is presented in this journal article it is assumed that indicators of quality are the same as above
Smith, S. (2017). Building teacher leadership in a rural elementary school [Ed. D.; University of Georgia; 2017, WorldCatDissertations.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data Simplistic analysis of Likert survey data	The research design is appropriate for answering review question	The focus is on the experiences of the use of action research for professional development by a leadership team. As well as this, it evaluates changing social roles and self-efficacy.	This study contributes valuable evidence to the review
St. Croix, M. J. (2020). Investigation of Action research within a Professional Learning and Development Model (Publication Number 27835799) [Ed.D., University of Portland]. ProQuest	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data Simplistic analysis of Likert survey data	The research design is appropriate for answering review question	The design features of this study make it highly relevant to this review, all teaching staff within the school were given the opportunity to engaging in action research for professional development. There is a further focus on collaboration,	This study contributes valuable evidence to the review

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
Dissertations & Theses Global. Ann Arbor.			feedback, student success, application of educational research, inclusivity and emerging technology	
Sumler-Faison, J. E. B. K. C., & degree, s. (2019). Facilitating change in teacher practice through evidence-based professional development [Ed. D.; University of Georgia; 2019, WorldCatDissertations.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data Simplistic analysis of quantitative data with limited description of analysis process	The research design is appropriate for answering review question	The focus on the use of action research for professional development is relevant to this review. Action research is used by senior leadership to develop a professional development programme for a second action research group. This programme also is based on action research	This study contributes valuable evidence to the review
Thorgeirsdottir, H. (2015). Investigating the use of action research and activity theory to promote the professional development of teachers in Iceland (Publication Number 10134751) [Ph.D., University of Exeter (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data Does not explain in detail how survey data was handled	The research design is appropriate for answering review question	The focus of this study is on action research and activity theory, it aims to combine the two to develop a bespoke model for professional development and learn. However, the action research cycles are still clearly visible in the adopted methodology and so this study is deemed relevant to this review.	This study contributes valuable evidence to the review
Troiano, B. (2012). Developing Professional Teacher Researchers: Transforming Language Learning	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from	The research design is appropriate for	The small action research team of 3 teachers is focusing on English language learners however the	This study contributes valuable evidence to the review

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
through Discourse Analysis ProQuest LLC]. ERIC.	the data No issues identified	answering review question	evaluation of engagement in action research is relevant to this review	
Wagner, A. M. (2020). Teacher Driven Professional Development: Exploring Motivation to Engage in Practitioner Inquiry and How to Support Teachers Through the Process (Publication Number 27744303) [Ed.D., University of Florida]. ProQuest Dissertations & Theses Global. Ann Arbor.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data No issues identified	The research design is appropriate for answering review question	The focus of this study is in line with the focus of this review. It looks specifically at what motivates teachers to engage in action research for professional development and is a group of 5 teachers engaging in the action research process	This study contributes valuable evidence to the review
Wilkinson, D. (2016). The use of questions in primary science: a collaborative action research study (Publication Number 10593818) [Ph.D., University of Southampton (United Kingdom)]. ProQuest Dissertations & Theses Global. Ann Arbor.	Clear research questions and qualitative approach to data collection appropriate to answer them. Findings adequately derived from the data No issues identified	The research design is appropriate for answering review question	This is a report of two teachers engaging in action research to improve questioning. It offers insights into barriers and enablers to engagement but is a limited sample size	This study contributes valuable evidence to the review
Yigit, C., & Bagceci, B. (2017). Teachers' Opinions Regarding the Usage of Action research in Professional Development. Journal of Education and Training Studies, 5(2), 243-252.	Potential issues with the translation of this record or if the original was written in English, then level of language proficiency is limited. It is hard to comment on quality for this reason.	Potential issues with the translation of this record or if the original was written in English,	The article is an illustration of Action research being used for PDL in Turkey. This record is used only to illustrate this point.	The article is an illustration of Action research being used for PDL in Turkey. This record is used only to illustrate this point.

Reference	Weight of Evidence A: generic on quality of execution of study	Weight of Evidence B: Review specific on appropriateness of method	Weight of Evidence C: Review specific on focus/approach of study to review question	Weight of Evidence D: the extent that the study contributes evidence to answering the review question
		then level of language proficiency is limited. It is hard to comment on appropriateness of design for this reason		

F. Data extraction template

Part 1 - research design

	Date	Type	Methodology			Data Collection tools		Definitions				
Full Reference	Date	Type of Publication	Design name (e.g. case study, Participatory Action research etc)	Qual	Quant	Mixed	Qual	Quant	Definition of PD or PL	Definition of AR or AR methodology	subset of AR definition e.g. PAR, CAR	Situation of AR in PD

Part 2 – definitions

Definitions			
Definition of PD or PL	Definition of AR or AR methodology	subset of AR definition e.g. PAR, CAR	Situation of AR in PD

Part 3 – extractions under the TIDieR framework

1. Brief Name	2. Why (rationale/ theory)				3. what (materials)	4. What (Procedures)	5a. Who provided						5b. Who received		
	Primary Research Questions (where not available, aims are outlined)	Secondary Research Questions	Post-graduate qualification	Other details	e.g. physical or information material and provide ref to where they can be found	Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling support activities	Practitioner Researcher	Academic Researcher	Practitioner turned academic researcher	Other	Collaboration between academic and practitioner	Comments	is there a link with an external organisation?	Who is doing the AR?	Number of teachers/people doing AR (sample size)

Part 4 – extractions under the TIDieR framework continued

6. How (mode of delivery)	7. Where (describe location in detail)			8.when and how much (number of sessions, schedule, duration,)						9. Tailoring (personalisation)	10. Modification	11. How well (planned)	12. How well (Actual)		
e.g. face to face, online	Geographical location	Teaching Phase (e.g. primary/secondary/equiv)	Other details	Duration of study	number of meetings	How long each meeting was	when the meetings happened	number of AR cycles	an Ideas Fair style sharing of findings	Further comments	how staff were recruited	how topic for AR was decided	(was it changed during the course of study?)	Planned fidelity assessment	extent to which it was delivered as planned

Part 5 – findings

Adverse events		Findings			
Details of any adverse events or unexpected outcomes		Barriers	Facilitators	Additional references to add to SR	Notes/comments

G. Resources for R&D Programme

Signup form for year 1 of the R&D Programme

R&D Topic Selection

The suggested topics for study have been compiled from suggestions from the staff body and needs identified in the School Development Plan. Please consider your topic selection carefully. You will be sticking with your selection for the whole year. For more information on each of the topic see information sheet attached to this same email.

If you could ask one question of an academic in education what would it be? (for example; how can I improve student resilience in my lessons? or how can I improve my questioning by using technology?)

Long answer text

Select from the list below the topic you would like to study in the R&D programme for this academic year.

1. STEM
2. Marking and Feedback
3. Gender
4. Metacognition and Visible Thinking
5. Inquiry Based Learning
6. Differentiation
7. Growth Mindset
8. Effective Data Tracking
9. Effective Questioning
10. Concept Based Learning
11. SEND
12. Handwriting

Signup form for year 2 of the R&D Programme

Dear All,

Undertaking a professional enquiry is a bespoke form of professional development which aims to have the most meaningful impact upon your practice as a teaching professional that a yearlong programme can have. As a school, because we value teaching in the classroom, co-curricular and pastoral work, your enquiry can be centred in any of these 3 domains.

Once all staff have completed this form, we will group staff into learning communities with other practitioners whose enquiries have common elements. Each learning community is led by a [externally trained] trained facilitator who will guide you through the process and support your community collaboration.

Please take the time to complete this form carefully as the idea is for you to pursue the line of inquiry most meaningful to you for the course of this academic year. It is natural that these lines of enquiry will evolve over the course of the year however, we wish to place you in the learning community most relevant to your own area interest.

It could also be of benefit for you to link your choice to a professional improvement foci discussed with your line manager as engagement in this programme will give you the opportunity to clearly demonstrate improvement in this area.

We also wish to link your area of inquiry more closely to the areas of development highlighted in the T&L policy. As such there will be an opportunity below for you to indicate which of the T&L areas for improvement you feel your area relates to.

In which area of the school do you work? *

- ☐ Primary
- ☐ Secondary

Role(s) within the school: *

Your answer

What would you like your enquiry to focus on? The more descriptive you can be here, the more easily we can place you into the most useful learning community. You can include details of a particular age range, gender, group or cohort of students, a particular activity type (co-curricular, pastoral, classroom), part of your curriculum. If you have an idea of a research question, you can write this here.

Your answer

Which element of your practice does your enquiry focus fit in? You can select more than one

☐ Classroom

☐ Co-curricular

☐ Pastoral

☐ Other: _____

Are you aware of any other members of staff who wish to investigate a similar theme to you? Is there anyone or a group of people you have already discussed working with? If so list their names below.

Your answer _____

There is the potential for a learning community forming where the focus is the application of Peardeck as this is a digital priority for this academic year, do you want to join the group investigating its use?

☐ Yes

☐ No

Which of the areas of development from the T&L policy do you think your topic relates to? (These are applicable in the classroom, co-curricular and pastoral)

☐ Teaching differentiated to support, challenge and stretch all learners

☐ Teaching and learning informed by assessment

☐ Teaching and learning focused on communication and collaboration

☐ Teaching and learning which encourages inquiry and higher-order thinking

☐ Teaching and learning to develop autonomy and resilience

☐ Teaching and learning relevant to the real world

Any other comments or questions?

Your answer

Submit

Clear form

Example slides from the R&D Launch presentation given at the Secondary School

White Paper 2013

‘There is a huge prize waiting to be claimed by teachers. By collecting better evidence about what works best, and establishing a culture where this evidence is used as a matter of routine, we can improve outcomes for children, and increase professional independence’

Goldacre B. (2013) Building Evidence into Education, DfE, London

White Paper 2016

‘it is not yet as easy as it should be for teachers to find and use evidence to improve their teaching practice because the evidence base is patchy, difficult to access or to translate into action. Too little research is directly driven by the priorities of teachers and schools; too little is sufficiently robust in quality’

DfE (2016) pg 39

Structures of the R&D folders

The folder for the R&D group focusing on Growth Mindset in year 1 of the R&D Programme

- ▼  Growth Mindset
 -  How to Guides
 -  Literature
 -  Logbooks
 -  Posters
 -  Question banks
- ▼  Sessions Overviews
 -  Session 1
 -  Session 2
 -  Session 3
 -  Session 4
 -  Session 5
 -  Session 6

Year 2 shared folder structure for all practitioners

- ▼  2019-2020
 -  1. Session 1 _ 2 - Ask and Investigate
 -  2. Session 3 _ 4 - Implementation and Monitoring Impact
 -  3. Session 5 _ 6 - Reflect and Evaluate
 -  4. Ideas Fair
 -  5. Learning Communities
- ▼  Previous Projects
 - ▼  Previous Projects
 -  2017-2018
 - ▼  2018-2019
 -  Concept-Based Learning
 -  Effective Data Tracking
 -  Effective Questionning
 -  Gender
 -  Growth Mindset
 -  Handwriting
 -  Marking and Feedback
 -  Metacognition and Visible Thinking
 -  SEND
 -  STEM

Year 2 folder structures for each session

- 1. Session 1 _ 2 - Ask and Investigate
- ▼ 2. Session 3 _ 4 - Implementation and Monitoring Impact
 - 1. Data Collection Tools
 - 1. Literature
 - 1. Participant resources to help those start to evaluate or measure the impact of their strategy
 - 1. Participant resources to help those still yet to decide or implement their strategy
- ▼ 3. Session 5 _ 6 - Reflect and Evaluate
 - ▼ 1. Output templates
 - 1. Template for Journal Article
 - 1. Template for Presentations
 - 1. Templates for Posters
- ▼ 4. Ideas Fair
 - 1. Journal Articles
 - 1. Posters for printing
 - 1. Presentations

Example of individual Learning Community Folder Structure

- ▼ 5. Learning Communities
 - Assessment - design and impact
- ▼ Assessment - effective feedback
 - Action Plans
 - Initial thoughts and exploratory questions
 - Reading
 - Session PPTs
 - Co-Curricular
- ▼ Culture _ Learning - team, house _ co-curricular
 - Reading
- ▼ Digital
 - Session 1 _ 2
 - Sessions 3 _ 4
 - Sessions 5_6
 - Gender
- ▼ Literacy, Oracy and Differentiation
 - Reading and research material
 - Research
 - Middle Leadership
 - Reading
 - Relationships - student-teacher, form, coaching
 - Resilience, Mental Wellness _ Student Autonomy
- ▼ Student self reflection _ metacognition
 - Bio spiral curriculum
 - Chess team
 - Member 2
 - Member 3
 - Member 4
 - Memeber 1
 - MfL
 - MISC RESOURCES
 - PE
 - Psych team

Template presentations

Example of slides from sessions 1 & 2 – I am limited in what I can reproduce here as some of the materials were co-developed with the external provider who did not provide permission for their reproduction in this thesis.

Early information about your practitioners

Prior to your first session read through the information on your group provided by the R&D Team.

You could find literature or resources based on the topics highlighted and save it in your R&D group folder found [here](#)

But there will be support from the external provider and the school R&D team between sessions.



Practitioner Enquiry Sessions 1 & 2

Aims of these two sessions:

What's the point of a practitioner enquiry and how does it work?

Becoming a Learning Community

Refining your Enquiry

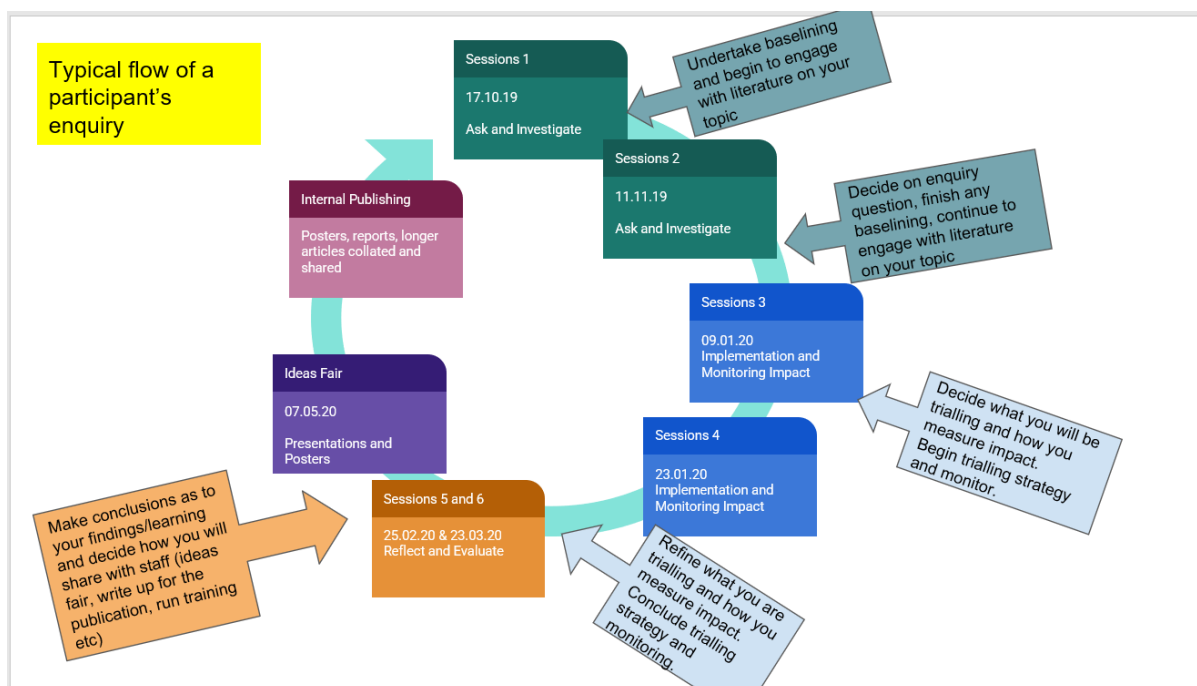
Exploratory Question - for baseline

Evaluative Question - for measuring impact

Deciding what baseline methods you will use

Refining your enquiry question





Investigate –by session 3 (9th Jan 2020)

Collect baseline data

Draw on sources readily available to you *and*

Devise at least one other method to gather data from the following list:

- focussed observations (pupils / adults)
- interviews (unstructured /structured)
- questionnaires (colleagues / pupils / parents / others)
- video / audio
- reflections on classroom practice
- analysis of pupils' work

Read at least one piece of literature about your issue, if you are unsure where to find this ask the R&D Team.



Worked examples

Turning your exploratory question into an enquiry question (evaluative)

To what extent does **[input variable]**, implemented for **[duration of intervention]**, improve **[outcome variable]** among **[target group of pupils]**?

To what extent does random selection of students to answer questions, implemented for a term, improve student knowledge test scores among underachieving year 8 boys?

To what extent does an increase in silent thinking time, implemented for a term in every lesson, improve student participation in question answering among year 7 that typically do not contribute?

To what extent does the use of growth mindset language by the coach during halftime breaks, implemented for a term, improve the chance of victory when the U14B netball team is losing at halftime?

Further examples of RQs

To what extent does Dough Disco, used once a week for a term improve hand dominance (for handwriting) for Nursery children?

To what extent does using a pen, implemented for a term improve cursive writing for Year 3 children?

To what extent does the development and promotion of house identity, over the course of an academic year, improve pupil engagement with the house system?

Worked Example 1...

Initial thought: I don't think the students in my science classes are very good at concluding and evaluating experiments

Narrowing it down: I will look at one class of year 9s over a period of 2 terms, I will look specifically at written conclusions and evaluations of experiments

Exploratory Research Question: How good are year 9s at writing experiment conclusions and evaluations?

Baseline: I need to establish what skills they already have in this area therefore for the next experiment I do with the class I will ask them to write a conclusion and an evaluation of the experiment as best as they know how. In consultation of the curriculum I will look at what is expected of GCSE level students when writing conclusions and evaluations. I will take a top middle and bottom sample of the classes written experiment conclusions and compare them to the success criteria outlined in the curriculum

Worked Example 1 continued...

Observations from baseline: The students did not meet much of the criteria for a good experiment conclusion and evaluation. After thinking how I could help them to improve this, I have decided that I will try to devise a rubric which outlines the success criteria so that the students can follow it to help them write better evaluations and conclusion. I think this could also be a good opportunity to help develop the higher order thinking skills of the students.

Evaluative Research Question: To what extent does the use of a rubric to guide written experiment conclusions and evaluations, over the course of 2 terms, improve the quality of work produced and promote higher order thinking skills among year 9s?

Next Step: Design the rubric

Worked Example 2...

Initial thought: I think it is very rare that a sports team will turn around a match once they have begun to lose it.

Narrowing it down: I will look specifically at my U14B netball team over the course of the netball term.

Exploratory Research Question: How good are sports teams at turning around a match which they are losing at half time?

Baseline: I need to find information on how often teams turn around a match which they are losing at half time. I could do this by looking at match results from last year. If this isn't possible I could ask coaches of other teams (they don't have to be just netball teams) to keep a record of how often their teams will be losing at half time but then go on to win.

Worked Example 2 continued...

Observations from baseline: I asked the sports coaches to keep a record over 2 weeks of how often matches were turned around when a team was losing at half time. Across all the different sports, it was seen that X out of X matches which were being lost at half time were turned into a victory by full time. I want to see if over the upcoming netball term, by using growth mindset language and set motivational phrases during my half time talks, I can get a better success rate with my U14B netball team.

Evaluative Research Question: To what extent does the use of growth mindset language by the coach during halftime breaks, implemented for a term, improve the chance of victory when the U14B netball team is losing at halftime?

Next Step: Design growth mindset motivational phrases to be used at half time

Differentiated resources

Where are you at?

Group 1: I have my research question and need to collect baseline data

Group 2: I have my baseline data and need to analyse it and design my innovation

Group 3: I have designed my innovation and now need to collect or analyse my data on its effectiveness

Group 1 - baselining

Have a look at [this table](#) for methods of collection of baseline data.

Which do you think are good for your questions, why?

Which do you think won't work for your question, why?

Can you now design a data collection tool to get more information about what you intend to investigate

Engage with research: is there any literature in your group folder which could be of use to you? Can you find anything online?

Have a little read now!

Group 2 - innovating

You have gathered some data to give you a more informed idea about the phenomenon you are studying.

Can you analyse this data further? What is it telling you?

Can you now pinpoint more clearly the issue you wish to address?

Use this time now to design a new way to address this issue.

Engage with research: is there any literature in your group folder which could be of use to you? Can you find anything online?

Have a little read now!

Group 3 - measuring impact

You have designed your innovation, you may have started using it in your professional practice. But is it working?

Have a look through [these data collection resources](#). Can you adapt any of them to use to measure the impact of your innovation? If so, do that now!

Think of the kinds of data these tools will generate, will it be manageable? How will you analyse that data? (we will look at this more in the next 2 sessions)

Engage with research: is there any literature in your group folder which could be of use to you? Can you find anything online?

Have a little read now!

NFER 'How to' guides

The following guides were provided.



How to develop a questionnaire survey



How to plan your research



How to run a randomised control trial



How to run action research



How to run qualitative and quantitative research



How to use focus groups



How to write up your research

An extract from the 'How to develop a questionnaire survey' is given here as an illustrative example. National Foundation for Educational Research (2014). How to... Develop a questionnaire survey: Ask the right questions (How to Guides). Slough: NFER

Develop a questionnaire survey

2

This *How to guide* provides an introduction to developing a self-completed questionnaire survey. It is intended for senior leaders, teachers and other school staff who are interested in carrying out research using questionnaires.

What is a questionnaire survey?

As discussed in greater depth in 'How to... Run qualitative and quantitative research: From definitions through to analysis' (www.nfer.ac.uk/publications/RESM03), the terms 'survey' and 'questionnaire' are often used interchangeably. Figure 1 below provides a definition of each.

Figure 1 Definitions

A **questionnaire** is a set of questions that you ask respondents

A **survey** is a systematic way of collecting information from individuals or groups

Surveys can include questionnaires among other methods e.g. face-to-face interviews or observations.



Why do a questionnaire survey?

Questionnaire surveys offer a systematic way of collecting information from individuals and groups. They are the main method used in quantitative research. They provide an efficient way of collecting views and information from a wide range and large number of people about a topic in broad terms. Questionnaire surveys collect hard, factual data that is analysed and presented using numbers (often percentages). They can help ensure researcher bias is kept to a minimum, compared with qualitative methods, and the findings can often be generalised to a specific group (or 'population').

Questionnaire surveys can be useful within schools as they offer a relatively quick and easy way of collecting information from a whole group, such as a class, a year group/s, staff or parents/carers.

Ethical considerations

As with any research, ethics need to be considered throughout the project, from planning to completion. When undertaking research within your own school, staff should perhaps be even more mindful of ethics to ensure that the research:

- will not cause harm or distress to any participants
- abides by legal frameworks.

Notes



Example literature

As first appeared in Education Week on Sept 23, 2015. Reprinted with permission from the author.

COMMENTARY

Carol Dweck Revisits the 'Growth Mindset'

By Carol Dweck

For many years, I secretly worked on my research. I say “secretly” because, once upon a time, researchers simply published their research in professional journals—and there it stayed.

However, my colleagues and I learned things we thought people needed to know. We found that students’ mindsets—how they perceive their abilities—played a key role in their motivation and achievement, and we found that if we changed students’ mindsets, we could boost their achievement. More precisely, students who believed their intelligence could be developed (a growth mindset) outperformed those who believed their intelligence was fixed (a fixed mindset). And when students learned through a structured program that they could “grow their brains” and increase their intellectual abilities, they did better. Finally, we found that having children focus on the process that leads to learning (like hard work or trying new strategies) could foster a growth mindset and its benefits.

Journal of International Education Research – First Quarter 2015

Volume 11, Number 1

Fixed And Growth Mindset In Education And How Grit Helps Students Persist In The Face Of Adversity

Aaron Hochanadel, MBA, Kaplan University, USA
Dora Finamore, EdD, Kaplan University, USA

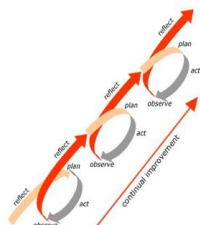
ABSTRACT

Students face a wealth of challenges in college for example a lack of support, sometimes making it difficult to persevere. However, in an academic environment that teaches grit and fosters growth, students can learn to persist. Those who believe intelligence is fixed and cannot be changed exert less effort to succeed. Students who persevere when faced with challenges and adversity seem to have what Angela Duckworth calls, grit. This is the idea behind a growth mindset in learning according to Dweck (1999, 2007, 2010) and Duckworth, Peterson, Matthews, and Kelly (2007). Grit can be defined as “...passion and perseverance for long-term goals...” (Frontiers In Psychology, 2014). One grit effect study was conducted in collaboration with the U.S. Army and the University of Pennsylvania to create predictors of retention.

The purpose of this present work is to explore researched competencies related to persistence in reaching academic goals, review literature in grit and growth mindset related to learning and persistence, and examine what educators can do to foster grit and a growth mindset. Recommendations for increasing persistence and grit in college students will be provided.

Logbook

ACTION RESEARCH LOGBOOK



Research Question/area for improvement:

Target Class/Area:

CYCLE 1

Plan (including a way to measure the impact of your intervention):

Observations:

Student Feedback:

CYCLE 2

Re-plan:

Observations:

Student feedback:

CYCLE 3

Re-plan:

Observations:

Student Feedback:

CYCLE 4

Re-plan:

Observations:

Student feedback:

CONCLUSION/ EVIDENCE OF IMPACT:

Example question bank

Student feedback - you can substitute 'the implementation' with whatever it is that you are doing. You may want to use a 1-5 scale for these questions but make sure you specify what each number stands for. You may want to let the students give long answer questions. You can use a scale with long answer questions to get both qualitative and quantitative data.

- Do you think your work has improved as a result of the implementation?
- How do you feel about the implementation?
- How often do you use/refer to the implementation?
- How useful do you find the implementation?
- How much progress do you think you have made?
- How happy are you with your progress?
- Is there any other feedback you want to give?
- Is there one aspect of the implementation you find particularly helpful?
- Is there one aspect of the implementation you find particularly unhelpful?
- Do you find the implementation helps you with collaboration?
- Do you find the implementation helps you share your ideas?
- Do you think the implementation helps with your organisation?
- Do you feel the implementation is an effective use of time?
- Does the implementation impact upon your interest in the subject? How?
- Does the implementation impact upon how you complete work at home? How?

Posters

Highlighting STEM links in the curriculum

Dr X¹ and Dr X²

1. Department of Chemistry 2. Department of Biology

Introduction

It is often challenging for young people to see links between what they learn in different subjects in school. It can be harder still to make connections between the knowledge, skills and facts learnt and how these can lead to the innovations surrounding them in life. Virtually all careers now require some STEM skills, yet many young people choose to stop studying these options too soon¹. We wished to see if making explicit links between different STEM subjects made the subject more enjoyable for our pupils and whether it made it easier to start making their own connections.

Method

Students in Y3 (76 respondents) were polled to find general attitudes and opinions of the year group population.

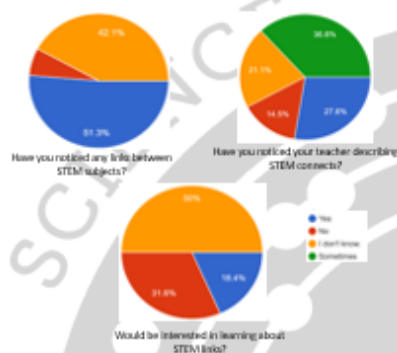


Figure 1. Colated responses (76 participants) to questions on Google Form: 'Have you noticed STEM links?', 'Have you noticed your teacher promoting STEM links in lesson?' and 'Would you be interested in learning about STEM links?'.

Several classes were then targeted for the study (40 Y3 + Y4 respondents). A conscious planned effort was made to highlight connections between either different STEM subjects or the subject and relevant everyday applications during lesson time.

Results

After a term of sharing examples of STEM connections in class the students gave feedback, which is represented in Figure 2, below:

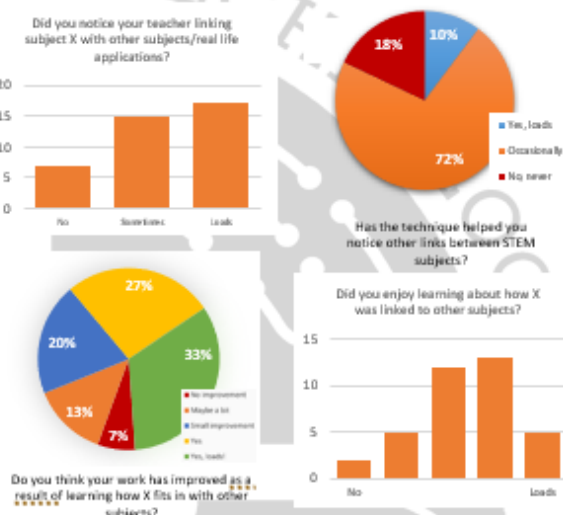


Figure 2. Colated responses (40 participants) to questions on Google Form: 'Have you noticed STEM links?', 'Have you noticed your teacher promoting STEM links in lesson?', 'Did you enjoy learning about STEM links?' and 'Did your work improve due to learning about STEM connections?' (where X represents Chemistry or Physics).

Conclusions

It is surprising that only 82% (not 100%) of students in the study were aware of the teacher linking the subject with other subjects/life applications – especially as the teacher herself deliberately planned to integrate this knowledge into lessons regularly over the term. Perhaps there is a further barrier to remembering these connections, such as teacher-class relationship, mental state on the day, interest in subject, preconceived notions about the subject's relation to the pupil and their everyday life etc.

82% of pupils felt that knowing about links between subjects helped them notice links in other classes, in comparison to 51% before. We can conclude then that making the students aware of some connections allowed them to begin making their own connections.

Finally, pupils 70% of pupils felt that knowing how the subject connects to others allowed them to improve their own work. The majority of pupils enjoyed learning about links between subjects, with data falling in a positively skewed distribution.

Overall, planning to integrate these links was a pleasant experience for the teacher, and appeared to have a positive effect on the students in the study.

Further Work

Data reflected differences in response to the technique between classes and year groups – it would be interesting to attempt to isolate some of the factors that caused differing responses.

It would be of interest to investigate if sharing the relevance of different STEM subjects in the class increases the students' general opinion of the subject, and what the effect would be on the uptake of STEM subjects to A-level and higher education.

Our thanks to all the students who took the time to respond to the Google Form surveys, and to our classes for their patience and cooperation.

1. Fregeid, P. (2012) Working together: Making STEM happen in secondary schools [Online]. Available at <https://wellcome.ac.uk/files/default/files/making-stem-happen-in-secondary-schools-wellcome-2012.pdf> (Accessed: 13 May 2019)

Effective Tracking Research and Development

What impact do specialised Google Sheets tracking procedures have on student attainment?

Mr. XX

Introduction

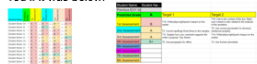
Tracking is often viewed by teachers as useful for themselves; it means they have markbooks ready for half termly reporting of grades for the parents. If it is simply for record keeping, there is no measurable impact on the student and therefore a waste of time. A 2018 Department for Education report highlights the importance of this, questioning 'who will see and use this data, is it relevant to their role and do they understand how the data relates to the possible intended actions?' (2018, p.5). The emphasis is clearly on the value of the data and more importantly how it will be used. As the primary stakeholders, the students themselves should be the main beneficiaries of tracking and therefore whatever is implemented should involve them directly.

Secondly, tracking is not all about simply allocating grades; Black and William emphasise that 'the giving of marks and the grading function are overemphasized, while the giving of useful advice and the learning function are underemphasized' (1998, p.4), therefore if this can in some way be intertwined with the system, it would be effective.

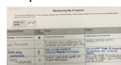
Finally, as 'overproduction and misuse of pupil attainment information can cause unnecessary and unsustainable workload' (DFE, 2018, p.9). It is important to avoid the burden of making the workload impossible and if anything, reducing this is the objective.

Method

The most accessible, shareable and manipulable option was Google Sheets, as this could be crafted in order to suit exactly what was needed. Initially, the main focus was on creating a data tracking system which 'attempts to maximize effectiveness and equity, the results should benefit students at all levels of ability' (Hallinan, 1994, p.84). This meant establishing target/predicted grades based on the current level of the work, the previous year's assessments and MidYIS test results. It was established after the first full assessment. If a student met their target grade, the colour would appear as green, if met, it would be amber and red if it was below.



On consideration, of Black and William's emphasis on advice and improvement, the coded marking that was being used in classroom was adapted to this medium and therefore could be revised and checked by both the teacher and student and mean it was easier to communicate with parents about areas for improvement. In addition, students kept a copy of this in their books. This also meant they tracked their progression and targets for improvement.



Results

An initial survey of all 1st Years at the beginning of the academic year gauged how well students had, in the previous year, gauged their progress and their improvement between assessments.

Only 13.9% understood what their target grade was in English. Only 66% understood what they needed to improve between assessments to improve their result.



Third Term Survey

All students now understood their target grade and more importantly, 97.6% now knew what they needed to do to improve towards their target grade.



Students mentioned that it was nice to 'have all the targets in one place to see before the assessments.' In addition, one student highlighted how it was useful for 'showing my parents and for them to help me improve on my targets.' This showed that there was a clear interaction with targets and understanding of how to use them for effect. As well as this the pupils liked 'something to aim for' as it motivated them to want to hit the grade that had been set.

Conclusion

Research shows that this had an impact on students and their development. Whilst not statistical evidence, as a pilot class was not used and compared, it was clear that students better understood how to progress and they had a clear track to follow.

However, there is still room to develop the procedures. In particular, as Hallinan notes 'periodic evaluations of the distribution of achievement in tracks and a policy of re-assigning students to different tracks, when appropriate, should ensure a good fit between students' abilities and the level of instruction.' (Hallinan, 1994, p.82). This means better systems for updating and keeping a record of predicted grades would allow for more flexibility in terms of truly customising this on a regular basis to specific students.

Moreover, it seemed logical to use the target codes to create the feedback for students so as not to double up on this workload. This was also supported by positive comments to create a new sheet which would automatically produce teacher feedback after assessments. This produces this teacher feedback which can be glued onto the front sheet.



The next step is to evaluate the effectiveness of this new system over the next year and of course consider how it can be improved.

Presentations

Project Title

Researcher Name(s)

1

What we did...

Give a brief overview of your method

What was your starting point? What were you thinking?

What did you learn from your baseline data?

How did you design your innovation/change to your professional practice?

What were you trying to achieve?

2

Impact & how you know?

How did you monitor the impact of your innovation or change to your professional practice?

What data/evidence did you collect?

Do you have any good visuals of you data you can post here?

3

Links to research

What does the existing research body say about your area of interest?

Does the existing research support or contradict you findings?

Were they any particularly pertinent pieces of literature you read?

Are there any quotes from the literature you could include here?

4

Where will your project go next?

What have you learnt?

Will you continue with your innovation/change to your teaching practice?

Will you look to further improve your innovation?

Could you take your findings to the next level? Present them to your department/SLT to try and inform our department/school policies?

5

References

Include a list of any sources you have used

6

Checklist:

Make sure all student names are anonymised
 Make sure all images included are high resolution and clearly captioned
 Make sure you have proofread your article

Suggested layout:

TITLE OF ARTICLE

Author 1, Author 2, Author 3

Departments

ABSTRACT: max 200-word summary of your R&D project

INTRODUCTION:

How did you come to your topic?
 Why is it of interest to you?

REVIEW OF LITERATURE:

What have you read that has further informed you about your topic?
 Can you add in any pertinent extracts from the literature?
 Have you read anything which has changed your opinion on the matter?

METHODOLOGY:

Describe your baseline assessments and findings
 State your research question and focus group
 Describe your innovation/change to your practice (include images?)
 How did you measure the impact of your change?
 What data collection tools did you use?

FINDINGS:

What did you find?
 Add in any relevant data
 Add in any relevant graphical representations of your data
 Include both qualitative and quantitative data

CONCLUSION:

Summarise your findings
 Are they supported by the existing research/how do they link to your lit review?
 Comment on the confidence you have in your research
 Address any limitations

NEXT STEPS:

What do you think could happen next with your findings?

REFERENCES:

Include bibliography

Template for marketplace task

[illegible]

Template emails for facilitators to use and adapt

Example 1:

‘Many thanks for all your great input and ideas in our first R&D session. In our second session, which is on Monday 11th Nov 4-5pm, we will carry on refining our focus and establishing what baselining each of you will do and how you can use this to create an accurate understanding of your chosen focus. Please do let me know if you would like support sourcing useful literature as I, and the R&D team, can help with this.

Refreshments again will be available from 3.50pm.

Looking forward to seeing you all on Monday.’

Example 2:

‘Dear All,

As a Learning Community, we have made an exciting and productive start to our various projects. It has been great to work with you all over the last term and we are looking forward to seeing how our projects progress over the coming term. We will be meeting in the first week back on the 9th Jan in room XXX. Between now and then, please do send through a list of any resources or literature you may need.

Have a wonderful Christmas break and see you all in the New Year.’

Example 3:

‘Dear All,

It has been a while since we last met but we are keen to ensure that the excellent work we have carried out this year is fully celebrated!

As such, please join us for a remote R&D catch up on Monday 18th at 4.10pm. The Zoom link is attached.

There is no need for you to prepare anything (other than a cup of tea). We will simply be letting you know the revised date for the Ideas Fair, the ways in which you can present your findings and asking for some feedback on the programme this year.

We look forward to seeing you then.’

H. Ethical consent forms for the case study of the R&D Programme

School of Education Ethics Committee Approval



Shaped by the past, creating the future

28/07/2017

Sophie St Clair Jones
s.a.st-clair-jones@durham.ac.uk

Dear Sophie,

How can in school professional development programmes be made more impactful?

I am pleased to inform you that your ethics application for the above research project has been approved by the School of Education Ethics Committee.

May we take this opportunity to wish you good luck with your research.

Yours sincerely,

A handwritten signature in black ink that reads "Nadin Beckmann".

Dr Nadin Beckmann
School of Education Ethics Committee Chair

I. Questionnaires administered during the case study of the R&D Programme

Blurb for participant information and consent which prefaced all questionnaires administered solely for the purpose of collecting data for my thesis

Data from this survey will be used for a research project by Sophie St Clair Jones in conjunction with Durham University. All data collected will be kept confidential and be password protected. In any research reports published, no information will be included that will make it possible to identify you individually. It will not be possible to connect your name to your responses at any time during or after the study. You may decline to answer any questions or withdraw your data from the study without penalty of any kind at any stage. General themes which emerge from this data may be shared with practitioners of this school but no individual data sets which may be traced back to one individual will be available to anyone beyond the researcher. Your data will be destroyed after 6 years in compliance with GDPR guidelines. By clicking submit at the end of this questionnaire you agree that you have read and understood your role and rights in this study.

Baseline questionnaire - 10th September 2018, n = 155

1. What is your job role?

- Classroom teacher
- Middle leader (e.g. head of dept, Deputy Head of dept/year, subject or curriculum area leader, key stage leader, pastoral leader)
- Senior leader
- Other...please specify

2. How long have you been in the teaching profession?

- 30 years or more
- 20-29 years
- 5-9 years
- 1-4 years
- NQT or trainee teacher

3. To what extent do you consult the following sources when deciding on your approaches to support pupils' progress?

	A lot 1	A little 2	Not at all 3
Pupil performance data	☐	☐	☐
External organisations (e.g. academy chain, local authority, DfE or Ofsted)	☐	☐	☐
Articles, reports, books or summaries based on academic research (paper or web based)	☐	☐	☐
Articles, reports, books or summaries based on teacher experience (paper or web based)	☐	☐	☐
Information gathered through training/CPD	☐	☐	☐
Online evidence platforms or databases (e.g. the Sutton Trust Teaching and Learning Toolkit)	☐	☐	☐
Guidance from exam boards	☐	☐	☐
Colleagues within my own school	☐	☐	☐
Colleagues in other schools	☐	☐	☐

4. How easy do you find it to understand information that these sources provide about how to support pupils' progress?

	Very easy 1	Quite easy 2	Not very easy 3	Not at all easy 4	I don't use this source 5
Pupil performance data	☐	☐	☐	☐	☐
External organisations (e.g. academy chain, local authority, DfE or Ofsted)	☐	☐	☐	☐	☐
Articles, reports, books or summaries based on academic research (paper or web based)	☐	☐	☐	☐	☐
Articles, reports, books or summaries based on teacher experience (paper or web based)	☐	☐	☐	☐	☐
Information gathered through training/CPD	☐	☐	☐	☐	☐
Online evidence platforms or databases (e.g. the Sutton Trust Teaching and Learning Toolkit)	☐	☐	☐	☐	☐
Guidance from exam boards	☐	☐	☐	☐	☐
Colleagues within my own school	☐	☐	☐	☐	☐
Colleagues in other schools	☐	☐	☐	☐	☐

5. What does the term 'evidence based teaching' mean to you? Please select up to THREE boxes that best describe your understanding of the term.

Conducting action research and applying the learning	☐	1
Learning from colleagues and applying the learning	☐	2
Applying Ofsted or DfE guidance	☐	3
Using an online evidence platform/database (e.g. Sutton Trust Toolkit) and applying the learning	☐	4
Applying exam board guidance	☐	5
Combining academic research evidence with my professional expertise	☐	6
Using pupil performance data to track pupil progress and plan ahead	☐	7
Applying the recommendations of an external supplier	☐	8
Reading and applying information from academic research or from working with researchers	☐	9
Learning from external consultants, trainers or advisors	☐	10
I don't know	☐	11

6. This question aims to find out how (if at all) you use research information in your work. By 'research' we mean information from books, reports, articles, summaries, training or events that is BASED ON ACADEMIC STUDIES. Please indicate the extent to which you agree or disagree with the following statements.

Please indicate the extent to which you agree or disagree with the following statements. *(Please tick one box in each row).*

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
	1	2	3	4	5
Information from research plays an important role in informing my/our teaching practice	☐	☐	☐	☐	☐
I do not believe that using information from research will help to improve pupil outcomes	☐	☐	☐	☐	☐
I know where to find relevant research that may help to inform teaching methods/practice	☐	☐	☐	☐	☐
My school leaders/governors do not encourage me to use information from research to improve my practice	☐	☐	☐	☐	☐
I am able to relate information from research to my context	☐	☐	☐	☐	☐
Other staff in my school rarely use information from research to inform their teaching practice	☐	☐	☐	☐	☐
I feel confident about analysing information from research	☐	☐	☐	☐	☐
Information from research conducted elsewhere is of limited value to our school	☐	☐	☐	☐	☐
I use information from research to help me to decide how to implement new approaches in the classroom	☐	☐	☐	☐	☐

7. In the last academic year, how (if at all) have you used information from academic research to inform your practice?

I have not used information from academic research in the last year (please go to Q13) ☐ 1

Or, in the last year I have used information from academic research to:

discuss best practice with colleagues ☐ 2

reflect on my own practice ☐ 3

change classroom practice (this could be starting, developing or discontinuing an approach) ☐ 4

contribute to my own research/enquiry ☐ 5

influence colleagues to change their classroom practice (this could be starting, developing or discontinuing an approach) ☐ 6

improve my knowledge of a topic or subject ☐ 7

Progress and feedback questionnaire - 10th Dec 2018, n = 53

1. What do you understand the aims of the R&D Programme to be?
2. Have you implemented anything you have learnt/discussed during R&D sessions?
 - a. If yes, can you outline what you have tried?
3. Do you have any suggestions for how the R&D Programme could be improved?

Year 1 Outcomes Questionnaire - 4th June 2019, n = 116

Email address *optional*

1. In this academic year, to what extent did you consult the following sources when deciding on your approaches to support pupils' progress?

	A lot 1	A little 2	Not at all 3
Pupil performance data	☐	☐	☐
External organisations (e.g. academy chain, local authority, DfE or Ofsted)	☐	☐	☐
Articles, reports, books or summaries based on academic research (paper or web based)	☐	☐	☐
Articles, reports, books or summaries based on teacher experience (paper or web based)	☐	☐	☐
Information gathered through training/CPD	☐	☐	☐
Online evidence platforms or databases (e.g. the Sutton Trust Teaching and Learning Toolkit)	☐	☐	☐
Guidance from exam boards	☐	☐	☐
Colleagues within my own school	☐	☐	☐
Colleagues in other schools	☐	☐	☐

2. In this academic year, how easy did you find it to understand the information that these sources provide about how to support pupils' progress?

	Very easy 1	Quite easy 2	Not very easy 3	Not at all easy 4	I don't use this source 5
Pupil performance data	☐	☐	☐	☐	☐
External organisations (e.g. academy chain, local authority, DfE or Ofsted)	☐	☐	☐	☐	☐
Articles, reports, books or summaries based on academic research (paper or web based)	☐	☐	☐	☐	☐
Articles, reports, books or summaries based on teacher experience (paper or web based)	☐	☐	☐	☐	☐
Information gathered through training/CPD	☐	☐	☐	☐	☐
Online evidence platforms or databases (e.g. the Sutton Trust Teaching and Learning Toolkit)	☐	☐	☐	☐	☐
Guidance from exam boards	☐	☐	☐	☐	☐
Colleagues within my own school	☐	☐	☐	☐	☐
Colleagues in other schools	☐	☐	☐	☐	☐

3. What does the term 'evidence-based teaching' mean to you? Please select up to THREE boxes that best describe your understanding of the term.

Conducting action research and applying the learning	☐	1
Learning from colleagues and applying the learning	☐	2
Applying Ofsted or DfE guidance	☐	3
Using an online evidence platform/database (e.g. Sutton Trust Toolkit) and applying the learning	☐	4
Applying exam board guidance	☐	5
Combining academic research evidence with my professional expertise	☐	6
Using pupil performance data to track pupil progress and plan ahead	☐	7
Applying the recommendations of an external supplier	☐	8
Reading and applying information from academic research or from working with researchers	☐	9
Learning from external consultants, trainers or advisors	☐	10
I don't know	☐	11

4. This question aims to find out how (if at all) you use research information in your work. By 'research' we mean information from books, reports, articles, summaries, training or events that is BASED ON ACADEMIC STUDIES. Please indicate the extent to which you agree or disagree with the following statements.

Please indicate the extent to which you agree or disagree with the following statements. (Please tick one box in each row).

	Strongly agree 1	Agree 2	Neither agree nor disagree 3	Disagree 4	Strongly disagree 5
Information from research plays an important role in informing my/our teaching practice	☐	☐	☐	☐	☐
I do not believe that using information from research will help to improve pupil outcomes	☐	☐	☐	☐	☐
I know where to find relevant research that may help to inform teaching methods/practice	☐	☐	☐	☐	☐
My school leaders/governors do not encourage me to use information from research to improve my practice	☐	☐	☐	☐	☐
I am able to relate information from research to my context	☐	☐	☐	☐	☐
Other staff in my school rarely use information from research to inform their teaching practice	☐	☐	☐	☐	☐
I feel confident about analysing information from research	☐	☐	☐	☐	☐
Information from research conducted elsewhere is of limited value to our school	☐	☐	☐	☐	☐
I use information from research to help me to decide how to implement new approaches in the classroom	☐	☐	☐	☐	☐

5. In the last academic year, how (if at all) have you used information from academic research to inform your practice?

I have not used information from academic research in the last year (please go to Q13)	☐	1
Or, in the last year I have used information from academic research to:		
discuss best practice with colleagues	☐	2
reflect on my own practice	☐	3
change classroom practice (this could be starting, developing or discontinuing an approach)	☐	4
contribute to my own research/enquiry	☐	5
influence colleagues to change their classroom practice (this could be starting, developing or discontinuing an approach)	☐	6
improve my knowledge of a topic or subject	☐	7

6. This academic year
- Did you implement anything you learnt during the R&D Programme?
 - Yes
 - No
 - If yes, did you collect any evidence for the effectiveness of what you implemented?
 - Yes
 - No
 - If yes, could you briefly detail what that evidence was (e.g. student questionnaire, analysis of student data etc.)
7. Did you produce any of the following material for the idea's fayre?
- A presentation
 - A research poster
 - Other...
- If other, please detail what that was here...
8. How helpful or informative did you find each of these elements of the Ideas Fair

	Very helpful /informative	Helpful /informative	I have no feelings either way	Unhelpful /uninformative	Very unhelpful /uninformative
The verbal presentations	☐	☐	☐	☐	☐
The marketplace displays	☐	☐	☐	☐	☐
The shared Google sheet reflection task which was to be filled in as you went through the afternoon	☐	☐	☐	☐	☐
The department time	☐	☐	☐	☐	☐

9. Is there any further feedback you would like to give with regard to the R&D Programme or the Ideas Fayre?

Outcomes Questionnaire 18th May 2020, n = 65

1. What is your job role?

- Classroom teacher
- Middle leader (e.g. head of dept, Deputy Head of dept/year, subject or curriculum area leader, key stage leader, pastoral leader)
- Senior leader
- Other...please specify

2. How long have you been in the teaching profession?

- 30 years or more
- 20-29 years
- 5-9 years
- 1-4 years
- NQT or trainee teacher
-

3. How long have you been at Brentwood?

- 30 years or more
- 20-29 years
- 10-19 years
- 4-9 years
- 3 years
- 2 years
- 1 year

4. To what extent do you consult the following sources when deciding on your approaches to support pupils' progress?

	A lot 1	A little 2	Not at all 3
Pupil performance data	☐	☐	☐
External organisations (e.g. academy chain, local authority, DfE or Ofsted)	☐	☐	☐
Articles, reports, books or summaries based on academic research (paper or web based)	☐	☐	☐
Articles, reports, books or summaries based on teacher experience (paper or web based)	☐	☐	☐
Information gathered through training/CPD	☐	☐	☐
Online evidence platforms or databases (e.g. the Sutton Trust Teaching and Learning Toolkit)	☐	☐	☐
Guidance from exam boards	☐	☐	☐
Colleagues within my own school	☐	☐	☐
Colleagues in other schools	☐	☐	☐

5. How easy do you find it to understand information that these sources provide about how to support pupils' progress?

	Very easy 1	Quite easy 2	Not very easy 3	Not at all easy 4	I don't use this source 5
Pupil performance data	☐	☐	☐	☐	☐
External organisations (e.g. academy chain, local authority, DfE or Ofsted)	☐	☐	☐	☐	☐
Articles, reports, books or summaries based on academic research (paper or web based)	☐	☐	☐	☐	☐
Articles, reports, books or summaries based on teacher experience (paper or web based)	☐	☐	☐	☐	☐
Information gathered through training/CPD	☐	☐	☐	☐	☐
Online evidence platforms or databases (e.g. the Sutton Trust Teaching and Learning Toolkit)	☐	☐	☐	☐	☐
Guidance from exam boards	☐	☐	☐	☐	☐
Colleagues within my own school	☐	☐	☐	☐	☐
Colleagues in other schools	☐	☐	☐	☐	☐

6. What does the term 'evidence-based teaching' mean to you? Please select up to THREE boxes that best describe your understanding of the term.

Conducting action research and applying the learning	☐	1
Learning from colleagues and applying the learning	☐	2
Applying Ofsted or DfE guidance	☐	3
Using an online evidence platform/database (e.g. Sutton Trust Toolkit) and applying the learning	☐	4
Applying exam board guidance	☐	5
Combining academic research evidence with my professional expertise	☐	6
Using pupil performance data to track pupil progress and plan ahead	☐	7
Applying the recommendations of an external supplier	☐	8
Reading and applying information from academic research or from working with researchers	☐	9
Learning from external consultants, trainers or advisors	☐	10
I don't know	☐	11

7. This question aims to find out how (if at all) you use research information in your work. By 'research' we mean information from books, reports, articles, summaries, training or events that is BASED ON ACADEMIC STUDIES. Please indicate the extent to which you agree or disagree with the following statements.

Please indicate the extent to which you agree or disagree with the following statements. *(Please tick one box in each row).*

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
	1	2	3	4	5
Information from research plays an important role in informing my/our teaching practice	☐	☐	☐	☐	☐
I do not believe that using information from research will help to improve pupil outcomes	☐	☐	☐	☐	☐
I know where to find relevant research that may help to inform teaching methods/practice	☐	☐	☐	☐	☐
My school leaders/governors do not encourage me to use information from research to improve my practice	☐	☐	☐	☐	☐
I am able to relate information from research to my context	☐	☐	☐	☐	☐
Other staff in my school rarely use information from research to inform their teaching practice	☐	☐	☐	☐	☐
I feel confident about analysing information from research	☐	☐	☐	☐	☐
Information from research conducted elsewhere is of limited value to our school	☐	☐	☐	☐	☐
I use information from research to help me to decide how to implement new approaches in the classroom	☐	☐	☐	☐	☐

8. In the last academic year, how (if at all) have you used information from academic research to inform your practice?

I have not used information from academic research in the last year (please go to Q13) ☐ 1

Or, in the last year I have used information from academic research to:

discuss best practice with colleagues ☐ 2

reflect on my own practice ☐ 3

change classroom practice (this could be starting, developing or discontinuing an approach) ☐ 4

contribute to my own research/enquiry ☐ 5

influence colleagues to change their classroom practice (this could be starting, developing or discontinuing an approach) ☐ 6

improve my knowledge of a topic or subject ☐ 7

9. Has participating in the R&D Programme changed the way you feel towards educational research?

- Yes
- No

If yes, how?

10. Are you aware of the broader discussions surrounding the use of evidence in education within the teaching profession?

- Yes
- No

If yes, can you detail your understanding here...

11. Have you participated in any events relating to the use of 'evidence' in education outside of school?

- Yes
- No

If yes, can you detail here...

12. What do you feel the strengths of the R&D Programme have been this year?

13. How do you feel the R&D Programme could be improved for next year?

J. Interview schedules and participant information sheets for the case study of the R&D Programme

Interview Schedule - End of Year 1 (June/July 2019)

Topic Area	Questions
1. Interviewee background	Question 1: how long have you been teaching, how long have you been at Brentwood and what is your role in this school? Question 2: have you participated in in-school CPD prior to this academic year? Question 3: have you participated in out of school CPD prior to this academic year?
2. Past Experience of PD&PL	Question 4a: Can you tell me about your experience of CPD/professional learning prior to this academic year? Prompts: cover how they felt about it, if they felt it was relevant and useful, any specific examples Question 4b: how do you think other practitioners feel about CPD? What would the mood be like? Prompts: how do other people's opinions influence your own or your experience of CPD
3. Experience of R&D Programme	Question 5: Moving on to this academic year, prior to the first R&D session, what were your thoughts on the programme? Prompts: cover how they felt about starting it, if they understood what was expected of them, and concerns they may have had, any positive feelings/thoughts they may have had

	Questions 6: did your opinion of the programme change throughout the course of it? Question 7a: How many of the R&D sessions were you able to attend? Question 7b: did you trial anything you learnt in the R&D Programme? Is that something you think you would have done anyway. Questions 7c: if yes, did you evaluate it? How? Do you think this process was useful? How did you find the actual structure of the R&D session? Supportive enough? What was the group like and working in the group? Question 7d: Did you attend the Ideas Fayre? How do you feel about this element of our PD programme? Prompts: do they find it useful/ tokenistic? Do they think it is important or not? Do they enjoy it? Question 8: How has your experience of the R&D sessions compared to your other experiences of in-school CPD? Prompts: make links to previous comments they made Question 9: How do you see yourself engaging in this programme next year?

	Prompts: try to gauge interest in/attitude towards carrying out a research project or continuing their research project, if there is any increase in clarity of the programme, if they feel this will be helpful Important: What do you now understand the R&D Programme to be? What are its aims? How do you think your colleagues felt about the programme? ESP after the Ideas Fair
4. Understanding of the role of educational research in schools	What is educational research to you? Any idea of who the researcher should be? Or where the research should come from? Question 10: Do you consult educational research? If yes, how often? For what purpose? Question 11: What do you understand the role of educational research to be? Question 12: Do you find educational research easy to engage with? Question 13: Are there any barriers to your engagement with educational research? N.B. This section will be very open and very varied for each interviewee as it is anticipated that experiences of and attitudes towards research will be hugely varied.
5. What do they feel PD should be	Question 14: What do you feel the role/purpose of professional development is? Should be? Question 15: Do you think educational research has a role in in-school PD? If yes, what is that role?

	Question 16: If you were to structure an in-school professional development programme, how would you do it?

Notes:

Interview schedule - End of Year 2 (May/June 2020)

Research Question it relates to	Question	Notes/rationale
Background	How many of the R&D sessions did you attend this year? Were you a facilitator or a participant? Did you attend the Ideas Fair?	Only 5 out of 6 ran Facilitators were in charge of leading a group of staff through the programme and received training from the IoE Ideas Fair didn't happen, might happen at a later date
How do staff feel about this model of professional development?	What has your experience of the programme been this year? What differences have you noticed between the programme this year and the programme last year? What has gone better/ worse? Has your opinion changed from last year? Do you think the mood in the school has changed towards the programme this year? If yes, how? How do you think other practitioners have felt about the programme this year?	This section is very much semi-structure, and I aim to set up a relaxed atmosphere so that they can be open and honest with their feedback. I want to see if they bring up any changes in SLT buy-in and promotion of the programme as, in my opinion that has changed.
What are the barriers and enablers to implementing	Have there been any barriers/challenges to your	

this model for professional development?	engagement with this programme? Has anything helped you to engage with this programme? Anything different relating to these two things compared to last year	
Does this model make professional development more bespoke or relevant to staff?	What was the dynamic like in your learning community? Did you notice anything which the facilitators did to build a community? How was your relationship with other members of your learning community? Did it change over time? Did you feel involved in other people's projects was it all very separate? Did you trial anything during the course of the R&D Programme this year? If yes, what? If yes, did you evaluate it? How? Do you think this process was useful? Is that something you think you would have done anyway? How did you find the actual structure of the R&D session? Supportive enough? What about the input from the IoE? Did you attend the Ideas Fayre? How do you feel about this element of our PD programme? Prompts: do they find it useful/ tokenistic? Do they think it is important or not? Do they enjoy it?	This section will evolve differently for staff who were facilitators compared to staff who were participants.

	How do you see yourself engaging in this programme next year? Prompts: try to gauge interest in/attitude towards carrying out a research project or continuing their research project, if there is any increase in clarity of the programme, if they feel this will be helpful What do you now understand the R&D Programme to be? What are its aims?	
Does this model for professional development improve research engagement of teachers?	Has your relationship with educational research changed in the time you have been participating in the R&D Programme? If so, how?	This section will be quite reactive to what participants say.

Notes:

Interview Schedule for SLT - End of Year 2 (May/June 2020)

Research Question it relates to	Question	Notes/rationale
Background	Give a brief overview of what you know about them and then ask them to confirm Could you give a brief overview of your involvement with the programme, what is your role?	Only 5 out of 6 ran Facilitators were in charge of leading a group of staff through the programme and received training from the IoE Ideas Fair didn't happen, might happen at a later date
How do staff feel about this model of professional development?	What has your experience of the programme been this year? What differences have you noticed between the programme this year and the programme last year? What has gone better/ worse? Has your opinion changed at all throughout the year? Do you think the mood in the school has changed towards the programme this year? If yes, how? What about at an SLT level? How do you think other practitioners have felt about the programme this year? What about at an SLT level?	This section is very much semi-structure, and I aim to set up a relaxed atmosphere so that they can be open and honest with their feedback. I want to see if they bring up any changes in SLT buy-in and promotion of the programme as, in my opinion that has changed.
What are the barriers and enablers to implementing	What do you think the barriers/challenges to engagement with this programme have been?	

this model for professional development?	Prompt: ask on an SLT/implementation level as well as staff engagement What do you think has helped engagement with this programme? Prompt: ask on an SLT/implementation level as well as staff engagement Anything different relating to these two things compared to last year	
Does this model make professional development more bespoke or relevant to staff?	As you circulated, what was the dynamic like in the learning communities? Did you notice anything which the facilitators did to build a community? What were the differences between the groups running exceptionally well compared to the others? How did you find the actual structure of the R&D session? Supportive enough? What about the input from the IoE? Did you attend the Ideas Fayre? How do you feel about this element of our PD programme? Prompts: do they find it useful/ tokenistic? Do they think it is important or not? Do they enjoy it? What do you understand the R&D Programme to be? What are its aims? What challenges do you anticipate the programme will meet in the future? What do you think the next steps should be?	This section will evolve differently for staff who were facilitators compared to staff who were participants.
Does this model for professional development improve research	Has your relationship with educational research changed in the time you have been participating in	This section will be quite reactive to what

engagement of teachers?	the R&D Programme? If so, how?	participants say.

Notes:

Interview Schedule for external provider - End of Year 2 (May/June 2020)

Research Question it relates to	Question	Notes/rationale
Background	Just to start with, in your words, can you give an overview of your role in the R&D Programme at Brentwood?	Only 5 out of 6 ran Facilitators were in charge of leading a group of staff through the programme and received training from the IoE Ideas Fair didn't happen, might happen at a later date
How do staff feel about this model of professional development?	What has your experience of the programme been this year? How do you think staff have felt about engaging with the programme and your training? Both negative and positive.	This section is very much semi-structure, and I aim to set up a relaxed atmosphere so that they can be open and honest with their feedback. I want to see if they bring up any changes in SLT buy-in and promotion of the programme as, in my opinion that has changed.
What are the barriers and enablers to implementing this model for professional	What are the things that have made it easy for you to carry out your role at Brentwood?	Time, information, knowledge

development?	What are the things that have made it hard? Or things that you have found challenging? I am thinking about the project at Brentwood specifically but if helpful you are welcome to reference other schools you have worked in. either you can anonymise them or I will.	
Does this model make professional development more bespoke or relevant to staff?	What is the key message you are trying to convey in your training sessions? How well do you think staff have understood that? What enables them to understand well? What acts as a barrier to understanding? Are you able to make a comparison between your experience of the programme at the beginning of the year and at the end? What do you think the next steps for Brentwood should be? What advice do you have for me/us at this stage?	This section will evolve differently for staff who were facilitators compared to staff who were participants.
Does this model for professional development improve research engagement of teachers?	Models like this, obviously we met on the course that you run at the IoE and there were a number of different people from a number of different schools carrying out an R&D model in a number of different ways. 1. What do you define as a successful version of this model of professional development? What are successful outcomes? 2. Can you identify the factors that allow for this form of professional development to be successful? 3. Can you identify the factors which cause it to be less successful or to fail?	This section will be quite reactive to what participants say.

Notes:

Participant information sheet

Parts or all of the interview may be used as a data set in a research project by Sophie St Clair Jones in conjunction with Durham University. All data collected will be kept confidential and be password protected. In any research reports published, no information will be included that will make it possible to identify you individually. It will not be possible to connect your name to your responses at any time during or after the study by anyone other than the interviewer and the researcher. You may decline to answer any questions or withdraw your data from the study without penalty of any kind at any stage. General themes which emerge from this data may be shared with staff of this school but no individual data sets which may be traced back to one individual will be available to anyone beyond the researcher. Your data will be destroyed after 6 years in compliance with GDPR guidelines. By signing below, you are agreeing to the terms outlined above and declaring that you understand your role and rights in this study.

Name: _____

Signature: _____

Date: _____

