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# Evidence-Based Teaching: discourses of pedagogy and positionality

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University of Plymouth

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# UNIVERSITY OF PLYMOUTH

**Evidence-Based Teaching:**  
*discourses of pedagogy and positionality*

by

**Jacklyn Irene Barry**

A thesis submitted to the University of Plymouth  
in partial fulfilment for the degree of

**DOCTOR OF PHILOSOPHY**

School of Society and Culture

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Thank you!

## Author's Declaration

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Doctoral College Quality Sub-Committee.

Work submitted for this research degree at the University of Plymouth has not formed part of any other degree either at the University of Plymouth or at another establishment.

## Presentations at Conferences

'Evidence-Based Teaching Interventions: a critical discourse analysis of their impact on teachers' abilities to develop diverse pedagogies'

European Education Research Association Annual Conference (ECER) 2023

University of Glasgow

Tuesday, 22<sup>nd</sup> of August 2023

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University of Liverpool

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Signed:

A handwritten signature in blue ink that reads "Jacklyn T. Barry". The signature is written in a cursive style with a large initial 'J'.

Date: 07/12/2023

*...teachers are creative people, teachers are artists and if you take away all the chance, all the chances they have to be creative, you're just **creating robots who will create robots** and that's not really on is it? It's not why I'm here. It's not what I do. It's not what I do. (Lydia, Saint Margaret's)*

## Abstract

Jacklyn Irene Barry

### **Evidence-Based Teaching:** *discourses of pedagogy and positionality*

This critical discourse analysis (CDA) addresses the gap in research about teachers' identities in primary schools (Rushton *et al.*, 2023: 15). It does so by drawing upon aspects of Bernstein's theories of the pedagogic device to explore the impact of evidence-based training practices on teachers' positionalities in primary schools in one MAT in the South West of England. Using the prompt of brain-based interventions, how the use of research evidence might affect the ongoing development of teachers' pedagogies was explored.

Through interviews with 15 stakeholders in four primary schools, and a document analysis of ten resources related to the themes of Rosenshine's principles and mastery in mathematics, it was found that there is an inherent drive toward a consistency of teaching approaches. This preference is apparent in professional development training where there is a focus on actions rather than theory and where strategies are justified by drawing upon specific forms of research evidence. Teachers, in fulfilling the expectation that they adhere to the approaches derived from this evidence, evidence which has often undergone multiple recontextualisations, have little opportunity to develop multi-faceted or diverse pedagogies.

Moreover, when discussing evidence-based practice, practitioners are seen to make discursive choices to ensure that their language attends to the priorities of politicised educational discourse, a discourse which ultimately constrains and limits the pedagogical thinking teachers are able to engage with. Language choices not only reflect how teachers position themselves within their professional practice but ultimately see them redefining what it means to be a teacher.

As such, professional development practices impact teacher identity and, coupled with the changing landscape of ITT, could be laying the foundations for an ill-equipped and thus non-sustainable teaching workforce. This project concludes with the suggestion that, in light of these insights, those who support professional development practices should consider the implications of their training strategies to ensure that teachers are given opportunities to develop individual practices which are aligned with their contexts and their own personal professional development needs.

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## Abbreviations

AET	Autism Education Trust
ARE	Age-related Expectations
BERA	British Educational Research Association
CDA	Critical Discourse Analysis
CEO	Chief Executive Officer
CoG	Chair of Governors
CPD	Continuing Professional Development
DA	Discourse Analysis
DfE	Department for Education
ECT	Early-career Teacher
EEF	Education Endowment Foundation
ELSA	Emotional Literacy Support Assistant
ESRC	Economic and Social Research Council
HEI	Higher Education Institution
HLTA	Higher Level Teaching Assistant
ITE	Initial Teacher Education
ITT	Initial Teacher Training
MAT	Multi-academy Trust
NCETM	National Centre for Excellence in the Teaching of Mathematics
NPQ	National Professional Qualification
OECD	Organisation for Economic Co-operation and Development
Ofsted	Office for standards in education, children's services and skills
PD	Professional Development
PISA	Programme for International Student Assessment
PT	Precision Teaching
QTS	Qualified Teacher Status
SEMH	Social, Emotional and Mental Health
SEND	Special Educational Needs or Disabilities
SENDCo	Special Educational Needs or Disabilities Coordinator
SFL	Systemic Functional Linguistics
SLT	Senior Leadership Team
SSP	Systematic Synthetic Phonics
TA	Teaching Assistant

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# INTRODUCTION

## Motivation

The motivation for embarking on doctoral study is rooted in my experiences, experiences which, like Dewey, I believe are crucial in the production of knowledge and in the process of education (Pring, 2007).

I was a secondary school English teacher in the South West of England who had an atypical route into this profession. As an American, I was educated in the United States and earned my undergraduate degree in English from an Ivy League University. After three years of working in finance, I moved to England where I hoped to pursue a teaching career. Initially, this was quite difficult as, despite having graduated from a prestigious institution in the United States, my experience did not qualify me for a place on an initial teacher training course. This situation prompted my ruminations about acceptable forms of knowledge and their relation to experience.

After working as a teaching assistant, I was accepted onto a postgraduate certificate in education programme. However, those considerations about experience continued through my teacher training and subsequent master's in which I explored how strategies in packaged training products were intended to build student resilience. I found the use of such products could be problematic and questioned how the strategies were implemented. They were described as 'backed by scientific research' and as such their use was mandated and monitored. While some aspects were useful, others seemed to be counterintuitive. For me, the regulation of teacher pedagogy through the requirement to adhere to a prescriptive use of strategies was different to what I expected. As a result, I wondered whether this practice devalued teachers' professional knowledge, that which they gained through both training and their own experiences. This situation was particularly frustrating because I perceived the strategies to be misaligned with the needs of my students. I felt that my skills were undervalued when an intervention product was, in practice, being used to rigidly manage my classroom pedagogy.

My ongoing engagement with academic research, specifically through studying for my master's, suggests that I welcomed opportunities to develop my professional knowledge and teaching pedagogy. Engaging with the experiences of teachers who

had spent more time in the classroom than I had was, for me, valuable. However, I sat in training sessions where I was told exactly what the breakdown of my lessons would be, which words and images would be on the PowerPoint slides, and which language I should use to engage the learners, learners with whom I had spent time building relationships and garnering an understanding of their needs. In this situation, training was delivered to an entire secondary school of teachers with varying levels of experience who were teaching across different subjects, years, and abilities. Admittedly, that guidance could have been useful if it had been just that, guidance. Yet, these were not suggestions, as senior leadership would be conducting learning walks to ensure that all teachers were immediately performing these actions. I would have expected there to be some individuality in teacher pedagogy, a mixture of both training and experience which would allow the development of personal philosophies of teaching. This training felt directed at every level and did not allow teachers to use their prior knowledge, the relationships they had built with their students, or even the new training to tailor the implementation of strategies. In my view, it did not allow a teacher to take ownership of, or grow, their pedagogical strategies and had me questioning what it meant to be a teacher.

This example is of training in strategies which were meant to improve students' growth mindsets. However, research states that 'agency is an important aspect of growth mindset' (Hargreaves, 2020: 283), agency which was arguably taken away from teachers when interventions were implemented in this way. These concerns have been echoed in policy papers where it was noted that there was a fear that dictating narrow teaching behaviours would reduce teacher autonomy (DfE, 2021a: 12). As such, the 'limiting of professional autonomy' and the effects this has on teachers' identities (Steadman, 2023b: 179) deserves attention.

Teachers are members of a social group whose perceptions are affected by prevalent educational discourses. Ball, in discussing policy reform, explains 'it does not simply change what people, as educators, scholars and researchers do, it changes who they are' (Ball, 2003: 215). Their apparent value and subsequently their identities are constructed by the changing policies to which they must respond, policies which increasingly de-professionalize teachers (Hargreaves, 2013: 329). An anecdotal example of such de-professionalisation came from a friend who after twenty years in

education joked that she could not keep up with the constantly changing acronyms which, in her opinion, did not provide new pedagogical knowledge, just different ways of talking about what teachers already did. By having to adapt and change her discourse, she was continually placed in the position of lacking knowledge; as a result, 'these learning discourses took on a regulatory role, whereby individuals availed themselves to be trained and retrained' (Singh, 2014: 5). Some argue that there is a political climate where critical responses to policy are not encouraged (Hargreaves 2013: 342). If so, there are serious implications about the relationships between educational research, education policy and teaching practices, all of which ultimately affect how teachers perceive themselves and the work that they do. As such, an exploration into how specific types of research is engaged with and how that might influence teachers' actions and perceptions is warranted.

## Research Aim, Objective and Strategy

The aim of this project is to explore how the use of specific forms of evidence, that evidence which education policymakers continues to favour, coupled with a growing partiality to consistency of teacher pedagogy in England, positions teachers. The objective of this research is to garner an understanding of some possible impacts of evidence use on teachers which could inform decisions around future continuing professional development practices. While the ongoing evidence-based education movement makes this project broadly applicable, this research focuses on those practices within primary schools of a multi academy trust (MAT) and so has the specific intention, and practical relevance (Wodak & Meyer, 2016: 19), of informing training practices in those contexts. That said, in line with Biesta's views on educational research, the goal of this project is not prescriptive, it does not set out to tell practitioners what they should do and instead attempts to 'provide insights and understandings that can play a role in the deliberation and judgements they make in the concrete practices they are working in' (Biesta, 2020: 99). In response to the experiences that prompted this research, this objective is defined in order to avoid contributing to the perceived issue of generating knowledge that serves as a

mechanism for control (Biesta, 2020: 21) and ultimately intends to contribute emancipatory insights.

As thinking tools, I draw upon aspects of Bernstein's pedagogic device (Bernstein, 2003: 172), Biesta's notions of causality and complexity reduction (Biesta, 2020: 37), and Ball's considerations around accountability and performativity (Ball, 2003). These notions coupled with my own philosophical assumptions result in the strategy for this project being to conduct a Critical Discourse Analysis (CDA) in which I explore the wording in documents and how teachers speak to analyse how the recontextualisation of research evidence positions teachers. Of particular interest is the selection and use of 'brain-based' interventions (Geake, 2008: 123). This prompt serves as an instrument which allows me to probe two aspects of evidence use: the process by which scientific research makes its way into teaching pedagogy and the discourses around its use. Together these provide me with insights into how the ways in which research is used in schools might contribute to the construction of aspects of teachers' professional identities in England. Two methods were used to collect data: interviews with stakeholders in primary schools within one MAT in the South West of England and a document analysis of resources which are perceived by interview participants to be derived from research evidence.

## Research Questions

In considering the problem of how evidence use positions teachers, the following research questions were developed. Within a CDA methodology and following the selection of research methods which would yield insights about the issue, these questions were refined. Being a small-scale study, it was necessary to focus upon 'the details of speech or writing that were arguably deemed most relevant in the context' (Gee, 2014: 136), those which allowed me to critically explore the perceived issues surrounding evidence-use in primary schools.

The core questions were:

- What are the impacts on teachers' positionalities of training practices which are based on the use of evidence which has undergone processes of recontextualisation (Bernstein, 2000: 31)?
- How might the use of this type of evidence limit teachers' pedagogical options?

Questions which guided the interview stage were:

- How do participants discuss the use of evidence in their schools?
- How do participants discuss the use of interventions which are considered to be evidence-based, in particular 'brain-based'?
- How do participants discuss training about evidence-based interventions and how do they position themselves relative to that training?

The question which guided the document analysis was:

- How does the discourse in documents position teachers and how does this relate to interview participants' responses?

Throughout the project, I also attended to the following considerations:

- Why are my background and philosophies significant?
- How have my background and philosophies impacted each stage of this research project?
- Finally, why might it be beneficial to bring together theorists with different assumptions to explore the use of evidence in schools?

## Relevance of Researcher, Research and Rationale

From conception and design to data collection and analysis, it is apparent that my background and experiences have influenced this project. Particularly within a critical discourse analysis methodology where one's own positionality and interests are explicit (Wodak & Meyer, 2016: 4), my teaching background and various roles in education meant that I have been able to engage with the distinct communication specific to these contexts. In a study which employed aspects of Bernstein's pedagogic device to examine the transmission of power through discourse, knowing the

contextual rules has been paramount in understanding the 'local communication which the device made possible' (Bernstein, 2000: 26).

Also significant is that the rationale for undertaking this thesis is my own experiences with the use of research evidence to justify the implementation of teaching strategies. The role of experience in educational practice, particularly Dewey's theorisations (Dewey, 1938), are influential; these ideas are explored in chapter 3, however, here, what is notable is that I perceived the training I received about evidence-based interventions and how they were embedded into my teacher pedagogy to be problematic. This situation was especially significant, when I found that the theories on which that evidence-based practice relied had later been questioned, as was the case with designing lessons to suit learning styles (Kirschner, 2016) and other, at times more costly, interventions. As a teacher who experienced training about learning styles, was required to evidence how they were being addressed in every lesson, and then was told that they were being done away with, all in a relatively short period of time, the impacts of research use on teachers' practices, and subsequently their professional identities, was personally significant. For me, teachers' professional knowledge, particularly as it relates to their experiences, was undervalued. Not being allowed to tailor interventions caused feelings of 'deprofessionalization' and impacted my understanding of what it meant to be a teacher. I felt that teachers should have greater opportunities to make decisions about how to teach their students. If perceived by others, this could be a contributing factor to the concerning situation of poor recruitment and retention of teachers in England (Rowe, 2023: 115). The professional lives of teachers deserve attention (Daly, 2023: 160) and as such, understanding how best to use research evidence to support professional training and development is crucial.

## Thesis Structure

This thesis was structured to portray a linear narrative. The story, my own sort of bildungsroman, follows characters (theoretical concepts) through a particular context (the discourse of evidence-based policy) where decisions were made (research strategy and design) that both challenged them and prompted their growth (analysis and discussion). The structure is a fictitious representation of the thesis journey, one



which took far more twists and turns than any reader would endeavour to travel. If documented realistically, the plot would read like a 'choose your own adventure' story where the prompts and page directions had been redacted. Instead, selecting and presenting only the most pertinent considerations, is practical, some might even say pragmatic, which reflects both my philosophy and motivations for conducting research.

This thesis has the following chapters: an exploration of theoretical tools which focuses upon Bernstein's pedagogic device, Biesta's notions of causality and Ball's concepts of accountability and performativity; a literature review which explores pertinent themes around evidence-based practice; research theory and design outlining the project strategy; implementation of methodology which details the experiences and considerations which arose while conducting research; an analysis and discussion which links themes of evidence use to teachers' discursive choices; and finally, a conclusion which offers an overview of the findings, defines my contribution to knowledge and offers potential next steps for further research.

# 1. THEORETICAL TOOLS

To facilitate thinking about the use of research evidence in schools in England, Bernstein, Biesta, and Ball are called upon. Given that some of these concepts influence the overall focus and direction of this project, these ideas will precede the literature review. In so far as they are perceived to be useful, their ideas are employed to consider the context of teachers' professional development in England, to develop the project strategy, and to analyse and probe data. It is acknowledged that the theories themselves have multiple interpretations, all of which could not be examined in one piece of work, and so the following discussion outlines my interpretations of those ideas which I use to design this project, or which are brought forward to support data analysis.

## Bernstein's Pedagogic Device

In this section, Bernstein, and some aspects of the rules of his pedagogic device, with a specific focus on recontextualisation, will be discussed. Additionally, their relevance to, and use within, this research project will be outlined.

Bernstein was 'one of the best known and most influential of British sociologists' (Atkinson, 1985: 1), whose work with language codes examined 'the process of educational transmission' (Sadovnik, 1991: 53) and explored the ways in which pedagogic discourse could restrict access to knowledge and reinforce class structure. Bernstein, influenced by the work of Foucault (Bernstein, 2003: 165), recognised that the language used in education perpetuates systems of power relations and social control. He acknowledged that his work was 'highly abstract' (Bernstein, 2003: 9) so much so that 'many of his readers profess to find his ideas difficult, obscure and elusive' (Atkinson, 1985: 6) but explained that through them, he attempted 'to understand the outer limits and inner constraints of forms of pedagogic communication, their practices of transmission and acquisition, and the conditions of their change' (Bernstein, 2003: 9). He was interested in pedagogic communication because he believed that the theories he encountered were lacking in that they were

'more concerned with an analysis of what is reproduced in, and by, education than with an analysis of the medium of reproduction' (Bernstein, 2003: 166). His research showed that existing studies were 'less concerned with the question of how the distribution of power and principles of control establish a regulating discourse' (Bernstein, 2003: 167). According to Bernstein, this regulating discourse is the dominant discourse that 'reflects rules of social order' (Bernstein, 2000: 13). It is influenced by framing which controls communication and establishes the message which is embedded in that dominant discourse (Bernstein, 2000). Framing can either be strong or weak and indicates 'how meanings are to be put together, the forms by which they are to be made public, and the nature of the social relationships that go with it' (Bernstein, 2000: 12). Bernstein also explained that cultural theories were concerned with 'how external power relations are carried by the system, they are not concerned with description of the carrier' (Bernstein, 2003: 172). In response to this gap, he developed the pedagogic device.

The pedagogic device, Bernstein suggested, is similar in structure to the language device. He agreed with Halliday, a British linguist whose systemic functional grammar will be drawn upon in data analysis, who argued that the rules which govern this are not ideologically free and stated that it 'may have some intrinsic regulatory function' (Bernstein, 2000: 27). In this, what is carried is affected by contextual rules which are 'required to understand the local communication which the device makes possible' (Bernstein, 2000: 27). Described as a 'complex theoretical framework' which deals with 'the conversion or translation of knowledge into pedagogic communication' (Singh, 2002: 571), the pedagogic device 'is the condition for the production, reproduction and transformation of culture' and 'provides the intrinsic grammar of pedagogic discourse through distributive rules, recontextualising rules, and rules of evaluation' (Bernstein, 2003: 180). In other words, the pedagogic device represents a set of rules which are hierarchically linked and through which the language used 'makes possible the transformation of power' (Bernstein, 2003: 209). That power, or lack thereof, is transferred through language in the choices that are made about what is taught and how it is communicated; as such, the pedagogic device is a useful mechanism for considering the effects of educational policy which influences what and how teachers teach.

The first rules are the distributive which set out two classes of knowledge, the thinkable and the unthinkable; these are followed by 'recontextualising rules which regulate the formation of specific pedagogic discourse'; and finally, the evaluative rules are linked to pedagogic practice and describe those practices which transmit criteria (Bernstein, 2000: 28). This is a device which ultimately acts on the 'potential knowledge that is available to be transmitted and acquired' (Singh, 2002: 573) and is 'intrinsically political in that it has to do with macro relations of power in society and forms of control within the educational process itself' (Moore, 2013: 155). These rules are particularly useful in exploring the more covert ways in which discourse can exert control, particularly in those areas which 'may be prone to dominance by external stakeholders who seek to orientate the work of an occupation towards particular policy objectives' (Hordern, 2017: 196). This briefest of overviews is provided because within this device, recontextualisations and their effects on teachers and their discourse will be a focus of this research.

Bernstein explained that the recontextualisation principle recontextualises both the what and the how of pedagogic discourse in 'what discourse is to become the subject and content of pedagogic practice' and the 'theory of instruction' (Bernstein, 2000: 35). It has also been described as the movement of knowledge 'from a discipline to a professional knowledge base, and then into a curricula' (Hordern, 2017: 197). For me, particularly in training, these are the 'evidence-based' resources which are drawn upon, as well as the manner in which they are used in professional development training. Beyond physical resources, recontextualisations can occur when the discourse from training sessions is repeated in different contexts. Recontextualisations of training can take place formally when, for example, a leader attends a course then delivers the learned information to individuals in their context under the umbrella of continuing professional development. They can also take place individually, when for example, a teaching assistant explains the use of an intervention to a new member of staff. In both examples, the recontextualisations, through evoking evidence, regulate what is considered to be acceptable educational discourse (Bernstein, 2000: 34).

Bernstein conceptualised two recontextualising fields which have a 'crucial function in creating the fundamental autonomy of education' (Bernstein, 2000: 33). These are the official, and the pedagogic. The official, he wrote, is 'created and

dominated by the state and its selected agents' whereas the pedagogic 'consists of pedagogues in schools and colleges, and departments of education, specialised journals, and private research foundations' (Bernstein, 2000: 33). Since the description of these fields, the structures of education have been altered. The creation of multi-academy trusts blurs what was a distinct boundary between the state and its individual schools. The governance and organisational structure of the sector has become more diverse, and its influence is varied where for example 'some MATs play a central role in directing almost all aspects of school life' including 'MAT-wide continuous professional development which reinforces the MAT's preferred approach' (Ofsted, 2019: 10). The practices within a trust and its subsequent level of influence might determine the recontextualisation fields that a trust might be seen to occupy whether that be the official, the pedagogic, neither field, or both fields. For example, some MATs hire researchers as professional development leads who conduct their own studies to develop evidence-based practices; however, these are likely to be aligned to policy priorities (See for example, Wright, 2023) a continuing professional development lead in a multi-academy trust who is also a researcher who is being funded by the government through an Economic and Social Research Council grant). In this way, they might be seen as agents of the state. That said trust board members can also work very closely with their trust schools and are sometimes situated in those contexts. As such they could also occupy the pedagogic recontextualisation field. What is notable here is that recontextualisation fields have become increasingly complex.

Additionally, with the influence of social media, where the contributors to which might also fit into either or neither of these fields, I would suggest that there is an additional recontextualising field to contend with. This third field, which I will call the 'unofficial recontextualisation field', unlike the previous two, has permeable boundaries where those with various links to education priorities can contribute. Here, we see parents, disability support networks, special needs groups and other members of the wider community engaging with and recontextualising pedagogic discourse. On sites such as X (formerly Twitter), Facebook, YouTube, and LinkedIn, recontextualisations are shared which influence the pedagogic discourse of those in the pedagogic recontextualising field. In some ways, it is useful, as in these fields, values are brought to the forefront in a way that they might not be in 'official' or

'pedagogic' places. However, the ease with which sharing occurs could be problematic as it is not always clear who is sharing information and with what intent. The latter example can see misinformation being perpetuated, for example in the case of the image of a neglected child's brain. In this example, the original image was published in official recontextualisation fields (Perry, 2002; Allen & Duncan Smith, 2008: 59) but was later questioned (Williams, 2014). Its removal from the original context and sharing within 'unofficial' fields could have consequences for the 'pedagogic' where obsolete information could be used to inform decision making. As opposed to, for example, how readers of a journal might be prompted to engage with the ongoing development or criticism of theories (see for example Gardner & Moran, 2006).

Time also becomes a factor in this unofficial recontextualisation field where something 'official' is shared over time and while the source material might remain the same, the conditions around its original production have changed. These factors are not always as apparent as they might be in other fields. For example, Angela Duckworth's TED talk, 'Grit: The power of passion and perseverance' (Duckworth, 2013) which was presented in 2013 but which, despite subsequent research which called into question the validity of her grit scales (Credé *et al.*, 2017), is still being circulated on platforms such as LinkedIn. In examples such as this, the date of production and thus the context of production is neither cited nor considered. Bernstein does consider the aspect of time, linking this to his evaluative rules where 'pedagogic discourse will punctuate time' (Bernstein, 2000: 35) though here, recontextualisations can resemble perforations rather than punctures as there are examples where they repeatedly puncture spaces over time. Due to these perforations, variety of contributors and lack of regulation over content, this field is unique in its opportunity to influence pedagogic discourse.

Education has changed since Bernstein described these recontextualisation fields. Their evolution has added complexity which has implications for how recontextualisations take place and how these influence pedagogic discourse as a whole. Ultimately, recontextualisations within these fields influence teachers' pedagogic identities. The links between recontextualisations and teacher identity as well as why this was chosen as an area of particular focus will be discussed further in the section entitled 'pedagogic identity'.

Bernstein's work was influential and continues to be useful yet, it was not without criticism. His language theories, specifically those on restricted and elaborated codes, are sometimes associated with 'deficit' theory, a highly contentious area of debate in educational theory and practice (Atkinson, 1985: 6). However, it has been argued that, fuelled by his own personal experiences, 'Bernstein was actually outraged by the inequalities and indignities visited upon the educational experience of working-class children' (Jenks, 2010: 73). Atkinson adamantly asserted that Bernstein's critics based their views on 'erroneous interpretations' (1985: 102) of his work. Rather than 'strict linguistic determinism', Bernstein's descriptions of language use explored how 'public language is a characteristic of social solidarity'; He did not see language as able to 'determine users' capacities for thought and expression' (Atkinson, 1985: 44). Instead, he considered the effects of drawing language from a limited pool which serves to affirm and reconfirm shared meanings. In this way, language is used to encourage the listener to accept the speaker's meaning which restricts potential dialogue (1985: 43). Bernstein articulated these theories through considerations of social class however they can be transposed to language use of other social groups. For this reason, they are not a commentary on those social classes. For example, the ways in which evidence-based educational policy is presented to teachers and leaders also presupposes agreement and affirms shared meanings (a topic which will be discussed further in the evidence-based in policy section of the literature review). Despite this more favourable interpretation, the rigidity of his structuralist sociology could still be problematic.

As a structuralist, Bernstein was concerned with how, through the use of language, people acquired and manipulated 'structural understandings and relationships' (Atkinson, 1985: 41). In this, he considered the construction of reality through a general and formal frame. While I believe social structures influence the ways in which language is used, I would not go so far as to consider the impact of those structures to be consistently or completely visible through one frame. To limit the study of language to specific rules could restrict analytic possibilities. That said, it is perhaps with a more post-structuralist, and thus less rigid reading, that I would argue that the way in which Bernstein discussed his work would suggest that he would welcome a flexible approach. His 'work has never been static' (Atkinson, 1985: 6), its

'scope and complexity' (Atkinson, 1985: 18) leave room for his theories to inform even the most recent research questions. The adaptability of his theories can be seen in the exasperated response he gave when his work was cited as a tool for practice:

This kind of approach just doesn't work, metaphorically or practically. I think you can use a theory as an exploration of practice, an attempt to evaluate practice, an attempt to develop practice, as an attempt to discover new practices but I would hate to see my work as a tool (Lukin, 2012: 18:01).

Bernstein suggested that his theories should be used in doing something. His theories should exist in action, as a verb rather than as an object, and in this existence: to explore, to evaluate, to develop, to discover, they leave open many possibilities. They become a prompt which is useful in a process but is not a self-contained end point. Within this, for me, particularly with the words explore and discover, it seems that Bernstein is evoking the contextual and encouraging people to use his work in a variety of different ways. In this explanation there is also a focus on action and a distinct relationship between theory and practice, which is well aligned with my pragmatic philosophy and the foundation of this thesis.

With this pragmatism in mind, I have used Bernstein's theories on the structuring of pedagogic discourse, with a particular focus on recontextualisation, to refine my research focus. Considering the notion of evidence-based practice as it applies to teachers' professional knowledge and identity through the theory of pedagogic discourse, specifically ideas around recontextualisation, helped me to define my research problem and informed my research design. In line with the view that Bernstein's theories should be used in doing, through this research, I hoped to provide actionable insights. Bernstein argued that 'within institutionalised organisations, specialised modes of communication (pedagogic communication) were constituted to regulate the social and cognitive capacities of whole populations' (TASA, 2013: 02:28) and I sought to investigate how the notion of evidence-based practice, specifically that which is related to the use of brain-based interventions, influenced teachers' pedagogical opportunities. To do so, I considered how policy discourse, and their resulting evidence-based practices, indicate which knowledge is valued in schools and how those values lead to choices in teachers' professional discourse which affects the construction of their identities.



## Bourdieu's Field Theory

Bernstein himself discussed how in some senses his and Bourdieu's work were complimentary. However, Bernstein explained that theoretically they were opposed, and it was with the pedagogic device that Bernstein tried to distinguish himself from Bourdieu (Lukin, 2012). Despite the fact that Bernstein's work is situated firmly in the field of education, Bourdieu's continues to gain more attention; this popularity is attributed in part to the idea that Bourdieu's ideas are more adaptable (Maton, 2014; Singh, 2015). As such, some might question why Bourdieu's theories were not employed in this project. Proponents of Bernstein suggest that the use of Bourdieu's concepts, such as habitus or social capital, in education research has broadened their meaning rather than refined or built upon them. (Singh, 2015: 488); they, instead, posit that 'Bernstein's theoretical model encourages the progressive or cumulative development of precise, delicate concepts' (Singh, 2015: 488). While an interesting comparison, Bernstein's concepts were not used because, rather than a general field analysis, I was specifically interested in the effects on teachers of discourse around the use of the evidence-based interventions; as such, Bernstein's pedagogic device was a more useful way in which to conceptualise my research questions.

## Maton's Legitimation Code Theory

It would also be logical to consider the work of Karl Maton (2014) who drew upon Bernstein's code theory, Bourdieu's field theory, as well as functional linguistics, to develop legitimation code theory. Rooted in a realist sociology, Maton posits that this is a methodological approach which could be used to address 'knowledge-blindness' (Maton, 2014). In the early stages of data analysis, I explored his ideas around the construction of teacher knowledge. Ultimately, it was decided that this 'explanatory framework' (Maton, 2014: 15) and theorisations about the object of knowledge encompassed issues which were not well aligned to my research questions. In this thesis, 'the intrinsic features of knowledge' (Maton, 2014: 11) are in the background rather than the foreground. Instead, the effects of training practices on teacher positionality and identity are focussed upon. Additionally, it was Bernstein's

theories of pedagogic discourse, specifically recontextualisation, that was most relevant to me; however, these were not explicitly drawn upon in Legitimation Code Theory (Singh, 2015). As a result, this framework has been reserved for research that might build from the findings hereafter.

## Biesta's Causality

Gert Biesta, a professor of educational theory and pedagogy in the UK, has written extensively on the limitations and effects of evidence-based and evidence-informed practice. He is a pragmatist whose ideas about the process of education are built upon Dewey's work (Biesta, 2014), where experience and knowledge are inextricably linked (Biesta & Burbules, 2003: 25). Biesta also believes that theories are an indispensable part of research but that engagement with theory should focus upon what it 'is actually supposed to do in and for research' (Biesta, 2020: 7). In this case, unlike Bernstein's theories which helped me to make sense of a perceived problem, Biesta's helped me to make meaning from the data I collected in my exploration of that problem. Specifically, his ideas around practices which seek causality and complexity reduction as a response to educational improvement initiatives were useful.

Biesta describes concern about 'the expectations policy makers hold about what evidence can and should achieve in professional practice' (Biesta, 2010: 491). This evidence, as will be explored further in the literature review, is often drawn upon by policymakers who expect educational research to identify 'what works' (Biesta, 2007) and who then use this evidence to justify actions which are taken to improve education. Biesta suggests the limitations of using 'scientific evidence' in this way as 'education is not an interaction between robots but an encounter between human beings' (Biesta, 2013: 1). He sees efforts to mitigate risk as ill-conceived though acknowledges that 'taking the risk out of education is exactly what teachers are increasingly being asked to do' because policymakers 'want education to be strong, secure, and predictable, and want it to be risk-free at all levels' (Biesta, 2013: 1). Within this view is an oversimplification of the very nature and purpose of education. Biesta notes that 'education never functions in relation to only one purpose or set of

purposes, but that education activity always operates in relation to a number of different domains of educational purpose' (Biesta, 2020: 33). With little attention to the multidimensionality of education, teaching practices are ultimately reduced to inputs and outcomes, adherence to which perpetuates an assumption that 'education works in a causal way' (Biesta, 2020: 37). In the expectation of causality, policy makers narrowly define what education should achieve which creates a situation where 'the opportunity for teachers to exercise judgement has virtually disappeared' (Biesta, 2013: 2).

Much of Biesta's work is relevant but the focus here will be on his views of the use of evidence by policymakers to ensure that the social system of education works in a causal and deterministic way. He refers to this as 'complexity reduction' and suggests that this comes at the expense of the social actors who are within that system (Biesta, 2020: 17). By considering the way in which evidence use may or may not contribute to causal practices in education, there is an opportunity to explore whether Biesta's suppositions are apparent in stakeholders' discourse.

## Ball's Accountability and Performativity

Stephen Ball, a British sociologist who specialises in the field of education policy, focuses upon the impacts of discourse and writes about 'the ways in which policies both change what we do and what we are' (Ball, 2015: 306). Here, his ideas about accountability and performativity, which like Bernstein's work are rooted in Foucauldian theories, will be explored.

In the Department for Education's white paper about the importance of teaching, policymakers offered schools the opportunity to convert to academies. Drawing from 'the best education systems', this move was dubbed a 'power shift to the front line'. A result of which, it was argued, was a need 'to be accompanied by a streamlined and effective accountability system' (DfE, 2010: 4). As such, there was a proposal to 're-focus Ofsted inspections on their original purpose – teaching and learning – and strengthen the performance measures we use to hold schools accountable' (DfE, 2010: 4). The framing of education as a system, much like the one Biesta describes, is of note, however, here the focus is upon the nature of the

accountability structures within that system. In this white paper it was explained that there was an offer of 'freedoms to all schools in a way that encourages them to work with each other to improve' (DfE, 2010: 4). The dichotomous relationship of the words freedom and encourage implies that the statement is somewhat oxymoronic however it was argued that the move to academy status would offer increased autonomy through the reduction of bureaucracy. The government may have reduced its control over inputs, yet when outputs are rigorously monitored through accountability systems, the 'power shift to the front line' is instead a façade which disguises increased governmental control. It is suggested that 'education systems increasingly value outputs and efficiency over inputs and processes' (Holloway & Brass, 2016: 361) though arguably, the prioritisation of the latter also restricts the former. Regardless of where the power and control are perceived to be, through these priorities, 'teacher performance has been (re)conceptualized as that which can be quantified and measured' (Holloway & Brass, 2016: 361).

Accountability structures have been seen to impact how teachers perceive themselves. Through the lens of Ball's work, researchers in the United States drew upon two qualitative studies to explore differences in early career teachers' perspectives in two distinct periods of time. The first was during the Bush administration's No Child Left Behind Act, while the second, a decade later, was during the implementation of value-added teacher assessments during the Obama administration's Race to the Top (Holloway & Brass, 2016). Their analysis found that in the former, teachers positioned accountability mechanisms as external to their professionalism, practice, and autonomy, whereas in the latter, accountability mechanisms were positioned 'as the very modes by which they knew themselves and their quality' and where their 'value is orientated to markets, management, and numerical performance indicators' (Holloway & Brass, 2016: 362). These effects of accountability measures on teachers' perceptions of themselves is captured by Ball's notions of performativity where he argues that 'individual practitioners organise themselves as a response to targets' which are used as a form of state regulation' (Ball, 2003: 215). The suggestion that these measures are part of a beneficial power shift which would allow teachers more autonomy aligns with Ball's notions of performativity as a technology which is 'misleadingly objective and hyper-rational'

(Ball, 2003: 217) because the more rigorous accountability of outputs could be seen to decrease rather than increase the power teachers have to make decisions on the front line.

Responding to Ball's notions of performativity, Biesta notes that 'the focus is no longer on the quality of professional action. Rather professionals are held accountable for the degree in which their actions meet certain standards' (Biesta, 2020: 107) or can be seen to meet those standards. The de-prioritisation of professional action could be inadvertently undermining the very notion of professionalism in education. The profession is particularly damaged when the chosen standards by which teachers are measured fails to take into account the multidimensionality of what it means to be educated (Biesta, 2020: 33). As such, the use of evidence to inform practice becomes a controlling mechanism which insists that certain actions are taken so that standards are met. This situation sees teachers who respond performatively, those who accept the narrowing of education through acceptance of these actions and standards, actively de-professionalising themselves and the field. Ball explains that 'teachers' professional identities are deeply affected by performativity' (Hordern & McMahon, 2019: 254). Accordingly, his notions around accountability and performativity prompted further exploration of the role of evidence in constructing the extent to which teachers are viewed as professionals and will be explored further in the literature review.

Ball also explains that structural changes of organizations are 'mechanisms for reforming teachers and for changing what it means to be a teacher' (Ball, 2003: 217). The reorganisation of schools into multi-academy trusts (MATs), which have pressures to 'expand in a highly performative environment' (Innes, 2021: 334) and which is accompanied by its own host of accountability and performance measures (DfE, 2010: 12), is an example of a structural change which has been reorientating teachers and the teaching profession. The movement of schools into MATs is seen to influence the use of evidence to inform teaching practices and will also be discussed further in the literature review.

While Ball's conceptualisations have been widely celebrated for the way in which they resonate with those in practice, he too faces criticism. In an article, where two former teachers examined the influence of his work, mainly through his article

'The Teacher's Soul and the Terrors of Performativity' (Ball, 2003), a teacher described possible limitations. For her, in engaging with Ball, while certain concepts allowed her to articulate her experiences, it was too easy to adopt the added meaning which came 'packaged within his vocabulary'; in this, she described a type of 'authoritative discourse' which did not always capture the complexity of teachers' responses (Goodley & Perryman, 2022: 7). She explained that 'Ball's use of Foucauldian notions such as 'docile bodies' and 'subject-position' can be seen to flatten out teachers, rendering them passive bystanders rather than agentic professionals' (Goodley & Perryman, 2022: 2). Considering the limitations of such theories reinforces the idea that oversimplifications can be problematic and such ideas, even when supported by many, deserve critical engagement. As long as this is kept in mind, his notions remain useful as a way in which to probe data when exploring the effects that recontextualised research might have on teachers' identities.

### Aligning Assumptions: researcher, project, and theoretical tools

In chapter 3, I will outline how my philosophical position as a pragmatist, my methodological approach, and data collection methods work together. At this stage, a consideration of whether the theoretical tools used in this project are similarly aligned to each other and to the project as a whole, is useful.

In the conceptualisation of this project and in the analysis of data, the ideas of three theorists were at the forefront of my thinking. The first was Bernstein, who it has been acknowledged, was a structuralist thinker who identified rules which could demonstrate the ways in which language use perpetuated systems of power (Bernstein, 2003: 172). He hoped that his work would do something (Lukin, 2012) and explored the ways in which language could influence pedagogic identity. The second was Ball, a post-structuralist who focuses upon the impacts of policy, particularly on how educational reform 'simply vehicles for the technical and structural change of organizations but are also mechanisms for reforming teachers and for changing what it means to be a teacher' (Ball, 2003: 217). And the third was Biesta, who considers the expense on social actors of the use of evidence in attempting to ensure that education functions as a causal system. Biesta, like me, is a pragmatist (Biesta & Burbules, 2003)

and views educational research as having the potential to 'provide social and educational actors with more and better opportunities for their own judgement, decision-making, and action.' (Biesta, 2020: 21).

To me, their ideas were seen to be useful tools which work well together. Biesta explains that 'education always impacts on the person' (Biesta, 2020: 34) and considers the effects of popular discourses such as 'determining what works' (Biesta, 2020: 38). Bernstein and Ball also recognise that political discourses play a significant role and they focus specifically on how these influence the construction of teachers' identities (Ball, 2003; Bernstein, 2000). However, it could be argued that despite being aligned in their view that educational practices are significant in their impact to individuals, their epistemological assumptions could suggest that they are incompatible with one another. As such, their use together warrants further justification.

Within a Deweyan pragmatic philosophy there is scope to bring together ideas from a variety of philosophical backgrounds because in this philosophy of action, knowledge is both constructed and based on reality (Biesta & Burbules, 2003: 11). In this, there is a rejection of the dualism between mind and matter and as such, epistemological concerns can be mitigated. However, beyond this, I believe their theories complement one another. Bernstein's structuralist thinking is useful in that his notions of the pedagogic device gave me a way to articulate an aspect of the use of evidence in schools which I found problematic; this was the recontextualization of evidence in professional development. Though even Bernstein acknowledged that this device 'did not actually show the nature of pedagogic discourse; it showed how it was put together, but it did not show its nature' (Lukin, 2012: 14:58). He explained that this nature was the way in which pedagogic discourse affected positions and social relationships. In this respect, Ball and Biesta were useful in describing potential consequences of the pedagogic device and helped me to articulate the nature of certain evidence-based practices, specifically as it pertained to brain-based interventions. Ball and Bernstein both developed their ideas from Foucauldian roots and Biesta, as a pragmatist, could be comfortably considered as well. Finally, given that these theorists all worked to critically evaluate social practices, their use within a CDA methodology is axiologically aligned to the philosophical foundations of CDA.

## 2. LITERATURE REVIEW

In order to research the perceived issues surrounding evidence-use in schools, an understanding of the current factors affecting their use was warranted. In compiling this review the following themes have been explored: an overview of how education policy in the official recontextualisation field in England prompts the use of certain forms of evidence; the role of unofficial recontextualisation fields which foster the creation and dissemination of evidence, namely multi-academy trusts; an exploration of a selection of strategies used in the pedagogic recontextualisation field which are believed to be evidence-based; finally, an examination of the role of evidence in constructing teachers' pedagogic identities. This chapter culminates with the selection and definition of key terminology which is used in this research.

Given the breadth and depth of these themes, an exhaustive exploration of literature was not possible. Instead, articles were selected based on their perceived relevance to this research. Generally, those articles which applied to the current context of education in England and those which were published in recent history, where recent refers to the last twenty years, were focused upon. To source articles, the University of Plymouth's library catalogue and the British Education Index were searched using keywords and terms such as 'evidence-based', 'evidence-informed', 'educational research', 'educational neuroscience', 'neuromyths', 'learning styles', 'teacher training', 'continuing professional development', and 'multi-academy trusts'. English education policy publications were accessed online through the Department for Education and Ofsted websites, as was open-source information such as Education Endowment Foundation publications. Finally, through attending conferences, and engaging with various professional development opportunities, I was alerted to papers and books which were seen to be contextually relevant, informative, and useful.

### Evidence-based Teaching

Research into evidence-based teaching practice is crucial as there is an ongoing 'demand for evidence-informed practice and research-literate teachers'



(BERA, 2014). However, this expectation comes with its caveats. For example, the British Education Research Association (BERA) published a special issue which explored 'how research evidence is best used in policy and practice' (Siddiqui *et al.*, 2022: 1) because, despite the increasing importance of evidence in education, there is 'no consolidated discussion of good examples', no compelling evaluations of its benefits, and no consensus on how it should be used (Siddiqui *et al.*, 2022: 1). In this section of the literature review, the context of evidence-based practice in England's education system is explored. The chapter is first organised under themes which are related to Bernstein's theorisations of the official and pedagogic recontextualisation fields (Bernstein, 2000), as well as my own idea of the 'unofficial' recontextualisation field. It then moves to the theme of pedagogic identity. Throughout, there is a particular focus on the implications of the preference for specific forms of research to be used in informing both educational policy and practice.

## The Official Recontextualisation Field

Bernstein defines the official recontextualisation field as that which is 'created and dominated by the state and its selected agents and ministries' (Bernstein, 2000: 33). In this section, I will consider how specific forms of evidence have come to be preferred by the state, specifically through its educational policy discourse.

The terms research-based, evidence-informed, and evidence-based appear in a wide variety of policy discourses. In education in England, 'evidence-based policy is the mantra' (Pring, 2015: 194). Inherent within this discourse is policymakers' preference to use evidence which is 'supplied by research' (Kvernbekk, 2017: 1). There is a wide variety of research from which to draw yet, despite the problems associated with and perpetuated by the dual epistemology thesis, epistemological purism persists (Alexander, 2006). In this dichotomy, positivist methodologies, specifically those considered to be science-based research (Schwandt, 2005) and which carry assumptions of being 'systematic, rigorous and objective' (Hammersely, 2004: 135), are often favoured to qualitative explorations of professional experience.

One explanation for the reliance on this form of evidence to inform practice is that 'as the stakes for education have risen, so too has the call for more and improved use of scientific evidence as a basis for educational policymaking' (Wiseman *et al.*, 2010:

1). Here, there is a specific focus on scientific evidence. This preference is likely linked to the argument that the evidence-based practice movement can be traced to practices in medicine, the field which is often credited as being the origin of evidence-based practice (Hammersley, 2004: 133; Goldacre, 2013: 4; Kvernbekk, 2017: 2). There are others who disagree and argue that these practices began as early as the Enlightenment (Davies, 2004: 21) however, dominant narratives continue to favour the link, and thus the assumptions of, evidence-based medicine. The values which underpin the field are 'embedded within Western culture, academia, and the world of education' (Kincheloe, 2009: 513) and are increasingly being sought after to inform education policy. From teacher training to professional development, cognitive science and the science of learning are prioritised (DfE, 2021b: 62). There is a 'narrowing in the kinds of research that policymakers often seem to be prepared to accept as evidence for what works in educational contexts' (Aldridge *et al.*, 2018: 2). As such, this type of evidence is evoked to imply that educational policies are scientifically legitimate.

Critics of qualitative educational research suggest that it is inferior as it 'does not meet the standards which prevail in medicine' and 'it fails to provide the answers which policymakers need for making informed decisions' (Pring, 2015: 165). Rather than the idea that other research epistemologies are substandard, it seems that the need for clear answers is the driving force that pushes policy makers to 'continue to promote research that emulates 'the medical model' as the solution to many, if not all, problems in the field of education' (Biesta, 2010: 492). Despite the multidisciplinary nature of education, as well as the post-positivistic insights which now inform scientific research, there is a persistent belief that with this model, there is the potential to ensure education 'behaves in a deterministic way' (Biesta, 2020: 17).

It is posited that in education, 'a lack of scientific knowledge base' is problematic because 'governments want education to do something' (Hordern, 2019: 8). For example, in closing the gap where education is seen as a mechanism for reducing social inequality, evidence-based practice is focussed upon 'identifying and spreading 'what works'' (DfE, 2017b: 9). As scientific research aims to analyse data to reveal causal relationships between variables (Kincheloe, 2009: 515), it could be seen to most readily address the 'what works' agenda (Biesta, 2020: 4). This type of research, that which seeks to identify causality, can 'establish a degree of certainty' (Hordern, 2017:

203). Therefore, it demonstrates what education is doing and is likely why this epistemology is relied upon. By adopting this, arguably, more simplified view, methods can offer universality and be generalizable, reproducible, and measurable. In other words, scientific research appears to provide the clear answers which policy-makers desire.

Despite the value which is attributed to this type of evidence, it is not uncommon to find that 'education policies contradict evidence from the learning sciences' (Tokuhamma-Espinosa, 2019: 1). One example which has been a particular focus in recent years is the debate around the mandated method of teaching phonics in early years and primary education. The reading framework gives guidance on how schools can ensure that their strategies are in line with the Early Years Foundation Stage statutory framework and notes that this also 'aligns with Ofsted's Education Inspection Framework (DfE, 2023c: 3). In this, 'the importance of fidelity to' a phonics programme and the DfE's evidence-base on 'the best way to teach reading' is explained (DfE, 2023c: 5). With this method, children are taught letters and their corresponding sounds so that they are able to blend them to form words (Quigley, 2020: 47). However, through an ongoing debate dubbed 'the reading wars' (Wyse & Bradbury, 2023; Brooks, 2023), it is argued that the systematic synthetic phonics method of teaching reading 'is not sufficiently underpinned by research evidence' (Wyse & Bradbury, 2022: 1) and actually runs contrary to arguments which celebrate the merits of whole language approaches (Wyse & Bradbury, 2022b: 247). Additionally, teachers discuss the benefits of traditional strategies to teach reading such as daily readers, where pupils regularly read with adults (Quigley, 2020: 49). In part, due to teachers' own experiences of what works, the government's use of evidence to justify and prescribe teaching strategies is questioned. However, the evidence-base of strategies which teachers and leaders choose themselves can also be problematic.

A study that explored quality first teaching (Riordan, 2022) demonstrated that there were issues with the ways in which schools translated evidence into practice. Quality first teaching is the idea that a high standard of teaching is 'especially important for pupils from disadvantaged backgrounds' (DfE, 2015b: 8) and is often used to justify specific practices that support students who are in receipt of pupil premium. Pupil premium, a government grant which is meant to improve outcomes for

students who are socio-economically disadvantaged, comes with the requirements to demonstrate how grant spending benefits this specific cohort of pupils and how strategies selected are backed by research evidence. To do so, 'a wide variety of practices are being justified by a small number of studies of questionable relevance.' (Riordan, 2022: 1). In this paper, it is argued that, as a result of the expectation to justify teaching practices, research evidence is often evoked through oversimplifications and over generalisations which does not have the 'expected positive impact' (Riordan, 2022: 1). Despite the problematic nature of such practices, the expectation to justify strategies through the use of research evidence persists.

As demonstrated in the exploration of quality first teaching, the drive to fulfil policy expectations is a motivating factor in how and why schools engage with research and subsequently use particular strategies. Sciences about the brain and the processes of learning are believed to have the potential to transform teaching and learning and so 'brain-based learning has become popular at all levels of education' (Cuevas & Dawson, 2017: 40), with many educators wanting to quickly 'apply scientific concepts about learning' (Howard-Jones, 2010: 19). As a result, research linked to cognitive science and neuroscience are often sought after and subsequently cited as the evidence base which justifies the use of teaching strategies. One example is Rosenshine principles, which, as Rosenshine explained, were developed from cognitive science research (Rosenshine, 2012) and which will be explored further in the 'evidence-based in practice' section of the literature review. Another which was developed from cognitive science is dual coding. This is a theory which recommends that varying the formats in which information is expressed can help pupils to retain information and is believed to 'benefit student learning' (Cuevas & Dawson, 2017: 40).

Theories such as these which are based on research into processes of learning and so are perceived to be readily applicable to different subjects and stages of learning (Cuevas & Dawson, 2017). For this reason, they are appealing to teachers, leaders, and policy makers. However, research findings from brain-based sciences should be carefully considered because the desire to use cognitive neuroscience in education has resulted in 'numerous brain-based learning packages with alarming amounts of misinformation' (Goshwami, 2006: 1). These packages are often based on theories which are recontextualised and so the practical implications are not as easily

translated as some would like to believe. For example, there are cognitive scientists who call into question 'the most basic premise of dual coding' (Cuevas & Dawson, 2017) and in the case of neuroscience, a point that is often overlooked is that 'neuroimaging data are statistical' (Geake, 2008: 125) and often require a level of translation (Wilcox *et al.*, 2021). Even with this additional support, it is acknowledged in the field is that 'neuroimaging results are open to alternative interpretations' (Geake, 2009: 14) and can often be overinterpreted. As such, 'extrapolations from the lab to the classroom need to be made with considerable caution' (Geake, 2008: 125) because neuroscientists warn that 'uncritical excitement and enthusiasm' (Howard-Jones, 2010: 19) can prompt unsuccessful educational approaches. Some believe that the translation of this type of science into practice requires neuroscientific literacy (Jolles & Jolles, 2021) or specialist support (Wilcox *et al.*, 2021). Others suggest that neuroscientific results should not be the basis of classroom recommendations (Matta, 2019) and that 'education cannot be directly informed by neuroscience' (Geake, 2009: 22). Therefore, as has been highlighted in recent research which explored cognitive-science informed strategies, there are many complexities so more attention should be paid to the 'different contextual dimensions' of 'real-life educational settings' (Jorgensen *et al.*, 2023: 1). However, the potential barriers and limitations of translating the findings of brain-based sciences into educational practices are often ignored. Instead, there is a continued interest among educators in 'brain-based interventions' (JohnBull & Hardiman, 2023: 2); therefore, the use of this type of evidence warrants attention.

It has been suggested that schools waste their resources 'pursuing so called 'brain-based' interventions that lack a firm basis in research.' (Hardiman *et al.*, 2012: 135). One example, which is still pervasive in education, is the belief that students have different learning styles (Elk, 2019: 28, Goswami, 2006). This neuromyth persists, despite there being evidence which indicates that teaching in this way does not help students to achieve learning outcomes (Geake, 2009: 2). However, it is important to note that in this evidence, only measurable outcomes were considered rather than other possible effects of teaching to students' preferences, such as an enhancement of the learning experience through increased engagement or motivation. While no positive effects were captured, neither were there negative effects as according to the

Educational Endowment Foundation (EEF), no impact, specifically to attainment, was displayed (EEF, 2021). The EEF made this judgement by applying their own criteria to determine whether existing studies should be explored and noted that ‘no studies were identified that met the pre-specified inclusion criteria’ which sought rigorous testing of learning styles (EEF, 2021) (although the use of EEF research comes with its own caveats and will be discussed later). Until this lack of evidence base was made apparent, teachers were often required to know students’ learning styles and to teach to them. At which point, rather than attempting to better understand aspects of the practices which might be valuable, they were actively discontinued, because according to a critical review of interventions to dispel neuromyths, endorsing these ideas was believed to have adverse effects on teaching practices (Rousseau, 2021: 1). Teaching to learning styles is just one example where evidence, or lack thereof, was used to influence large scale reorientations to teachers’ practices. Embedded practices, such as these, have lasting impacts and changes are not easily adopted. Teachers can still be heard discussing learning styles (see for example Tracey’s interview extract in the performativity and accountability section of chapter 5), and even the DfE, in a newsletter to new teachers, made an erroneous reference which promoted what is now considered to be ‘debunked’ theories of learning styles (Gibbons, 2021).

Regardless of the potentially long-lasting effects, some suggest that teachers ‘uncritically accept brain-based interventions when approaching educational issues’ (Amiel & Tan, 2019: 2) because ‘complex and colourful renderings of a human brain can increase the credibility and perceived quality of scientific information’ (Elk, 2019: 28). It has also been suggested that ‘explanations including neuroscientific terms are judged more convincing’ (Coch, 2018: 310); an example of which is teachers using ‘brain-based’ models as an attempt to ‘affect a scientific legitimacy’ to their teaching (Geake, 2009: 1). Since these strategies are believed to be rooted in science, there is a sense that their adoption into pedagogy may be expedited, and their use perpetuated more readily than other, less ‘scientific’, methods.

Some schools will invest in ‘products that attempt to capitalize on the perceived cachet of neuroscience’ (Coch, 2018: 310), which can be misguided. In a project which sought to engage primary trainee teachers with resources to help them critically evaluate claims from learning sciences, it was reported that ‘schools often discuss

scientific research as if it is fact. They do not question research or critically analyse it' (McMahon *et al.*, 2019: 293). Through an examination of the context of evidence-informed practice, it is argued that for teachers, these practices 'do not support the development of specialised expertise' (Hordern, 2019: 7) because practitioners do not have a procedure through which these knowledge claims can be judged and instead are expected to unquestioningly accept strategies. Additionally, discussion of students' experiences indicates that they too are affected as they 'carry misconception with them when they go on' which 'has lasting effects' (Sumeraki and Kaminske, 2020); for example, university students are still discussing their learning styles. Arguably, these effects can be quite damaging to both teaching and learning. For these reasons, it is important that we consider the possible effects that readily adopting such strategies can have on both teachers and their teaching, and students and their learning.

Despite the possible implications, evidence of this nature continues to be coveted. Researchers are already 'suggesting a direct bridge from neuroscience to education' (Butterworth & Tomie, 2014: 6) and 'neuroscience has and will continue to impact the ways educators view teaching and learning' (Amiel and Tan, 2019: 5). Understanding the process by which the findings from learning sciences make their way from official fields into pedagogic fields (Bernstein, 2000) could help us to understand the incentive for their use and, if deemed appropriate, implement them more effectively. Education and its policies are constantly evolving, and new knowledge has a prominent place in this process. 'There are a number of content areas in which neuroscience evidence can support understanding' (Coch, 2018: 312). For example, 'neuroimaging has documented positive effects of intensive phonics instruction for children with dyslexia' (Coch, 2018: 312) and neuroscientific understanding has the potential to 'reinforce particular aspects of existing practice, providing a boost to teacher confidence about their intuitive sense of effective pedagogy' (Geake, 2009: 2).

Thus far, this discussion of the use of evidence has drawn upon a simplified account of research paradigms, namely the dual-epistemology thesis (Alexander, 2006), which makes broad generalisations and pits qualitative philosophies against positivist philosophies. However, the field of educational research is far more complex and nuanced. For example, many would argue that we are in a postpositivist era where those who are drawn to 'scientific' inquiry, or empiricism, do so with the assumption

that ‘human knowledge is not based on unchallengeable, rock-solid foundations—it is conjectural’ (Phillips & Burbules, 2000: 26). Even philosophies which fall under the umbrella of science recognise that ‘scientists can objectively know something even though they cannot prove that they know it on the basis of absolutely certain truths’ (Hicks, 2018: 1). Yet, political discourse often fails to recognise these caveats. Instead, policymakers continue to work with the assumption that certain truth is possible in research, and they seek specific forms of evidence which can then be presented as infallible knowledge.

### Education Endowment Foundation (EEF)

Scientific methodologies, as described above, are treated as the gold standard in educational research. As such, in an effort to generate ‘robust evidence of what works’ (Gorard, 2020: 4) these are employed by stakeholders whose research informs both policy and practice. In the UK, examples include work which is funded by ‘the Economic and Social Research Council (ESRC) Teaching and Learning Research Programme, ESRC Evidence Network, ESRC National Centre for Research Methods, and the EEF, IES and International Initiative for Impact Evaluation’ (Gorard, 2020: 4). These organisations vary in that some are funded by the government, while others are charities or are funded through multiple streams; however, they all share a preference for research which is done through scientific approaches.

The ESRC is a ‘non departmental government body, sponsored by the government’s Department for Science, Innovation and Technology’ (UKRI, 2023). The Teaching and Learning Research programme no longer exists but was created to address the government’s critique that educational research was ‘small scale, irrelevant, inaccessible and of low quality’ (Pollard, 2010: 27); it too was managed by the ESRC. The institution of environmental sciences, or IES, is a ‘charitable organisation which promotes and raises public awareness of environmental science by supporting professional scientists and academics’ (IES, 2023). Whereas the International Initiative for Impact Evaluation is also charitable organisation which is supported by a host of donors (3ie, 2023) and which aims to ‘improve the lives of poor people in low- and middle-income countries by providing, and summarising, evidence of what works, when, why and for how much’ (Gaarder & White, 2009: 378). Finally, the EEF is described as an independent charity which states that it aims to help schools



understand and apply research evidence. Recognized as ‘one of the leading organizations of the What Works movement’ (Edoald & Nevill, 2021: 46), EEF publications are open source and are focussed on their specific goal of ensuring that family income does not negatively affect children’s abilities to achieve academic success (EEF, 2023a). For these reasons, the influence of the Education Endowment Foundation (EEF) on teaching practices will be explored further.

Their work is seen to be accessible and useful though there are considerations to be explored around the factors which might affect EEF guidance. For example, the objective is to ensure better use of research evidence, but the EEF does not only interpret and disseminate evidence but also funds the generation of its own evidence. Specifically focussed upon are randomised control trials, the use of which is intended to evaluate aspects of evidence-based interventions (Dawson *et al.*, 2018). Their methodological preferences and subsequent language make apparent their inclination toward rigour and generalisability and reflects the positivistic values which are favoured by policymakers.

Finally, the EEF was in receipt of a £125 million DfE founding grant (DfE, 2011). While its work is not currently funded by the government, it continues to have a working relationship with government ministries (Edoald & Nevill, 2021) and so its links to English education policy priorities cannot be discounted.

### International Relevance

This project is focused on the effects of educational policy in England, but its significance is not limited to that context. Globalisation has prompted education systems to reform and as a result ‘ambition that policy and practice should be based on evidence became more powerfully articulated – with aspirations that science could demonstrate what works’ (Pollard, 2010: 28). The international focus on evidence-based policy is ongoing as a call for BERA’s special issue into evidence in policy and practice garnered responses ‘from education researchers based in England, Wales, Ireland, USA, Canada, Australia, Sweden, South Africa and Bangladesh’ which demonstrates continued ‘worldwide interest in and relevance of the problem’ of using evidence to inform practice (Siddiqui *et al.*, 2022: 1).

The preference for specific forms of research to inform policy and practice in England is said to have been prompted by policy in the United States, specifically with the No Child Left Behind Act, a federal law which was passed by the Obama administration in 2001. This policy followed a period of amicable acceptance of varying research assumptions in the field, a 'truce' which was broken when RCTs were heralded as the 'gold standard' of research methodologies (Alexander, 2006). As a result, this type of research was prioritised, almost exclusively, in the spending of federal research funds (Alexander, 2006). The situation is widespread as worldwide, countries have been 'changing their policies to encourage the use of evidence in schools' (Pellegrini & Vivianet, 2020: 25). Within these changes is the preference for proof, through methodologies such as randomised control trials, that educational programmes and strategies are effective (Pellegrini & Vivianet, 2020).

### Response to Covid-19

The popularity of programmes such as Active Learn's Bug Club Phonics for reading (Williams, 2021), White Rose for Mathematics (White Rose Education, 2023), and the Thrive® approach for social and emotional development (Thrive, 2023), indicate that schools spend a portion of their tight budgets (Adams, 2023) on 'evidence-based' teaching products and interventions. This was especially topical when schools were allocated funds for learning interventions which would help to address the effects of the Covid-19 pandemic, specifically the many hours of lost teaching time (DfE, 2020a).

The government announced that '£1 billion of funding' would be allocated 'to support children and young people to catch up' (DfE, 2020a). Coinciding with this announcement they published a 'Covid-19 Support Guide for Schools' in which Professor Francis, chief Executive of the Education Endowment Foundation (EEF), wrote that 'an evidence-informed approach gives us the best chance of maximising impact' (EEF, 2020: 2). The problematic nature of the links between policy directives and EEF guidance will be discussed in the EEF section of this literature review but here it is important to note that while schools were allowed to decide how best to use the funds, they were cautioned that 'Ofsted will make judgements about the quality of education being provided' (DfE, 2020a: 4). It was said that this would 'include how

leaders are using their funding to ensure the curriculum has a positive impact on all pupils' (DfE, 2020a: 4). As such there was pressure on schools to demonstrate that they made decisions which inspectors would perceive to be acceptable.

The government provided documents which were meant to give advice but offered little in terms of applying the funding within the school environment. Support strategies were categorised into three groups 'Teaching and school-wide strategies, targeted support, and wider strategies' (EEF, 2020a: 3). Under each category there were suggestions such as 'programmes are likely to have the greatest impact where they meet a specific need' (EEF, 2020a: 5) but did not give tips or tools to help select which needs should be prioritised. There were also links to Education Endowment Foundation resources which sounded more informative than they were; one example of such a link stated that 'additional information about high-quality programmes that have undergone rigorous evaluation is available on the EEF's Promising Projects list' (EEF, 2020a: 5). This link brought the reader to 'New: Eight Evidence-based recommendations to support 5–7-year-olds' literacy' (EEF, 2020b) which referenced the focus of recent education policy but only offered generic advice about how to teach literacy. Given the tight budget restrictions in which schools usually operate, the recovery premium was quite substantial financing. In the first funding package, 'each mainstream school will be provided with a total of £80 for each pupil in years reception through to 11' (DfE, 2020a). Therefore, the lack of guidance on how to spend it is surprising, especially given that Ofsted would be judging whether the money was used effectively (DfE, 2020a).

The freedom to use these funds to best suit your school might have been empowering to some, but for many time-pressured department heads and school leaders this could have presented a minefield of issues: how best to use the funds to target the areas which your school needs most to improve; how to prove that you have invested into evidence-based practices; and perhaps most importantly, how to prove that this investment has resulted in measurable progress for all of your students.

It is important to note that Covid-19 'generated huge commercial opportunism' and 'school leaders were cautioned 'to be careful about striking a balance between technology and pedagogy in their school' (Harris and Jones, 2020: 245). While the advice was sensible, it is likely that the marketing of commercially available

interventions may have swayed decision makers who were looking for easily justifiable solutions to rectify the issues caused by this education crisis.

This research project became increasingly relevant with each government announcement to provide further funding for post-pandemic education recovery. One report included 'provision for extra training and support for teachers' (Walker & Hall 2021) which linked directly to my focus of studying the effects of interventions on teacher pedagogy.

## The Unofficial Recontextualisation Field

In chapter 1, the concept of the unofficial recontextualisation field was proposed. This included spaces such as social media where information can be created and disseminated independent from the official and pedagogic recontextualisation fields. It could also be used to refer to organisations such as multi-academy trusts because these organisations are neither government entities nor are they autonomous. As such they cannot be placed within the pedagogic or official recontextualisation fields. Instead, they often occupy a space which overlaps both fields and so operate 'unofficially'.

### Multi-Academy Trusts

Particularly relevant to how research evidence is used to inform pedagogy, is the changing structures of mainstream schools in England. Under a Labour government, academies were introduced in 2002 (Machin, 2012) as a method of 'improving educational standards in disadvantaged communities' (Long, 2015: 1). These were independent schools which were 'managed by sponsors and mostly funded by central government rather than through local charities' (Long, 2015: 1). Despite the debate about their effectiveness (Long, 2015), evidence of their success was arguably misrepresented by a coalition government to advanced academisation (Machin, 2012) as an opportunity for schools to 'enjoy greater freedom' (DfE, 2010: 11). Such freedom, or autonomy, Minister of State, Nick Gibb suggested, is that it ultimately helps to improve pupil outcomes (DfE, 2015c). In a later speech he continued to promote the benefits of school autonomy and explained that power

could be taken from ‘the old authorities’ (DfE, 2017c: 2) because local authority advisors and universities were named as those who had been responsible for dictating teaching pedagogy and curriculum. He posited that it was ‘thanks to powers granted by the government and the expansion of academies’ that ‘teachers and headteachers could now enjoy far greater control’, which, he stated, had led to professionalised decision making (DfE, 2017c: 2). Given the previous discussion of how policymakers use of research evidence is limiting the development of professional identity, this claim is debateable.

Controversy aside, unlike the previous focus of addressing disadvantage, this academisation had the specific intention of increasing autonomy because academy schools would be exempt from following the national curriculum (Smith, 2023). Following this initial introduction in a published White Paper which saw the ‘best schools’ fast tracked to conversion (DfE, 2010: 4), the government in England actively encouraged primary and secondary schools to become academies (DfE, 2015), with many being ‘lured by the offer of a sizeable portion of cash previously held back by local authorities’ (Benn, 2023: 30). What followed is considered to be a ‘large-scale restructuring’ of the English education system through a ‘mass academisation process’ (Eyles *et al.*, 2018: 121). There has been a continued effort to reform the education system through this process of academisation. Policy documents set out ‘the case for a fully trust-led system’ (DfE, 2022d) and describe ‘an ambition for all schools to be in a strong multi-academy trust (MAT), or with plans to join or form one, by 2030’ (DfE, 2022a: 3). Multi-academy trusts are ‘groups of academies which are run by a single organization’ (Benn, 2023: 28) but there is little to suggest that joining them will increase educational quality (Benn, 2023: 31).

Data published by the DfE (see Table 1 below) indicates that the government’s plans are being realised. As of the 2022/23 academic year, forty-one percent of schools have academy status, and the number of academies has been steadily increasing.

*Table 1: School Types*

Academic Year	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Total	24,288	24,281	24,316	24,323	24,360	24,413	24,454	24,442
Academy	5,425	6,345	7,469	8,398	9,041	9,444	9,836	10,176
Independent	2,311	2,297	2,320	2,319	2,331	2,366	2,394	2,408

LA									
Maintained	16,552	15,639	14,527	13,606	12,988	12,603	12,224	11,858	

(DfE, 2023a)

Of significance to this study is the suggestion that in order for schools to improve under this new form of autonomy, a focus on ‘accountability for student performance’ (DfE, 2010: 12) was necessary. To support proposed accountability measures, was the suggestion that the government would ‘make sure that schools have access to evidence of best practice, high-quality materials and improvement services which they can choose to use’ (DfE, 2010: 14). The selection of materials and improvement services as well as subsequent funding of the EEF sees a preference for and prioritisation of specific forms of evidence. While academisation was intended to increase school autonomy, the resulting use of evidence to satisfy accountability expectations could restrict pedagogical choice. Leaders in an effort to avoid ‘the threat of a poor Ofsted judgement’ (Benn, 2023: 32), are risk adverse in their response to these expectations and look to policy for approved teaching strategies. Continuing to teach the national curriculum is an example of such practices. As a result, the movement of schools into MATs which was marketed as being a beneficial power shift, through more rigorous accountability of outputs, ‘does not necessarily deliver the promised levels of autonomy’ (Innes, 2021: 334). This new structuring of education brings with it different layers of accountability and could affect the ways in which teachers are positioned.

## The Pedagogic Recontextualisation Field

The pedagogic recontextualisation field ‘consists of pedagogues in schools and colleges, and departments of education, specialised journals, and private research foundations’ (Bernstein, 2000:33). In this section, I will explore how evidence from official and unofficial spaces comes to be used in educational practice.

The notion of educational practice is often overlooked; instead, there is an assumption that when we use the term, it ‘is so straightforward and clear that we can safely rely on our common-sense understanding’ (Carr, 1993: 160). For example, the

Initial Teacher Training Core Content Framework, which sets out the minimum entitlement for training teachers in England, 'details practice-statements' but does not explicitly define the term; instead, it explains that these are linked to 'learn how to...' prompts (DfE, 2019a: 5) which suggests that one's practice is about taking specific actions. The framework is accompanied by a summary which is called 'The trainee teacher behavioural toolkit' (DfE, 2024) which emphasises the action-based nature of how policymakers frame practice. Likewise, in Gorard's book, 'Getting Evidence into Education: evaluating the routes to policy and practice' (2020), the word practice is also not defined. Instead, Gorard frames his discussion of evidence into practice as 'evidence-into-use' (Gorard, 2020: 7) which also suggests that practice is linked to action rather than to knowledge or theory.

Carr explains that there are times when the concept of practice is 'defined and understood in terms of its relationship to theory' where practice and theory are opposed to one another; In this model, theory is abstract and pressure free and practice is concrete and responsive to demands (Carr, 1993: 161). He goes on to suggest that this is an oversimplification as there are often instances where the lines between theory and practice are blurred which might indicate that they are more linked than policymakers might acknowledge. The practical and deliberative elements will always form an element of practice but does not encompass the entirety of the concept because teaching is located within a socio-cultural context and is significant in that a teacher will, beyond the demands of the classroom, indirectly contribute to broader educational goals (Deng, 2023). For this reason, it is argued that to advance educational practice, 'three distinctive interrelated bodies of theory and research are necessary', these include considerations of the social, institutional, and the deliberative elements of education (Deng, 2023:7). It is with these latter considerations of educational practice, where teaching is complex and significant 'beyond the exigencies of a classroom' (Deng, 2023: 6) with which I am most closely aligned however, it is classroom practice which is often focussed upon in evidence-based practice research (Gorard, 2020). This type of practice refers to what is done in education and so emphasises action (Steadman, 2018:2)

Hammersley wrote that evidence-based practice is a slogan which has the rhetorical effect of discrediting opposition as those who would argue against such

practices would seem irrational (Hammersley, 2004: 134). However, how evidence-based practice is conceptualised is more complicated than most have acknowledged and would benefit from further attention (Hordern, 2019) because one can recognise the potential benefits to practice of research evidence and still suggest that there are problems and consequences with 'the evidence-based practice movement' (Hammersley, 2004: 134). This section will explore just a few examples of how evidence has been adapted and used in practice, specifically through evidence-based intervention products and strategies which I experienced, or which were discussed by interview participants, and will highlight the particular social dynamics which are instigated through their use.

In the past intervention products and strategies have been bought and or embedded into teacher pedagogy, only to find that the theories on which they rely have later been questioned. For example, the adoption of learning styles (Kirschner, 2016; Goswami, 2006), the use of Brain Gym (Geake, 2008; Goswami, 2006) and the highly contested and mandated inclusion of synthetic phonics in early reading (Wyse & Styles, 2007; Wyse & Bradbury 2022) have all been questioned. Some strategies are meant to address issues which may not even be responsive to interventions, such as improving resilience or building grit. According to Duckworth, an academic who studies the concept of grit, it is often the case that enthusiasm for new concepts gets ahead of the science on which they are based (Kamenetz, 2015). This situation is alarming because education can be damaged when 'persuasive but poor-quality evidence' is influential (Gorard, 2020: 7). The use of ineffective techniques can have negative effects on teachers who could waste time and energy adapting their practice or could end up doubting their skills and abilities.

There are many education interventions on the market today and these are often created by edupreneurs (a portmanteau made by combining educator and entrepreneur which highlights their capitalistic incentives). Building Learning Power, for example, was created by Guy Claxton, an edupreneur with a psychology background who is also a self-professed 'cognitive scientist, education thought leader, and prolific author' (Claxton, 2023). He developed a framework which he states is 'based on international research into how the mind works' (BLP, 2021) and 'is firmly grounded in both solid science and practical experience' (Claxton, 2002: 3). The solid



science he refers to is the work of Carol Dweck, a psychologist who explored ideas of motivation and developed the theory of growth mindset. In this, she explained that children with a growth mindset 'believe that they can develop their abilities through hard work, good strategies, and instruction' (Haimovitz & Dweck, 2017: 1849). The framework he describes is a toolkit which is meant to help teachers make their students better learners, specifically through improving their learning habits and resilience to failure and was developed with a company called TLO limited (Claxton *et al.*, 2011). However, they explain that 'it is well nigh impossible to draw hard-and-fast conclusions to prove that BLP has had specific effects on students' (Claxton *et al.*, 2011: 244) and so 'solid science' was not applied in the evaluation of this framework. Instead, an explanation of the usefulness of the strategies relied on an assertion that using BLP does 'not damage or jeopardise results' and 'may even improve them' (Claxton *et al.*, 2011: 244). With this was provided some statistical data but the cohort sizes were too small and the data too inconsistent to draw any clear conclusions.

Despite the lack of evidence to indicate their impact, the framework was purchased and implemented in schools. Claxton cited his first book *Wise Up* as the introduction to this learning theory which, according to his website, was 'too long and scholarly for most teachers' so he wrote *Building Learning Power* as a 'shorter, more practical version, spelling out what busy teachers can do' (Claxton, 2015). Within this summary is an implication that teachers may not be inclined or able to engage with research. His perception of teachers' failure to engage with research could be an acknowledgement that teachers lack time or that they might be physically unable to access academic literature which often sits behind paywalls. Whether he was suggesting that teachers are unable to engage with the type of literature or whether he was merely pointing out the barriers to doing so, he highlighted a few reasons why edupreneurs might be able to capitalise from products such as his.

Claxton is not alone in this assertion that teachers struggle to access research. Thomas writes that 'the nature and presentation of research-evidence' makes it difficult for teachers to use, explaining that they are 'less successful in employing this additional corroborative evidence' (Thomas & Pring, 2004: 9). It seems that there is a suggestion that this research should be recontextualised so that teachers are able to use it more easily, however, the word corroborative suggests that research should

supplement some form of professional knowledge, perhaps knowledge which is linked to either context or experience. Arguably, research evidence and the intervention products which derive from that evidence are presented as though they can be used in lieu of, rather than to complement, professional knowledge. An example of this is when teachers are trained to use Building Learning Power vocabulary but are not given background information on the growth mindset psychology which underpinned it, or when they are taught about interventions but not allowed to decide when or how they should be used in their contexts. Debatably, in these scenarios, teachers' professionalism is restricted rather than enhanced as their 'scope of teacher autonomy and judgement' is limited (Hordern & McMahon, 2019: 249).

Additionally, while packages such as Building Learning Power are described as 'evidence-based' it can be difficult to provide evidence which confirms their usefulness as learning interventions. Many are meant to improve growth mindsets, mental wellbeing, and student dispositions, which are complex and inconsistent. Measurements would be self-reported and unreliable or would depend on data, such as improved test scores or better attendance, which could be influenced by a host of different variables.

### Teaching for Mastery

Edupreneurs are not alone in their use of evidence to persuade practitioners to use their strategies, policymakers also use research evidence to justify their suggested approaches. The Department for Education cite their preferred method for teaching mathematics which is teaching for mastery (DfE, 2020b), an approach which 'the government has spent £100 million' to develop through its 'Teaching for Mastery maths programme' (Parker, 2022: para. 1). The preference for mastery is linked to the OECD's Programme for International Student Assessment (PISA). PISA measures '15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges' (OECD, 2023). Interpretations of the results of the 2018 cycle found that, for most countries, the best predictor of a student's educational outcomes is their socio-economic background. However, 'students in four provinces/municipalities of China – Beijing, Shanghai, Jiangsu, and Zhejiang – outperformed their peers in all of the other 78 participating education systems'

despite being from regions where the level of income is 'well below the OECD average' (Schleicher, 2019: 5). As a result, education systems in China were believed to be more equitable than in other countries and so their teaching strategies attracted attention. The findings report goes on to describe the education systems in East Asia where 'mastery learning is often used to strengthen growth mindset' (Schleicher, 2019: 38). The building of growth mindset has been an ongoing focus in England, one which often involves strategies around the use of language which is intended to encourage the development of traits such as resilience (see for example Claxton, 2015, which is discussed above). However, the focus of mastery teaching is more aligned with measurable outputs where, with this approach, all students have the same goals and teachers 'do whatever is needed to ensure that each student has the opportunity to learn the material in ways that are appropriate to him or her' (Schleicher, 2019: 38).

Teaching in this way is often presented as a replacement to differentiation, where either the teaching strategies or the expectations on pupils can vary depending on the needs of groups of pupils. Instead, mastery teaching is the idea that all pupils should 'reach the same high standard of proficiency' and is 'currently in vogue in English schools' (Gary, 2020: 1). Its popularity could be because of the argument that by reducing variation and ensuring that all students succeed in each task, there is a 'weaker impact of socio-economic status on learning outcomes' (Schleicher, 2019: 38). Despite the success of mastery teaching in East Asia, policy borrowing from such a culturally distinct context is problematic (see for example Clapham, 2023). Regardless, teaching for mastery is believed to address issues of equity and could be seen to be actively advantaging disadvantaged students. Using strategies to attend to this expectation is a particular focus for school leaders (see for example Garry, 2020), one which is being addressed through precision teaching, pre-teaching, and post-teaching interventions. These interventions could be used to support any subject though are often discussed in relation to the teaching of mathematics because these strategies are cited by the National Centre for Excellence in the Teaching of Mathematics (NCETM) as related to the mastery pedagogy (NCETM, 2016). The NCETM is funded by the DfE and was set up to provide professional development in the teaching of mathematics (NCETM, 2023b). Given the inherent link of the DfE to accountability

systems, specifically through Ofsted, as a DfE stakeholder, the NCETM's guidance is likely to be heeded by school leaders.

These interventions, despite being linked to the mastery pedagogy, could undermine the philosophy of that approach, one which was cited earlier as being used to strengthen pupils' growth mindsets (Schleicher, 2019: 38). A growth mindset, as was described previously, is one where children believe that their abilities are not fixed and that they can be built with hard work and support from others (Haimovitz & Dweck, 2017). The aim of pre-teaching interventions, however, was one of efficiency rather than character development. It is explained that 'pre-teaching component skills results in more rapid learning of a complex skill than teaching the components at the same time as the complex skill' (Carnine, 1980: 375). The teacher's need for efficiency, rather than student development, could be motivating the use of this strategy.

Philosophical differences aside, the research base for pre-teaching warrants attention. Research proceedings in 2019 (Trundley *et al.*, 2018) which heralded the benefit of pre-teaching and assigning competence, described research which was funded by a county council and conducted by a learning and development partnership that provided education improvement and specialist intervention services. The research referenced its own reports as evidence and the findings supported the training which these education consultants, for a fee, delivered to schools. That learning development partnership has since been transferred to the same county council which funded the research.

In this research, there was also the idea that through pre-teaching, teachers can 'assign competence' (Trundley *et al.*, 2018: 184) to students who lack the confidence to participate in lessons. Like developing a growth mindset, assigning competence is the notion that through instilling a belief of intellectual potential in students, teachers can address unequal participation (Lotan, 2010: 35). Influenced by Gardner's multiple intelligences, a recommended strategy is to acknowledge the different 'intellectual abilities' which a task might require. The goal of acknowledging these differences is to ensure that students understand that everyone has some abilities but that no one has all, ultimately creating an environment where students serve as 'intellectual resources for one another' (Lotan, 2010: 36). It is very much

focussed upon a student's perception of themselves in a group, where teachers 'point out to the student and to the group what the student did well and how his or her contribution is relevant to the group's success' (Lotan, 2010: 37). The purpose is to increase the student's status through identification of how that student's contributions are needed by others. Arguably, attempting to assign competence in pre-teaching, an intervention which often takes place in a small group, is often led by a teaching assistant, and often occurs out of the sight of peers, will not have the desired effects, because perceptions of others is influential in developing one's own growth mindset. Additionally, Gardner's multiple intelligences have also been faced with criticism and is another example of theories which have been contested (Waterhouse, 2006; Gardner & Moran, 2006) but which are seen to be unproblematic in their influence of practices in education.

Another strategy which has been associated with teaching for mastery is precision teaching. This approach was developed by Ogden Lindsley, a psychologist and professor of education, to 'track the learning and performance' of students through the use of a five-step system (Johnson & Street, 2013: 20). The intention of that system is to support learners in practising component skills and concepts which are needed to achieve mastery of complex behaviours (Johnson & Street, 2013: 22). According to precision teaching, fluency is an indicator of whether mastery has been achieved and is supported by behavioural and cognitive psychologists who suggest that fluency is taught through 'deliberate and well-designed practice' (Johnson & Street, 2013: 23). While not called precision teaching, training teachers are expected to develop their pupils' fluency by 'observing how expert colleagues use retrieval and spaced practice to build automatic recall of key knowledge' (DfE, 2019a: 14). This is like precision teaching where, to achieve fluency, performance frequency is seen to be fundamental (Johnson & Street: 2013: 24). Therefore, the mastery approach is not just a preference as teachers are expected to develop their understanding and use of associated strategies.

While the government prompts the use of some strategies, others might be selected because they are perceived to be well aligned with mastery teaching. One such example is Rosenshine's Principles (Rosenshine, 2012). Rosenshine's principles, which are said to be supported by 'research on how the brain acquires and uses new

information' (Caviglioli, 2016), prioritises daily review and the breaking down of material into small steps. This process is much like the frequency and component skills dimensions of precision teaching. Within a context where interventions are being drawn upon to support mastery teaching, it is then not surprising that Rosenshine's principles are also experiencing popularity (see, for example, Grace's extract in chapter 5). The learning goals inherent to teaching for mastery, where all students are expected to master specific skills, is also aligned with the strategies outlined by Rosenshine.

Rosenshine's principles are ten 'research-based Principles of Instruction' which were published in 2010 by Barak Rosenshine, a professor of Education at the University of Illinois (Rosenshine, 2010). His principles have 'permeated education, from teacher training courses to head's offices, and have come to be seen as a framework for the entirety of "good teaching"' (Powell, 2020: para. 1). This description appeared in *The Times Educational Supplement*, a publication which is aimed at educational professionals. The article detailed perceptions of the popularity of Rosenshine's principles as well as quotes from the editor of his original booklet. In these, the editor explained that Rosenshine started with 17 strategies, but that these were slimmed down to ten principles so that they would be simpler and more concise, particularly to suit international dissemination of the booklet (Powell, 2020).

The principles are a recontextualisation of studies which Rosenshine synthesised to create, what is framed as, the most successful teaching strategies. He explained that he drew upon three sources of research: cognitive science, observations of master teachers, and findings from studies that taught learning strategies to students (Rosenshine, 2010). The twenty-five references range from 1956 to 2007 though the majority were published between 1974 and 1996, where there were seven citations for each decade. In short, while these strategies have widespread influence, the research base is fairly limited in number and, given the original marketing of 'timely syntheses of research on educational topics' (Rosenshine, 2010: 2), could be viewed as somewhat outdated (these sources will be analysed further in the documentary analysis section of this thesis). In his original booklet, readers were encouraged to critically engage with his findings. They were prompted to develop their own understanding through suggested readings which accompany each strategy, as

well as through the adaptation of strategies to their own local conditions (Rosenshine, 2010).

What readers might also consider is Rosenshine's definition of 'master teachers' which inherently identifies his view of the purpose of education. Master teachers were defined as 'those teachers whose classrooms made the highest gains on achievement tests' (Rosenshine, 2010: 6). The assumption here being that high performance on achievement tests is the most important outcome of education. The limitations of such a measure have been widely documented (see for example the limitations of using PISA data in Hopfenbeck, 2016), though in terms of the teaching for mastery movement in England, which was influenced by the assessment results generated from participation in PISA (Schleicher, 2019: 38), these strategies are well suited as they attend to the priorities of the government's preferred pedagogy (DfE, 2020b). Additionally, after Rosenshine published his principles, England introduced a new accountability system for secondary schools which would, through what was called Progress 8, measure the progress a pupil made between the end of primary school and the end of key stage 4 (DfE, 2014). Explained as a 'type of value-added measure' (DfE, 2014: 3), rather than attainment alone, the amount and pace of progress became a focus. As such, the use of Rosenshine's strategies, which were modelled on master teachers who made the 'the highest gains', would again be seen to be aligned with accountability measures of the time.

Whether it is due to their simplicity, evidence base or alignment with policy priorities, Rosenshine's principles have been redistributed widely, in various forms and in many spaces. After his booklet was published, he wrote an article for the American Educator (Rosenshine, 2012) which, at the time of writing, Google Scholar linked to 73 additional versions. Subsequently, his ideas were summarised into a popular poster (Caviglioli, 2016), have been covered in various blog posts (see for example McGill, 2018), have been turned into videos for the EEF (Kaiser, 2021) and YouTube, and have been developed into a self-professed 'practical guidebook for teachers' (Sherington, 2019). The latter 'sold more than 60,000 copies in a year' (Powell, 2020). According to the author, the book demonstrated how these strategies could be put into practice through a 'condensed' version of the principles into four strands, a decision which was made to suit the timings of conference presentations (Sherington, 2019) rather than

the needs of teachers. Caviglioli reworked his poster to reflect Sherington's four strands which was then relaunched to further guide the implementation of Rosenshine's strategies.

Along this journey, where recontextualised research was repeatedly recontextualised, the resulting strategies have been moved further and further from the original research which prompted their use. In these recontextualisations, a bit like a resource which has been photocopied from a succession of photocopies, the original source material has become increasingly blurred, until which point it no longer bears a resemblance to that original. For the scientific research papers from which these recontextualisations were produced, the fuzzy outlines obscure the contexts in which, and purposes for which, they were created. This blurring prompts the reader, viewer, or consumer to unquestioningly adopt assumptions. Ultimately, the acceptance of strategies, due to faith in their scientific framing, is a de-prioritisation of contextual factors which could prove to have detrimental effects on teachers who hope to use their own experiences to inform their teaching pedagogies.

## Pedagogic Identity

In this section, I will consider various ways in which the official and pedagogic recontextualisation fields (Bernstein, 2000: 33) contributes to the positioning of teachers. Of particular interest is their initial teacher training, induction training, and professional development training. In these pathways, the input from higher education institutions is being reduced which could influence teachers' professional identities.

To what extent teachers are considered professionals is 'shaped by relations between the social and the epistemic' (Hordern, 2014: 508) and often changes depending on socio-political climates. The focus here is on the suggestion that professionals are those who undertake a process of accreditation by engaging with what has been deemed appropriate knowledge for that profession (Hordern & McMahan, 2019). In England, the vast majority of teachers hold qualified teacher status, even when 'teachers in free schools, studio schools and academies are technically exempt from the requirement' (Noble-Rogers, 2021: 22). As such, for most, becoming a teacher involves earning that qualification through accredited pathways



which are delivered through higher education institutions or school contexts. These official recontextualisation fields (Bernstein, 2000: 33) play ‘a pivotal role in the shaping of ideas concerning teachers’ professionalism and expertise.’ (Hordern & Brooks, 2023: 3).

Having been called ‘Initial Teacher Education’ (Ofsted, 2023b), preparing to become a qualified teacher in England now begins with ‘Initial Teacher Training’ (DfE, 2019a). The change in terminology is a meaningful shift as Pring warns, ‘beware, therefore, those who, in the interests of research or political control, change the language of education’ (Pring, 2015: 35). Disagreeing with the statement that ‘education and training are not necessarily discrete processes’ (Elliott, 2004: 172), Mills (2023) posits that a discursive shift toward teacher training impacts what it means to be a professional teacher (Mills, 2023: 208). Arguably, education and training cannot be conflated as they are two distinct processes which strive toward different goals; ‘education is about transforming the mind to equip us for independent judgement and rational action; whereas training should be directed towards practical skills for particular ends’ (Chitty, 2009: 259). Education seeks to ‘transform who we are and what we can do’ and ‘is an experience of identity’ which ‘is not just an accumulation of skills and information but a process of becoming.’ (Wenger, 1998: 215). Whereas discourses aligned with training, relate to a form of managerial professionalism’ (Mills, 2023: 207) rather than ‘intellectual workers who make considered decisions’ (Mills, 2023: 208). Ultimately, the words chosen to describe teacher development are significant.

Teacher training reforms extend beyond the title of the process. These reforms were prompted by an independent market review of ITT which was conducted in 2021 (DfE, 2021a), in which all teacher training providers in England were required by the DfE to apply for a new accreditation. Only those providers who met its reformed criteria (DfE, 2021b) were awarded accreditation or reaccreditation. As a result, from September 2024, there will be a reduction in the number of higher education institutions that were accredited to provide ITT training in England; this meant that 17% of higher education institutions, including some which had been graded ‘outstanding’ were controversially de-selected (Daly, 2023: 153). The DfE suggested that this would create a ‘reformed market’ (DfE, 2022b: 23) and would ensure that all

training teachers will receive high-quality and evidence-based training opportunities. However, particularly during an ongoing teacher recruitment and retention crisis, (Noble-Rogers, 2021) the motives of such changes are questionable.

In England, this government control of education, including in teacher education, has been ongoing (Turner-Bisset, 1999: 39) and has been acknowledged as being highly influential in the 'recontextualisation of knowledge for teacher education' (Hordern, 2017: 205). Despite the continuing interference of government in all aspects of education (Turner-Bisset, 1999: 39), teacher educators, through publication of an open source book entitled 'Teacher Education in Crisis: the state, the market and the universities in England' (Ellis, 2023) are actively voicing their concern about recent and extensive changes to teacher education policy. These reforms imply even 'greater centralised control of ITE curricula' (Burn *et al.*, 2023: 1) which is believed to be detrimental to the teaching profession, not least because they 'undermine the development of teacher identity' (Steadman, 2023b: 179).

The new ITE curriculum is detailed in the core content framework which outlines the required teacher training programme that accredited providers must demonstrate that they are delivering. It 'mandates certain content and proscribes other knowledge, with compliance micromanaged nationally by central government' (Ellis & Childs, 2023: 1). By requiring providers to adhere to the specific knowledge of the core content framework, that knowledge which downplays 'the often-contested nature of evidence in education' (Steadman, 2023b: 186), the government is creating 'a type of official pedagogy' (Hordern & Brooks, 2023: 3). This official pedagogy positions 'teaching as a technical performance and leaves gaps in the knowledge and understanding a new teacher requires to make sound educational judgements' (Hordern & Brooks, 2023: 3). The assertion that policymakers view teaching as a technical performance is also apparent in how the reformed market sees the government shifting its favour of ITT provision from training in HEIs to training in school-centred contexts. These non-university pathways 'work on the assumption that teachers need to be trained rather than educated' (Mills, 2023: 208) and is a move which, coupled with increased curricular control, could limit the amount and forms of educational theory with which new teachers might have the opportunity to engage. The de-prioritisation of theory is demonstrated in the core content framework which

focuses on skills through the use of 'learn how to' statements (DfE, 2019a) rather than theoretical concepts. 'Learn that' (DfE, 2019a) statements are also included though statements such as 'learning involves a lasting change in pupils' capabilities or understanding' (DfE, 2019a: 11) are framed to be undeniable truths rather than concepts which are open to interpretation.

The motivation for these changes is rooted in policymakers' suggestion that those training to be teachers would benefit from a more 'robust' and 'evidence-based' (DfE, 2021a) training provision. While ensuring standards are maintained is, in itself justifiable, the term evidence is used here as a tool to oversimplify and even undermine the complexity of the profession. Throughout the review, there is repeated emphasis on 'consistency across partnerships and between providers' (DfE, 2021a: 8). This consistency refers not only to minimum training expectations, but also serves to enforce policy-backed strategies. In the case of systematic synthetic phonics (SSP), it is a requirement 'that time is not used teaching alternative approaches' (DfE, 2021a: 13). This stipulation could have the effect of censoring research which is contradictory to current policy standpoints (see for example Wyse and Bradbury, 2022), a move which could limit teacher knowledge. Ultimately, these constraints are likely to limit the extent to which teachers can support students with differing needs.

In the past, the DfE favoured school-led ITE programmes and teacher training 'places were in effect taken away from providers that could fill them in favour of providers that could not' (Noble-Rogers, 2021: 26). Shifting training from institutions which support and engage with a variety of theoretical standpoints into school contexts is another example of 'complexity reduction' (Biesta, 2020: 40) in education. While training in schools, student teachers often focus upon the practical elements of the job as this is where they have 'opportunities to use approaches defined in the ITT Core Content Framework' (DfE, 2019a: 5). There, in attending to a single school's priorities, students are less likely to be exposed to the breadth of theory and experiences which would be available in institutionally based training. As such, shifting the preferred context of teacher training, could indicate that the government is working strategically to reduce challenge and reaffirm specific forms of knowledge. In doing this, there is the potential consequence of limiting opportunities to develop varied, or personal, professional knowledge. While this project does not have a specific

focus of investigating initial teacher training, understanding the current climate of evidence use in these early stages of teachers' development is significant and useful when analysing discourse around subsequent professional development practices.

Continuing Professional Development (CPD) varies and is influenced by school contexts and stakeholder groups (Ofsted, 2023). It can take the form of activities or programmes and, guidance suggests, should be underpinned by five standards. Two of these standards are that it should 'have a focus on improving and evaluating pupil outcomes and should be underpinned by robust evidence and experience' (DfE, 2016: 6). According to policy guidance, professional development is believed to be most effective when it draws on an evidence base which includes 'high-quality academic research, and robustly evaluated approaches and teaching resources' (DfE, 2016: 8). The standards also suggest that this development should include collaboration and expert challenge (DfE, 2016); however, these aspects seem to have been deprioritised in a system where policy backed initiatives are presented as being supported by evidence which is believed to be so robust as to not warrant challenge. Again, the mandatory teaching of reading through synthetic phonics is a prime example of this situation. As such, CPD activities often focus upon training teachers to respond to these evidence-based initiatives.

Recent early career framework reforms see a doubling of the length of professional development for early career teachers which takes place after their initial teacher education. 'This is designed to help enhance their practice, knowledge and working habits' (Ofsted 2023b). Their professional development is structured through an early career framework which transforms 'the support and development offer for teachers at the start of their career' (DfE, 2019b: 4). Each aspect is underpinned by 'the best available evidence' which has been independently reviewed by The Education Endowment Foundation (DfE, 2019b: 4); the problematic nature of both the use of evidence and the EEFs allegiance has been discussed earlier in the literature review.

The centralised control of curriculum which is seen in teacher training and ECT training continues in other formal continuing professional development pathways. Increasingly, employers in education are favouring government led national professional qualifications (NPOs), 'national, voluntary suite of qualifications, designed to support the professional development of teachers and leaders' (DfE, 2022c: 6) over

postgraduate degrees such as the master's in education. NPQs have been described as part of reforms which 'have created a 'golden thread' of high-quality evidence underpinning the support, training, and development available through the entirety of a teacher's career' (DfE, 2022c: 5). They are endorsed by the EEF, described as flexible and funded by the DfE so are free to teachers and leaders in England (DfE, 2023b) which makes them both accessible and appealing. That said, these qualifications, and more generally, the 'golden thread', are seen to be contributing to the 'ever-increasing centralization and control of teacher education and continuing professional development' (Lofthouse, 2023: 144). As such, the value of NPQs to professional development is contested.

The term a 'pedagogy of professional decline' is now being used to describe the current context of professional development, one which reflects the assumption that teachers are not equipped to engage with complexity. It is a newly coined phrase by Rachel Lofthouse, Professor of Teacher Education in the Carnegie School of Education who uses it to describe continuing professional development practices which 'reduce agency, neglect expertise, drive conformity, narrow opportunities, damage relationships.' (Lofthouse, 2023b). Her views are echoed in an independent review which found that 'ECTs and staff undertaking NPQs said that these programmes are generic', lack flexibility, and use course materials which are irrelevant and repetitive (Ofsted, 2023c).

How teacher training pedagogy can impact the profession is a crucial point. Bernstein voiced his concerns about the way in which pedagogy can be used and stated that:

Pedagogy is simply seen as a technology. That a group of people can somehow put together discourse aimed at producing changes in individuals' experience, knowledge and competency in an almost mechanical way. That this pedagogy that they produce is completely recontextualized from the rest of the acquirer's lifespan... how to combine relevance and meaningfulness is a challenge of pedagogy... you cannot design a pedagogy without making explicit the regulative discourse that regulates it (Lukin, 2012: part 3, 08:30).

In this extract, there is a focus upon pedagogy which is aligned to individuals, one which Bernstein suggested should enable, rather than disable, the acquirer (Lukin, 2012). Though why a pedagogy may not be enabling was attributed to the regulative

discourse to which it attends. In the case of teacher training and development, the regulator is the English government.

It is argued that 'recent governments in England have taken a prescriptive approach to teachers' knowledge' (Hordern & McMahon, 2019: 252). That prescription is apparent in training, specifically through formal pathways of ITT, ECT induction and professional development through NPQs. In these, only specific evidence, that which has been selected by policymakers (their preferences for which were earlier seen to be problematic), may be used which effectively limits teachers' engagement with theories which might challenge education policy agendas. Kuhlee and Winch (2017) explore conceptualisations of teachers and suggest that the 'English conception of teaching is a craft informed by teaching' though their definition of an executive technician' is most aligned with the training practices discussed thus far. This is a person who 'does not need to understand research or its implications, only the teaching protocols that issue from it' (2017: 233). Here, there is an increased emphasis on 'effective practice in operational conditions' and a 'tendency towards oversimplification', which is usually associated with trades and those 'occupations which do not have professional or semi-professional status' (Kuhlee & Winch, 2017: 235). Training practices suggest that this level of knowledge is sufficient and so begins to position teachers as technicians rather than professionals.

Teachers' professional knowledge is far more nuanced than policymakers might acknowledge. In training, curriculum content is often focussed upon. However, what is perhaps more pertinent is the knowledge or 'expertise' which allows them to 'translate that content into something meaningful for students' (Hordern & McMahon, 2019: 251). Dewey would argue that a teacher's personal experience is important. Pring explains that, pragmatically speaking, teachers 'through a wide range of experience, which is constantly adapted to reach certain ends-in-view, will have a different kind of knowledge from the person who has simply read about teaching in books' (Pring, 2007: 58). For him, there is a distinction between thinking about content or even theories which might exist in books and the actions of teaching.

In explaining Dewey's theory of experience, Pring states that:

Intelligent teaching is not a matter of applying theory or research to the act of teaching; it is a matter of adapting appropriately to different circumstances-

have learned from previous experiences, even if that learning cannot be articulated (Pring, 2007: 58).

He distinguishes intelligent teaching as that which involves adapting to context, which would require a level of autonomy to develop. Learning is often not acknowledged if it is not articulated, though here, instead of being a drawback, points to a deep personal and often tacit knowledge. Tacit knowledge was first described by renowned scientist and philosopher, Michael Polanyi, as knowledge which is not 'tellable' (Gascoigne & Thornton, 2014: 3). In other words, it is knowledge which is internalised and cannot be articulated. This personal knowledge is comprised of two aspects, the first is that 'it is practical knowledge connected to skill and ability' and the second is that 'it is connected to the exercise of a skill in particular contexts.' (Gascoigne & Thornton, 2014: 5). Thus far we have seen the oversimplification of positivist paradigms, evidence from which has been evoked to shape the strategies used in teaching; however even Polanyi, a scientist first and foremost, valued personal knowledge which was both based on experience and context specific. Accordingly, professional knowledge is that which develops through training and experience. However, teachers' professional identities are impacted by the degree to which that professional knowledge is socially recognised.

Teacher identity is described as a 'slippery term' (Steadman, 2023a: 2) and is a concept which is not universally accepted (Czerniawski, 2011). Gee suggests that 'socially significant kinds of people' (Gee, 2014: 23), such as teachers, who must be socially recognised in their identities, engage in enactment which sees them having to 'talk the right talk' and 'behave as if they believe and value the right things' (Gee, 2014: 24). In this way identity is seen as a performance (Gee, 2014: 24), with what is 'right' being determined by accountability measures. As such, identity construction is then influenced by policy priorities. To this end, 'Ball explains that 'teachers' professional identities are deeply affected by performativity' (Hordern & McMahon, 2019: 254); Bernstein's theories of pedagogic identity offer a view of just how that performativity can impact teachers' professional identity.

According to Bernstein, there are two types of identity: retrospective and prospective. Retrospective is concerned with 'narratives of the past' where the focus is on inputs of education. (Bernstein, 2000: 67). In prospective identities, careers are

foregrounded and are 'formed by recontextualising selected features from the past to stabilise the future through engaging with contemporary change' (Bernstein, 2000: 68). Political change instigates a change of players, but through control of inputs and outputs in education, affects changes in teachers' actions which are 'in the service of different prospective identities' (Bernstein, 2000: 68). For example, 'closing the gap' initiatives had the specific focus of addressing social inequalities by improving social mobility through education (DfE, 2017b). Improving language and literacy was a priority, but following initiatives to increase rigour, certain oral skills, such as the graded component of English GCSEs, were scrapped. Admittedly the literacy focus was intended for early years; however, when strong language and literacy skills are identified as necessary precursors to success for those from disadvantaged backgrounds, it is difficult to understand why it would not be prioritised in all levels of schooling. This aside, a disparity exists even within early years where in levelling up, the teaching of phonics is identified as a central focus as it is believed to be an initial building block of early literacy (DfE, 2017b: 11). In the literature review, the controversy surrounding the use of evidence to support the teaching of phonics was introduced. However, within this discussion, the prescriptive use of these strategies particularly when they are not seen to be addressing policy priorities, can be seen to cause a clash of identities. On the one hand, teachers are expected to 'close the word gap' (DfE, 2017b: 4) but on the other they are required to use 'a single teaching approach' which may not be best suited to address the former expectation (Wyse & Bradbury, 2022b: 247). Regardless, inputs such as these are measured through outputs of statutory assessments, which in this case is through Phonics Screening Checks (Wyse & Bradbury, 2022b).

In discussing outputs, Bernstein notes that those which are costly or difficult to measure come from a projection of identity which is weak and so the social group which sponsors it has little power (Bernstein, 2000: 68). As such, despite collective discontent from teachers where they value different aspects of the education system than perhaps policy makers, in for example a focus on personal or social development (Geake, 2009: 2), they are unable to elicit structural change. As their priorities often value elements which lack measurable outputs or are too costly to implement or maintain, they are left in a weak position. Finally, pedagogic identity, according to



Bernstein is conceptualised through his theories of recontextualisation. As such, it is this element of Bernstein's pedagogic device which warrants particular focus and attention when analysing how evidence use positions teachers.

Thus far, examples of how the development of professional identity might be limited have been explored, though some might question why this situation deserves attention. As it stands, the profession is unsustainable, 'each year, some 10 per cent of teachers leave the profession' and 'over 33 percent leave within the first five years' (Noble-Rogers, 2021: 23). There is a suggestion that this premature departure and teacher shortages, in general, 'are partly created by government policies' (See & Gorard, 2019: 417). A report published in 2018 found that lack of job satisfaction was a contributing factor but that pay had little influence as many left 'to work in less well-paid jobs' (Noble-Rogers, 2020: 24). Arguably, rather than investing in costly initiatives which are meant to improve the situation (See & Gorard, 2019: 416), more attention should be paid to the 'debates about whether educational practitioners are professionals' (Hordern & McMahon, 2019: 247). Perhaps giving attention to how policy discourse aids or hinders the development of a professional identity could mitigate the teacher recruitment and retention crisis in England. A notable gap in teacher identity research is the experiences of primary school teachers (Rushton *et al.*, 2023). This research aims to add to the field by considering, for these teachers, the impacts of training practices surrounding the use of evidence-based interventions which have undergone a process of recontextualisation (Bernstein, 2000: 31).

## Selection and Definition of Key Terminology

Acknowledging that words can have many different meanings and to avoid ambiguity about what is being researched (Pring, 2015: 17), the terms intervention and brain-based are explained below.

### Intervention

The beginning of this research project coincided with the start of the Covid-19 pandemic. As a result, the language chosen was heavily influenced by the DfE recovery premium. In an initial press release, which detailed an education recovery package, it was explained that 'Education Recovery Commissioner, Sir Kevan Collins, will lead the

way on longer-term engagement work ... to review how evidence-based interventions can be used to address the impact the pandemic has had on learning' (DfE, 2021c). As a result, evidence-based interventions were focussed upon. Following data collection, it became clear that the word intervention deserved more attention than it was given. I had understood this to be any additional strategies which a teacher might use to support a targeted child or group of children in any aspect of their school day, learning or otherwise. However, interview participants were more inclined to discuss those steps taken to progress learning for students with special educational needs and disabilities or those who were below age-related expectations. For them, interventions were often delivered outside of the lesson and by someone other than the class teacher. In retrospect, initially I was perhaps more interested in evidence-based strategies which the class teacher drew upon during lessons; however, discussions around how these specific groups of children were supported was also relevant.

Admittedly this is a non-definition as it does not set out what an intervention is, and instead offers a sense of what it might be. The contested term served as a prompt into understanding evidence-based practice and interview participants unquestioningly accepted and discussed their strategies. In that way, it was useful. That said, the use of the word intervention in education has been criticised because it positions pupils as being deficient in their learning (Dinishak, 2022). It is a term which is often used in medicine and so is another example of how that field is informing the vocabulary, the practices and, inherently, the meaning of education.

### Brain-based

The specific focus on brain sciences was chosen as the learning sciences, and in particular educational neuroscience, are believed to have the potential to 'transform educational strategies' and 'could directly inform educational practice and policy' (Blackmore and Frith, 2005: 1). Drawing from reading about educational neuroscience, herein, the term 'brain-based' (Geake, 2008: 123) is used to refer to those strategies or interventions which are perceived to be underpinned by research in the fields of psychology, cognitive science, or educational neuroscience. This definition has been used consistently throughout the project, including in participant interviews. Brain-

based research, as was discussed earlier in the literature review, could appeal to practitioners, leaders, and policy makers (Geake, 2009) and so was chosen as a prompt for exploring evidence-based practice in schools.

### 3. RESEARCH THEORY and DESIGN

The core questions of this project are: What are the impacts on teachers' positionalities of training practices which are based on the use of evidence which has undergone processes of recontextualisation (Bernstein, 2000: 31)? And does the use of this type of evidence limit teachers' pedagogical options? The approach taken to answering these questions will depend on my views of knowledge and what it means to do educational research. In this section my understandings of reality and how knowledge can be ascertained about that reality are explored. As such my philosophical position of being a pragmatist is defined, as are its influence on, and relation to, my chosen research methodology of critical discourse analysis and my methods of interviewing and document analysis.

#### Philosophical Background

There was always going to be an element of disparity between my initial ontological and epistemological positions, if one chooses to see these as separate entities, my research and the learning I had hoped to do in the process. I am referring to ontology and epistemology as positions and not as dispositions because I do feel that my understanding of what knowledge is, and how we come to ascertain that, has been taught and learned. 'How we see the world does depend upon the ideas we have inherited' (Pring, 2015: 67) and to me, this represents the values of the education systems in which I have participated, one of which I am participating in currently. I tend to lean towards a type of postpositivism in that through realist tendencies have sought 'objective criteria for deciding what constitutes a warranted truth claim' (Hicks, 2018: 2). Also associated with postpositivism is a preference for 'strong objective knowledge' (Hicks, 2018: 2) which, I believe, limits the criteria which many might

accept as able to inform these claims. Given that I also value personal experiences, I recognised that the aims and objectives of this project would not have been fulfilled by attempting a large-scale study with generalizable results. I set out to explore complex educational processes and how this might influence the perspectives of certain actors therein. As such, a narrowly focused qualitative approach had the potential to allow for depth and could yield the most useful and worthwhile insights. I readily accepted a change in direction as part of the reason for embarking on this journey was to thoroughly examine my own personal views and to expand my ways of thinking. In so doing, I embraced Pring's attitude that 'growth of knowledge lies in the constant formulation of assumptions and beliefs and in the criticism of these in the light of evidence of their implications' (Pring, 2015: 150). Engaging with competing philosophical ideas to develop my research left open exciting possibilities for growth. Ultimately, in exploring these ideas, I realised that I was most concerned with how theories might help me to address a particular problem and came to understand this as a pragmatic approach to conducting research (Biesta, 2020: 9).

## Dewey's Pragmatism

In making the case for pragmatism, Biesta suggests that in order to use philosophical or theoretical tools intelligently, one should connect with both the 'particular context in which it emerged' and with the particular problems that their use was intended to address (Biesta, 2020: 10). The history of pragmatism is complex and rife with contested narratives; however, this philosophical tradition was brought to the forefront in 1898 by William James who, in an address to the Philosophical Union of the University of California at Berkeley, suggested that the origins of pragmatism lie in the guidance he received from Charles Sanders Peirce (Malachowski, 2013). This advice was to 'consider what effects, which might conceivably have practical bearings, you conceive the object of your conception to have. Then your conception of these effects is the whole of your conception of the object' (Malachowski, 2013: 2). The focus upon the practical bearings, or as I understand this, the effects on the world in which she who is doing the conceptualising lives, is crucial. Pragmatism asserts 'the view that human cognition is a matter of practice, rather than mere contemplation, and that it is inseparable from the subject's overall engagement with the world she cognizes' (Nevo,

2013: 84). Having questioned the purpose of engaging with philosophical thinking that I did not perceive to be directly relevant to my professional roles, these notions were well aligned with my own reasoning. As such, a deeper exploration of pragmatism and how this philosophical position was suited to this project ensued.

Dominant narratives suggested that the school of thought had been quickly overshadowed by analytic philosophy and that it was criticised as being intellectually inferior. However, others argued that much of what pragmatism 'had to offer was silently and smoothly absorbed rather than ignored or refuted' (Malachowski, 2013: 4). The contested arguments around whether it was disregarded or consumed are not directly relevant to this project; suffice it to say that regardless, pragmatism is now experiencing a revival. In the 'post-analytic' era of the early twenty-first century, 'pragmatism has once again become a philosophical tradition to be reckoned with' (Biesta & Burbules, 2003: 8). While gaining in popularity, historic arguments against pragmatism do warrant attention. In a critique in 1908, it was asserted that 'there were at least thirteen different pragmatisms' (Biesta & Burbules, 2003: 9). That said, difficulty in defining it does not necessarily mean it should be rejected. In fact, even pragmatists acknowledge that it is not seen as a single school of thought and is instead viewed as a family of thinkers who do not 'conceive of or speak of pragmatism in unison'. (Malachowski, 2013: 3). Peirce, James, and Dewey are considered to be the founding fathers of classic pragmatism, but it is Dewey's particular conceptualisations which are informing this project.

Dewey was both a 'bold and original philosopher and, of equal note, a prominent and innovative educator (Jackson, 2006: 57). As such his work appealed to different audiences who either appreciated him as a philosopher or as an educator, the distinct separation of which served to demonstrate 'the age-old cleavage between theory and practice, a dichotomy that Dewey struggled to overcome throughout his career' (Jackson, 2006: 57). It is perhaps due to this background that his philosophies seem so well suited to my own philosophical thinking as well as the themes of this project.

The difficulty in overcoming the fracture between theory and practice seems to resonate with many as those in educational research find Dewey's pragmatism to be significant; 'it provides a different account of knowledge and a different understanding

of the way in which human beings can acquire knowledge' (Biesta & Burbules, 2003: 9). His pragmatism is considered an anti-epistemology because his work rejects the separation between mind and matter. As such, the influence of experience on one's thinking and understanding of the world is a key concept; 'In the non-dualistic 'theory of experience' that Dewey argues for, the senses are the 'avenues of knowledge' (Pring, 2007: 57). Acknowledging the senses as influential in gaining knowledge also meant that they should influence how people are educated. Dewey wrote that 'there is an intimate and necessary relation between the processes of actual experience and education' (Dewey, 1996: 12). Though this is often underappreciated as experience is not often valued. He explained that in his view:

experience is too often seen as something different from and inferior to knowledge; it is identified with being practical and with particular circumstance, thereby lacking the superior theoretical understanding that is what education seeks to impart (Pring, 2007: 50).

How theory and experience are perceived in the process of teacher education and development is a crucial point of this research. However, while Dewey highlights the importance of experience and argues that 'an ounce of experience is better than a ton of theory because it is only in experience that any theory has vital and verifiable significance' (Dewey, 1916: 144), I perhaps believe that these should be given more equal weighting. The other caveat is that his use of the word verifiable demonstrates the influence that empiricism had on his ideas, and so employing his philosophies to problematise policymakers' preferences for positivistic research warrants consideration. Despite the wording, it has been suggested 'Dewey opposed scientific realism - the view that our best physical theories are our best account of reality' (Putnam, 2010: 35). For him values should guide actions and in this way theory and practice can, and should, be united (Putnam, 2010: 36).

For Dewey, science and religion were 'equal partners in the search for meaning of the experienced world' (Pring, 2007: 65). It is perhaps fair then to suggest that any methodology adopted in an inquiry which could help to make meaning of experience would be sufficiently justified. When religion is given equal weight in making meaning, it would seem that any publicly accepted methodology would be useful. Even art was seen to have a practical use and as such, that and religion 'had a function in the personal and the social organization of experience' (Pring 2007: 70). For this reason,

the influence of empiricism on Dewey's thinking should not be seen as incommensurable with this research because his focus was on the usefulness of research to make meaning of experiences rather than the preference for specific paradigms.

Thematically, Dewey's notions are useful though agreeing with his ideas about the importance of experience in building knowledge would not be enough to warrant calling myself a pragmatist. However, they have also been used to inform my research strategy. My belief in the inherent link between experience and knowledge was impacting my inquiry before I had the knowledge to express it. Prompted by my frustrations and desire to critique current practices, I was drawn to a critical discourse methodology which saw me developing a strategy where it might be possible to explore how language of evidence use might impact other teachers. For Dewey, knowledge should be inherently linked to a 'philosophy of action' and relevant to those who approach research from a 'primarily practical angle' (Pring, 2007: 9). This philosophy of action is the basis of CDA methodology (which will be described in the next section). Dewey's belief that pragmatism is a 'way of employing intelligence for the betterment of humankind' (Jackson, 2006: 60), sees his philosophical position as axiologically aligned to CDA. Dewey's interests and views about knowledge and inquiry resonated with me and solidified my view of myself as a pragmatist.

To conduct pragmatic research is to see inquiry as 'the attempt to make sense, but to do so in light of what other people have concluded in similar circumstances' by linking the personal experiences to the 'public world of knowledge' (Pring, 2007: 65). Here lies another potential issue as there are multiple worlds with their own knowledge traditions. For example, in England's educational policy papers, as was discussed in the literature review, there are specific methodologies which are favoured when building professional knowledge. However, in the academic 'world' other methodologies are preferred. So then through the selection of methodologies, the researcher should consider to which public world the knowledge generated in their inquiry seeks to contribute. It is the aim that the knowledge generated in this project be useful to those leading professional development opportunities, specifically so that they might consider how their use of evidence might affect the development of teachers' pedagogies.

## Critical Discourse Analysis

Thus far, the exploration of pragmatism affirmed the value of experience. My experience, a degree in English literature and job as an English teacher, imparted an acute appreciation of the effects of discourse and prompted me to explore how this could be focused upon in research. I perceived a problem in the way in which aspects of educational policy discourse were impacting my teaching practice. In line with Dewey's pragmatic approach which sees the 'acquisition of knowledge within the framework of a philosophy of action' (Biesta & Burbules, 2003: 9), I conceptualised a research project in which I could act within and upon this situation. As such, I was drawn to a methodology which would allow me to use my skills to delve into the impacts of language use in school structures and which, through a critique of current practices, could facilitate actionable insights.

Approaching discourse through a critical lens to 'understand and explain social phenomena' (Wodak & Meyer, 2016: 2) takes many different forms. Most agree that this involves an element which surpasses linguistic analysis. For some, these considerations fall under various types of discourse studies (Gee, 2014), others prefer critical discourse studies (Wodak & Meyer, 2016), and many choose to align with critical discourse analysis (CDA) (Fairclough, 2010). There are both overlaps and distinctions between and within these different understandings, whether that be in their implementation or motivation for use.

Explaining that there is not one method of doing a CDA, Wodak and Meyer prefer to avoid confusion by calling this methodology critical discourse studies or CDS (Wodak & Meyer, 2016: 3). While this project does draw from their work, it is acknowledged and understood that within this CDA due care has been taken to mitigate any potential for perceived assumptions that the methods employed herein are the only way to undertake a CDA. That said, in order to draw from the corpus of complimentary CDA scholars and to remain consistent throughout, the term CDA has been used.

Discourse analysis is 'made up of a variety of disciplinary fields, all of which take a specific view of what discourse and discourse analysis means' (Vaughan, 2017: 265). Gee concurs and explains that those who study discourse choose to describe their



work in a variety of ways. For linguists who see discourse analysis as directly concerned with the meaning of language among and across sentences, they use the term pragmatics to refer to the study of language in context; Gee states that he uses the term 'discourse analysis' to refer to both (Gee, 2014: 20). Similarly, Wodak and Meyer acknowledge that the field is broad and diverse but draw attention to seven dimensions which unite those who are interested in discourse studies. Like Gee, they recognize that the contexts of language use are significant (Wodak & Meyer, 2016: 2).

For Gee, 'discourse is language-in-use' (Gee 19), though he distinguishes between two types of discourse studies and explains that 'discourse is interactive identity-based communication using language' and calls Discourse, with a capital D, the study of 'interactive identity-based communication using both language and everything else at human disposal' (Gee, 2014: 24). Big D Discourse studies is interested in how through talking, interacting and so on, people 'enact a particular sort of socially recognizable identity' (Gee, 2014: 46). This study will focus on how language, both written and spoken, positions teachers but will extend beyond the analysis as described above to examine 'the exercise of power through discourses and texts (Cohen *et al.*, 2018: 687). The focus of analysis, coupled with the motivations for conducting this research, establishes this project as a CDA.

CDA is rooted in critical theory and as the name implies, sets out to critically examine society and the power structures within it. It has been described as a 'broad movement' (Jorgensen and Phillips, 2009: 60) and 'an emerging research approach with few resources to guide its application' (Mullet, 2018: 117), one which allows 'a detailed investigation of the relationship of language to other social processes, and of how language works within power relations' (Taylor, 2004: 436). CDA can be used to understand and address problems with any theory or method that may be relevant (Mullet, 2018: 117). Critical race theory, for example, is often employed within this methodology.

For some CDA scholars, particularly those who employ critical race theory or critical feminist theory, the fact that it 'seeks to transform and emancipate society and its members, and redress illegitimate imbalances of power and influence within relationships' (Cohen *et al.*, 2018: 688) is of utmost importance. Many understand the aim of CDA to be the 'use of analysis not only to reveal structures of domination, but

also to effect change in the way power is wielded, maintained, and reproduced in social organizations and relationships' (Young & Harrison, 2004: 2). These scholars might argue that employing Bernstein's recontextualisation theory, as I do, does not attend to the spirit of the methodology as it lacks an element of overt activism which has become so strongly associated with the field. I use the word overt here as Bernstein did want his research to effect change, he wanted his theories to be used in doing (Lukin, 2012); however, the use of recontextualisation theory has a more implicit link to activism than other theories which tend to be associated with CDA.

While the definitions of what constitutes CDA vary, many acknowledge that it evolved from the study of critical theory at the Frankfurt School. Here scholars 'attempted to locate the multiple ways in which power and domination are achieved' (Rogers *et al.*, 2005: 367). So, the definition that CDA 'focuses on how language as a cultural tool mediates relationships of power and privilege in social interactions, institutions, and bodies of knowledge' (Rogers *et al.*, 2005: 367) is the one that will be employed. Drawing from similar themes, Bernstein's work is influenced by Foucault and his examination of power in society. While Foucault (and by extension Bernstein) and the Frankfurt school's philosophical traditions do not entirely align (for a more detailed discussion, see McCarthy, 1990), there are 'certain broad affinities between Foucault's genealogy of power/knowledge' and the Frankfurt school's 'program of critical social theory' (McCarthy, 1990: 437). The similarities make the theories commensurable enough to justify their use and the use of this methodology as a whole.

Additionally, I have experienced the use of research evidence to prescribe, justify, and enforce teaching strategies. It was my view that this limited my opportunities to develop pedagogical thinking and ultimately impacted how I viewed myself and my practice. As a result, much of this project was motivated by a desire to critique situations such as this, specifically the ways in which evidence might be evoked in professional development training and the effects this might have on teachers' positionalities. It is argued that 'any social phenomenon lends itself to critical investigation, to be challenged and not taken for granted' (Wodak & Meyer, 2016: 3). Ultimately, CDA research 'endeavors to make power relations explicit' and, in line with my pragmatic philosophy, the intention of its use is 'to derive results which are also of

practical relevance' (Wodak & Meyer, 2016: 19). These goals, coupled with my positionality, reaffirm the choice of CDA as an appropriate methodology. It has the potential to both prompt a critical analysis of current practices and provide actionable insights which could inform future teacher development and training strategies.

### CDA Considerations

A review of CDA projects in education highlighted what the authors perceived to be common issues in the application of this methodology (Rogers *et al.*, 2005). The conclusion was that lack of researcher reflexivity, homogeneity of approach, and failure to detail analytic procedures were key weaknesses which should be addressed in future CDA research (Rogers *et al.*, 2005). These findings were a result of a comprehensive database search and subsequent analysis of articles pertaining to CDA. Arguably, the studies themselves may not have had the issues outlined above. Instead, the authors were likely restricted by the confines of a journal article and chose to prioritise other elements of their research projects. That said, mitigating these perceived failings seems a sensible step in developing a thoughtful and useful study.

### Reflexivity and Trustworthiness

One criticism of this methodology which should be addressed is the assertion that political and social ideologies are read into the data (Rogers *et al.*, 2005: 371). The issue being explored is one that is personally relevant; my experiences inspired the use of this methodology and so the researcher's ideologies are inherently linked to and from the trajectory of this project. CDA does not 'understand itself as politically neutral' (Jorgensen & Phillips, 2002: 64) and is 'explicitly critical' (Taylor, 2004: 436). For this reason, in critical studies there is an expectation that the researcher's position, interests, and values are explicit and as transparent as possible (Wodak & Meyer, 2016: 7). Researcher positionality and reflexivity, or 'a declaration to the extent to which the researcher's prior knowledge may be influencing the research' (Cohen *et al.*, 2018: 291), becomes integral to its successful application. That said, in order to yield convincing results, these components must be brought to the forefront. Doing so will help the researcher to establish her trustworthiness.

Throughout this project, my positionality and researcher reflexivity have been discussed. To attend to the inherent importance of researcher positionality in a CDA, this project culminates in a final reflection where I 'turn the critical discourse analysis framework back on myself to analyse how participation in the research has contributed to the reproduction or disruption of power relations' (Rogers *et al.*, 2005: 383).

### Homogeneity of Approach

Homogeneity of approach was discussed as a potential weakness in CDA research. It was explained that as CDA emerged as a multi-disciplinary field and the reliance by many on Fairclough's analytical framework was not in keeping with this tradition (Rogers *et al.*, 2005). To fulfil these expectations, the researcher must be both innovative in approach but also be reliable enough to employ an unusual strategy convincingly. While clearly documented and justified, the analytic framework employed in this project has been bespoke (for further explanation see the section on analytic strategies in chapter 4 of this thesis) and should satisfy those who would be inclined to suggest homogeneity of approach as a weakness.

Additionally, the multi-disciplinary nature which CDA is meant to reflect will also be addressed through *what* has been analysed rather than solely through *how* it was analysed. The documents explored included policy documents, scientific articles, as well as media and marketing materials. In addition to the unique methods of analysis, the diverse objects of inquiry should address this perceived weakness.

### Analytic Procedure

The analytic procedure, particularly in CDA research, deserves special consideration. 'Theory, methods, and analysis are closely interrelated, and decisions about the one affect the others' (Wodak & Meyer, 2016: 14). It is argued that 'because of the complexity and ill-defined nature of CDA, authors must recognize that to ensure trustworthiness, transparency (e.g., in the form of a clearly articulated analytical framework) is crucial' (Mullet, 2018: 139). Some critics even suggest that a weakness of CDA methodology is a lack of an explicitly detailed analytical framework (Rogers *et al.*, 2005). To strengthen this methodology, it is suggested that researchers should

attend to 'the links between the micro and the macro; explain why certain linguistic resources are analysed and not others and have clear analytic procedures outlining the decision making of the researcher' (Rogers *et al.*, 2005: 387). Arguably, this clarity and transparency is a staple of all formal research, as such the analytic procedure as well as decisions which informed its use have been clearly defined in chapter 4 of this thesis.

## Selection and Justification of Methods

As stated earlier, there is no one way to do a CDA. That said, the 'methodology suggests and justifies specific methods that produce and analyse data' (Wodak & Meyer, 2016: 16). This section will detail how data collection methods were chosen so that they would attend to my theoretical frame and provide the data necessary to answer my overarching researching questions which were: what are the impacts on teachers' positionalities of training practices which are based on the use of evidence which has undergone processes of recontextualisation and how might this type of evidence limit teachers' pedagogical options?

## Interviews

Data collection methods which would most suit that exploration of the impacts of training practices on teachers were considered. However, it should be noted that methods were chosen at the height of the Covid-19 pandemic when many were still experiencing lockdowns and social distancing. While observations of professional development training might have been useful because it would allow me to notice when and how research evidence was used, this method was immediately rejected. At that time, formal, in school, training was often abandoned while schools worked with reduced staff to support small cohorts of specific groups of pupils. Additionally, many contexts restricted access to their sites. For this reason, it was felt that, in order to limit the physical risk to myself and my participants, as well as the potential interference to the project, the most straightforward approach to gathering insights about evidence use was through interviews with stakeholders. With this method, rather than observing the language used, I would be prompting a conversation about aspects of evidence in which I was researching. This method would add an element of

complexity because it required me, through my questions, to ensure that my participant understood which specific areas I was researching and would be compelled to discuss these. It was planned that should restrictions continue, all interviews would be conducted remotely via Zoom or Microsoft Teams. Remote interviews, as it turned out were not necessary. Prior to data collection, social distancing restrictions were lifted, and all participants chose to meet in person. However, these concerns did influence the research design.

While project design was influenced by these conditions, interviews would likely have always been considered as a data collection method. The reasons being that it is acknowledged that 'where the research focuses on complicated matters' such as 'how factors are interconnected' (Denscombe, 2021: 230) or if you want to learn about the 'significance of events or situations, your methodology will probably involve interviewing' (Mears, 2017: 184). That said, within a CDA, using interviews to collect data, could be seen as somewhat problematic as the researcher is prompting the discourse which will then be studied, unlike, for example in a conversation analysis where the conversation might be unprompted and exist independent of the researcher. However, in doing a research project such as this, where access and time are limited, interviews were both a practical and useful way to gather the data needed. The role of the researcher in interviewing, particularly within a CDA which draws upon the theory of the pedagogic device, can be valuable and is covered further in the section entitled 'the role of the researcher'.

Thus far interviews have been acknowledged as 'a powerful tool for researchers' (Cohen *et al.*, 2018: 506) which are 'good at producing data that deal with topics in depth and in detail' (Denscombe, 2021: 245). In general, interviews are well-aligned to the purpose of this research, however, the different ways in which they could be conducted would produce different kinds of data. The interview is often subcategorised into two broad approaches which are described through the metaphors of mining and travelling. In mining, the participant is positioned as the person with information and the interviewer is concerned with extracting that information; In travelling, knowledge is co-constructed between the participant and the interviewer (Cohen *et al.*, 2018: 506). Although neither of these definitions encompassed wholly my approach which seemed to cross the boundaries of both

types. In one sense, I planned to mine for information about evidence-based practice but in another, the conversation which we would have would construct a discourse which was going to be examined beyond the ore to find meaning in the discursive choices participants made. The mining provided a contextual base into which those discursive choices could be rooted and was integral. Yet the true value of interviewing was believed to be in creating the opportunity for a thematically specific conversation to take place. It is within discursive choices where a critical analysis into possible effects of evidence-based practices in schools would ultimately be situated.

The distinction between mining and traveling also carries with it considerations around whether the interviewer is seeking information or the construction of knowledge (Cohen *et al.*, 2018: 506). Again, it seems that both are applicable. In prompting for information, the participant is then helping to produce knowledge. It could be argued that this knowledge is recognized after the interview, in the analysis stage of the project though that knowledge would not exist without the data which was generated through the interview. As such, it is still seen to be somewhat co-constructed with the participant as it is seen that ‘meanings are negotiated between researcher and researched (Pring, 2000: 54). Throughout the project, there was a subconscious choice to refer to those who took part in my research as participants, a choice which reaffirms the position that those people have participated in the creation of knowledge and should be acknowledged for that role in the process.

## Sampling

Based on my experiences, I had expected to focus on practices in secondary schools but believed that teachers in all mainstream schools in England would be affected by evidence use in their schools and so stakeholders in any of these contexts could provide useful insights. The school selection was ultimately influenced by my role as a governor in a local primary school. Being in that position reduced the difficulties that many researchers face around gatekeeper approval (the process of obtaining this is covered further in chapter 4 of this thesis) and, through a convenience sample (Denscombe, 2021: 81), ‘of those easily accessed’ during the Covid-19 pandemic (Mears, 2017: 184), meant that I was able to interview stakeholders in primary schools within one multi-academy trust in the South West of England.

While the sampling was convenient it was also purposive (Alexander & Winne, 2006; Denscombe, 2021: 79) as I deliberately chose a sample that was most likely to provide insights into evidence use in schools and how this might relate to professional development training and teaching strategies. I then set out to examine the perceptions of four key players in at least three of these schools.

There are no rules about how many participants are necessary and so this was seen to be appropriate as it was believed to be enough to provide 'sufficient data' to address my research questions (Mears, 2017: 184). I took a 'pragmatic approach to sample size' (Denscombe, 2021: 85) and planned to interview a curriculum lead, a teacher, a governor, and a teaching/learning support assistant. These participants were chosen as they represented a variety of views related to the use of brain-based learning interventions. A curriculum lead was likely to be involved in the selection of such an intervention, a teacher was likely to have implemented it, the teaching assistant presumably would have supported its implementation and the school governor it was expected would have been involved in evaluating whether it was successful.

### Frequency and Length

It is suggested that doing multiple interviews with each participant can help them to achieve in-depth reflection' (Mears, 2017: 184). Here, however, in depth participant reflection was not the intention of this data collection method. Instead, the focus was on prompting a conversation which facilitated the analysis of language used to describe evidence-based practices, practices which guide daily activities and so do not warrant sustained or in-depth consideration on the part of the participants.

As such, I planned for interviews to last no longer than thirty minutes. In terms of interviews for qualitative research, this might be thought of as brief, however, they were specifically designed to consider the constraints of practitioners' workdays. For this reason, the interview was designed to appropriately respect my participants and responded to the contexts in which interviews took place. Being very conscious of the scarcity of time in a school day and not wanting to take more than was necessary from those who were volunteering to participate in my project, through their design,



interviews sought to garner the necessary information in as little time as possible. This tactic was successful, as the data generated allowed for the rich analysis which was needed to address the research questions.

## Schedule

It is suggested that 'effective interviewing depends on a well-planned interview guide to ensure that you cover the topics you want your participants to address' (Mears, 2017: 185). With this in mind, the interview schedule was designed so that I could explore the participants' perceptions about the use of evidence in their contexts while also prompting a conversation whereby their discursive choices about evidence-based practice could be analysed. I was conscious of letting, to a degree, each participant respond to my questions in the ways they wanted. For this reason, the schedule was semi-structured (Denscombe, 2021: 231) in that it was standardized and open ended but not rigidly adhered to 'because otherwise there would not be the scope for those interviewed to expound the full significance of their actions' (Pring, 2015: 53). It included eight open ended questions 'those which would provide a frame of reference for respondents' answers, but which put little restraints on the kinds and contents of the answers and how they can be expressed' (Cohen *et al.*, 2018: 513). While there were set questions, these were not adhered to rigidly and followed the participants' lead where in some cases the sequence was modified or the questions were explained or added to (Cohen *et al.*, 2018: 508). The questions themselves were in the style of a 'funnel' (Cohen *et al.*, 2018: 513) and included a variety of prompts to encourage detail and depth in the responses (the interview schedule is included in appendix 4).

## Interview Method Reflection: additional benefits and barriers

Pring notes that through interviews, the researcher focuses upon the unique situations of specific actors and highlights 'the quite justified criticism that educational research is often too small-scale and fragmented to serve policy and professional interests' (Pring, 2015: 54). Indeed, this is a small-scale, self-funded project which is limited in scope. That said, within this, there is no attempt to produce generalisable results or to become the 'body of knowledge' (Pring, 2015: 97). Instead, interviews

were used to gain insights which could contribute to the field by demonstrating how research use could impact teachers' professional development.

In grappling with this barrier, my postpositivist tendencies re-emerged as there was a perceived justification which suggested that if policy language is seen to affect these particular teachers in a particular way, then there is reason to believe that other teachers are affected in some way. It was conceived that this is potentially an attempt to use qualitative data to provide the causal links which is often favoured in educational research. Arguably though, knowing that something produces an effect and stating what that effect is, and always will be, are different things. As such, these considerations remind me to approach my conclusions with the same philosophical view with which this project was conceptualised, one which highlights the importance of both experience and context. To do so, the findings will not be generalised to imply that the views expressed by participants are indicative of all teachers' views. Additionally, I will not suggest that specific actions should be taken as a result of this research.

Also of note was that, through interviewing, I would be participating in and prompting the discourse which would subsequently be analysed. Being close to the object of inquiry is not only expected but a methodological necessity. My involvement should be viewed as both required and beneficial, as in a Bernsteinian sense, understanding the local rules of the pedagogic device (Bernstein, 2000) employed by those in primary schools allowed for sensitive and appropriate engagement with participants' responses. Regardless some might view my involvement in data generation to be potentially problematic. To mitigate this response, as well as to offer additional insights, a document analysis will follow the interview analysis. In this, various resources from different recontextualisation fields will be collected and analysed. This additional data collection method should complement the data generated in interviews in that their generation outside of this project would offer insights about how public discourse of evidence-based practice positions teachers.

Ultimately, fourteen interviews took place and represented the views of fifteen participants across four primary schools. This section is primarily concerned with project strategy so for further detail about the data collection process, see chapter 4.

## Document Analysis

Document analysis is 'a systematic procedure for reviewing or evaluating printed and electronic material' (Bowen, 2009: 27). It is seen as a well-suited methodological approach when undertaking a CDA, one which has 'often been usefully employed as a tool for highlighting and uncovering social issues' (O'Connor, 2019: 68) and which can provide data on the context in which research participants operate' (Bowen, 2009: 29). Through an analysis of documents related to the evidence-based strategies which interview participants discussed, I planned to explore how the discourse in those documents and the experience of accessing them positions teachers. Additionally, given my participation in interviews, the document analysis of resources which 'have been recorded without a researcher's intervention' (Bowen, 2009: 27), enhances the trustworthiness of this project because it will allow opportunities for independently generated data to either support or challenge the interview analysis findings. That being said, a finite number of resources will be selected and so 'biased selectivity' (Bowen, 2009: 32) exists which indicates that the development of inclusion criteria deserves attention.

## Sourcing

For the document analysis phase of this project, I was interested in analysing sources which were readily available to teachers, and which could have been used to inform their pedagogies. In setting out to do documentary data collection, I planned to find eight to twelve publicly available resources which might have been policy documents, journal articles, media articles, books, blog posts, posters, curriculum guidance, and/or training resources which are publicly available. Selection was guided by an internet search of two themes, mastery in mathematics and Rosenshine's principles, which were determined following a content analysis of interview transcripts. In this, themes were selected so that they related to the strategies which participants chose to discuss.

## Ethical Considerations

Given that this research involved human participants, in 2021, I undertook the rigorous process of obtaining ethical approval through Plymouth University's Online Ethics System (PEOS) (see appendix 1 for approval letter). British Educational Research Association's ethical guidelines for educational research (BERA, 2018) as well as the University's research ethics policy, code of good research practice, and research data policy were consulted to ensure that the methods used in this project were both justifiable and ethically responsible.

My participants were adults who worked or volunteered in primary schools. Care was taken to ensure that they did not experience negative consequences from participating in this project and that they were aware of their ability to choose to withdraw both themselves and their data from the research. Prior to participation, the approved participant information sheet, consent form, and interview schedule were disseminated. Also available upon request were a risk assessment and data management plan which were drawn up to demonstrate the due care and attention that was being given to the protection of participants. Before interviews began, participants were reminded that the project was not linked to governance, that they had the right to withdraw, that there were no correct or incorrect answers, that they could choose to skip questions and that further information was available on the participant information sheet. Each was then asked whether they agreed to be audio recorded, whether they had any questions or concerns and finally to sign the consent form. Following the interviews, to maintain GDPR regulations, data protection and compliance were an ongoing focus.

While ethical approval had been granted and there were no substantial changes to the research design, these considerations were ongoing and were routinely revisited throughout the project. As discussed in the limitations of document analysis, while use of documents was not the primary focus of the ethical approval process, the ethics around the use of literature and documents was warranted. This resulted in detailed accounts that ensured transparency in how they were sourced and why they were used as well as the steps taken to avoid misinterpretation of literature and data.

## 4. IMPLEMENTATION OF METHODOLOGY

### Doing the Interview

Often it is perceived that there is a distinct separation between the processes of data collection and that of data analysis. This separation could be linked to empirical research where data are seen as single units, as a collection of facts or statistics, and where the researcher is seen to be an observer and to a great extent, external to the meaning making process of the research project (Coe *et al.*, 2017). In qualitative research, such as this project, where the role of the researcher and their actions in making meaning is closer to the forefront, one must consider at what point in conducting interviews do interactions become data. While my analysis focuses, in the main, on transcripts derived from participant interviews, interactions which lead to the creation of those transcripts are included to inform considerations around researcher positionality and the impact on subsequent meaning making. This section explores the steps taken to arrange interviews, produce transcripts and analyse those transcripts. Documents are also being considered and while the line between data and analysis is somewhat more distinct, the collection and analysis process of those is also described.

### Positionality in Participant Recruitment

Using interviews, I set out to examine perceptions of evidence-based practice of four key players in at least three schools in England. I planned to interview a curriculum lead, a teacher, a governor, and a teaching/learning support assistant. These participants were chosen as they had the potential to represent a variety of viewpoints related to the use of evidence-based learning interventions. My expectation was that curriculum leads might be involved in the selection of interventions, teachers might implement them, teaching assistants might support their implementation and the school governors might be involved in evaluating them. Initial selection criteria suggested that participants from any mainstream schools in England could contribute to this project; however, my position as a chair of governors in a primary school in a multi-academy trust (MAT) in the South West of England, facilitated direct access to schools within that trust (see discussion around gatekeeping

for a review of the ethical considerations and steps taken to mitigate these). As a result, selection was ultimately limited to four primary schools in one MAT in the South West of England. These schools were targeted following a discussion with a headteacher who suggested that these heads might be amenable to participation in a research project of this nature which, it turns out, they were. All four headteachers agreed to my request to reach out to members of staff and governors.

Within these four schools (which have been assigned pseudonyms), Saint Philip's and Saint Margaret's distributed my interview request via email then sent me the contact details of those wishing to take part. I then arranged the interviews. In Saint Helen's, the headteacher both reached out to staff and arranged the interviews. In Saint Thomas', following the headteacher's approval, I used a staff list to reach out to participants who might be interested in taking part. Each situation brings with it their own benefits and drawbacks. Whether that be self-selection bias with those in Saint Philip's and Saint Margaret's or the caveat of not knowing how headteachers recruited participants in these schools and Saint Helen's. For Saint Thomas', extending individual invitations to participate, while it meant that all communication was through me, would set a different tone. To this end, and particularly given the focus of this project on teacher positionality, insider-outsider considerations and steps taken to mitigate power relationships will be relevant as it has the potential to affect participants' responses.

The insider-outsider conversation about a researcher's positionality can reach a great depth of considerations including that of the researcher's thoughts, feelings, and desires and how these have the potential to impact how the researcher occupies various spaces. The following sentiment explained a researcher's relationship with law but was also an apt way to summarise my position as a teacher. Despite the distance, in this case time, between my role as a teacher in mainstream education and my role as researcher 'I still felt a degree of belonging and also longing. I was and remain ambivalent about whether to become a total outsider or keep one foot in the door' (Toy-Cronin, 2018: 7). These feelings and emotions might not be perceived by my participants, but they do impact my interactions. While interesting to ponder, it was perhaps more useful to explore to what extent external manifestations of my insider-outsider status affected aspects of data collection.

Particularly meaningful to these considerations is how I arranged my interviews. According to BERA's ethical guidelines 'The institutions and settings within which the research is set also have an interest in the research, and ought to be considered in the process of gaining consent' (BERA, 2018: 10). Given my role as chair of governors in a local primary school, I have direct contact with a crucial gatekeeper, the chief executive officer (CEO) of a multi-academy trust. They not only approved my request to reach out to schools within their trust but enthusiastically backed my research. This relationship was pivotal in that it removed the initial gatekeeper barriers which many researchers in education face. While it was a positive outcome, it did present challenges. For example, it could be argued that this request could be perceived as an attempt to receive a form of compensation or a suggestion that I was owed this approval for my role in governance.

This communication, despite the positive outcome, was not necessary and could have been bypassed. It is suggested that researchers 'think about whether they should approach gatekeepers before directly approaching participants' (BERA, 2018: 10); however, it is not a requirement. This was a risky step to take as it allowed for the possibility that this person could reject my request entirely which would render the majority of my contacts in primary education unusable. The motivation for approaching the CEO rather than the headteachers themselves was to ensure that I was not misusing my role in governance to gain research participants. For me, this was the most ethically sound procedure to take, to ask permission from the stakeholder who held the highest position in the trust.

The CEO was not the only gatekeeper to contend with. While I have a trust email account and, as a result, access to the email database, I did not approach participants directly. Instead, I wrote to the headteachers in five schools and cited the CEO's approval to conduct research but asked the headteacher's permission to do so in their schools. The CEO suggested that I call this request in 'as a favour' for my work in governance. Though I appreciated her support and the implied appreciation for my role, I knew that approaching schools in this manner would be unethical. Instead, I attempted to reduce this position of power and ensured that the initial correspondence was as neutral as possible. I indicated that the CEO had 'enthusiastically supported my request' to reach out to their school but made sure that

I did not imply that participation was compulsory. Instead, I explained my dual roles as governor and researcher, described my project, attached the participant information sheet, and asked whether they would allow me to interview participants in their school.

## Conducting Interviews

In total, 14 interviews were conducted which represented the views of 15 participants (see Table 2 below). These interviews took place in person over a four-week period from June 15<sup>th</sup> to July 14<sup>th</sup> of 2022. Twelve interviews occurred at each participant's school site and two requested an alternative location. One interview was in a coffee shop; the other was in the bar area of a restaurant.

*Table 2: Interview Participants*

Interview	Participant Role	Participant Pseudonym	School	School Pseudonym
1	Teacher/lead	Lucy	3	Saint Philip's
2	Teaching Assistant	Amy	2	Saint Thomas'
3	Teacher/lead	Lauren	2	Saint Thomas'
4	Governor	George	3	Saint Philip's
5	Teacher	Tracey	2	Saint Thomas'
6	Teacher/lead	Lydia	4	Saint Margaret's
7	Teaching Assistant	Anne	1	Saint Helen's
8	Teacher/ Governor	Tina	1	Saint Helen's
9	Teacher/lead	Leah	1	Saint Helen's
10	SENCO	Sophie	1	Saint Helen's
11	Teaching A/A SENCo	Ava	4	Saint Margaret's
12	Teaching Assistant	Alice	3	Saint Philip's
13 (a)	SENCo	Sophie	2	Saint Thomas'
13 (b)	FSW	Freya	2	Saint Thomas'
14	Governor	Grace	2	Saint Thomas'

Many participants held multiple roles and perspectives included those of teaching assistants, SENDCos, teachers, leaders, and governors (see appendix 5 for a more detailed interview log). Finally, participants had varying levels of training and experience linked to their specific roles. All had been in their current position for at



least two years with the most established having been in her position for twenty-three years.

Interviews, in line with ethical approval and with the signed and verbal consent of each participant, were audio recorded using a university loaned audio recording device. While it contained data, this device was stored in a locked filing cabinet. Once all interviews were completed audio files were transferred to a password protected university OneDrive. A back-up was saved on an external memory stick which, for the duration of this project, was stored in a locked filing cabinet. Data was then cleared from the original device and returned.

To facilitate my analysis, interview recordings were transcribed. According to Gee, 'speech always has far more detail in it than any recording or transcription system could ever capture' (Gee, 2014: 136) so it was important to make judgements about which features would be meaningful for analysis in this study. This process was done intuitively but resembled a verbatim transcription style. I chose to transcribe manually as it gave me the opportunity to get to know my data and allowed me to tailor the transcription style to suit my project. As such, each transcript begins with a brief overview and context of where and when the interview took place. Interviewer's comments are in bold, dashes indicate where there is an overlap of speech or when a word is being cut short, and ellipsis is used to indicate pauses. When information is being redacted, square brackets are used to indicate the nature of the information which was disclosed. There is a focus on words rather than pitch, emphasis, volume, tone, or other paralinguistic elements. That said, given that spoken language is not usually grouped into sentences, intonation was useful in determining where punctuation should be placed (Bloor & Bloor, 2013: 10). Other communicative elements were also dismissed; however, when these were arguably needed to derive meaning, for example nodding one's head to answer a question, then this information has been included in brackets. Having been the one who conducted the interviews, I was able to include these few gestures which are somewhat inferable from context but for which confirmation is useful. When they were perceived to be meaningful to participants' responses, laughing and sharp exhales or inhaleds were also included. An example of those elements which were not included is smiling, frowning and hand gestures such as slapping the table to emphasise a point. Time stamps were not

included but each interview length has been noted (for an example of interview transcription see appendix 6).

### Initial Interview Reflections

Following data collection but before beginning the process of transcription, I reflected upon the experience of conducting interviews. I considered the exploration of evidence-based interventions which prompted responses about pupils with SEND and activities which often took place outside of the lesson, in both time and space, and which were often delivered by support staff. As such, I wondered whether interview responses would provide data which would allow me to explore how the use of evidence influenced teachers' positionalities. Despite noticing this in early interviews, I persisted because the terminology was chosen to reflect the language which appeared in policy documents. While the responses were not as I expected, I believed they were still rich and meaningful.

I also wondered whether my various roles in education and general interest in the field meant that I might have offered superfluous information or pursued lines of inquiry which could be viewed as unnecessary, but which seemed natural to me at the time. That said, interviews are collaborative, and this exchange is believed to be 'most productive when a researcher accounts for any power differential' by 'increasing the potential for building rapport, candour and openness.' (Mears, 2007: 185). Finding common ground through shared experiences, such as acknowledging similar routes into education or hobbies, and asking follow-up questions about things which I perceived to be meaningful to the participant, was a way to reduce formality and to build rapport. While the power differential in an interview would not be completely mitigated, avoiding rigidity in the interaction allowed the focus to alternate between what I wanted to know and what the participant wanted to tell me. This approach invited detailed responses which allowed the participants to have some agency in the exchange. In these opportunities, they made discursive choices which, despite my concerns, could be effectively analysed.

Having acknowledged that interviews are two-way exchanges which benefit from openness and candour, these were limited by the roles enacted in this interaction. Power dynamics had a noticeable impact. For example, at times, I was

positioned as knowledgeable and was asked to recommend reading or to feedback on responses. It seemed that, despite my assurance that there were no correct or incorrect responses, some sought reassurance. Others, in looking to build rapport, sought common ground asking, 'don't you think?' (Amy, Saint Thomas') or 'D'you know what I mean?' (Alice, Saint Philip's). Often this was the case with those who were teaching assistants. Perhaps interactions like this reflect the hierarchical nature of school structures where teaching assistants report to teachers and so they might feel that they are lacking knowledge. In these interactions, I felt I had to withhold my views so as not to lead the participant which was uncomfortable as my intention was not to unsettle but to remain neutral. Some made comments to indicate that they were concerned that I might perceive them unfavourably and that they wanted to do the interview in the manner I expected. Comments like 'I won't waffle on then' (Sophie, Saint Thomas') again hinted at the power dynamics which were present. While the interviews felt conversational, I was reminded that this was not a usual interaction.

Though the interview was, in some respects, orchestrated many participants seemed to enjoy the process. In the main, they were engaged and offered to extend the length of the interview or to meet again. However, to what extent this was again evidence of an attempt to perform the interview in the manner they perceived to be correct, cannot be ascertained. While I made sure to express that participation was voluntary, participants might have felt they were expected to offer their time. For example, one participant asked to complete the interview quickly (Tina, Saint Helen's). In this school, the headteacher arranged the interviews and so I am not sure how participants were recruited. Knowing this, I did ask whether this participant preferred not to proceed. She assured me that she was happy to consent to an interview but just wanted to make sure it did not take up too much of her time. For this reason, while interviewing, I did attempt to be alert and responsive. If the participant spoke quickly, I too moved on quickly but if they were proceeding slowly, I slowed to match their pace. In doing this, I was attempting to respect their time, expectations, and contributions.

These reflections reminded me that while I was planning to analyse participants' discourse relative to their roles, that I should bear in mind the limitations of making meaning from these responses. The choices being made attended to multiple factors: their roles, their contexts, their reasons for participating in the

interview, their individual perceptions of me as an interviewer and the purpose of the interview, as well as the situation of engaging with this atypical exchange.

## Analytic Strategies

This contains a description of how analytic strategies were developed and used. Throughout there is attention to the fact that 'language is never neutral' and that it is important that 'as researchers using language we strive to acknowledge and mitigate our biases in analysing it' (Vaughan, 2017: 273). Neutrality is not the goal, as bias is somewhat intrinsic to CDA though here, mitigation is addressed through transparency and justification of steps taken.

## Annotations

Once all interviews had been transcribed, I set out to begin my data analysis. While computer assisted qualitative data analysis (CAQDAS) programmes support a variety of analytical approaches, specifically those which rely on thematic coding, they are not necessarily useful tools for discourse analysis (Gibbs, 2017: 244). I found that this type of software, at least as a first step, was not beneficial as it did not lend itself to the derivation of a coding strategy that would capture the complexities of the nuanced processes which I was attempting to examine. I also found that coding, at this stage, was a bit operational. Highlight, move, repeat. Initially, it was more useful to view the extracts within the whole, maintaining the context in which statements were made. To do this, I printed out my transcripts and made annotations. When a word or phrase caught my attention, I underlined or highlighted it with the self-imposed caveat that in so doing, I would be required to add a comment explaining why it was meaningful. Asking myself why each extract was significant required thoughtful engagement which I found more insightful than coding, at least in this initial stage. My background as an English teacher also meant that I was drawn to aspects of language such as the use of adjectives or metaphor and so these elements were often considered.

I then reviewed my annotations. My expectation was that I would have analysed how teachers were finding and using evidence. I had begun to do this but

noticed that there was also a lot of other 'stuff' that had captured my attention and warranted analysis. Of particular interest were reorientations and rehearsed phrases, use of 'we' and suggestion of collective experiences, and mismatches (for example, in one interview I heard about a teacher choosing strategies then heard about constraints such as curriculum and pace of progress). At this point, my data felt rich but also distractingly messy.

## Mapping

Following transcript annotations, I sought a method which might help me to organise my data so that I might ascertain the broad implications of participant responses. Understanding that one of the intentions of my research project was to better understand the process through which teachers find and use evidence, I decided to map each participant's responses against elements which, from my experience of training, I would expect to see in such a process. I chose the keywords of knowledge, evidence, theory, interventions, student, participant, and in the cases where the participant was not a teacher, teacher. I did this because I had expected to see a movement between, theory, knowledge and evidence which might inform intervention use. Participants, students, and teachers were included to see whether I could ascertain positionality relative to the former concepts. In retrospect, even teachers should have had a 'teachers' heading because there are many instances where they talk about themselves in the singular but also where they talk about teachers more generally.

For each interview, I created an A3 map with these headings in relatively the same places. I then read each transcript asking myself, for this participant:

- What is evidence?
- What comments are made about knowing or gaining insight?
- Which theories are discussed?
- Which interventions are used?
- What do they say about themselves?
- What do they say about students?

- If applicable, what do they say about teachers?

When a response seemed to address one of the questions above, I would write the quote in the relevant section of my data map. When one of these quotes suggested an impact or influence on extracts in a different heading, I drew arrows to display this interaction. In many cases quotes landed between or around headings. For example, discussion about training which might have drawn from a knowledge base, but which was not discussed as the participant's own knowledge were situated between the headings of 'knowledge' and 'participant' (see appendix 7 for a sample data map).

This was a reflective process which kept me very close to my data. While writing, I found myself thinking more broadly about links and implications but also considering how my assumptions might be affecting my data. Often, I would begin to write an extract only to find that I was misquoting the participant. For this reason, all maps were written in pencil, and I found myself rubbing things out or moving them to different areas of the map. The mapping process helped me to review my data and accurately refine my understanding.

Initially, there was a perception that when finished, I could compare maps and find similarities or differences among the various stakeholders. This was not the case as the data still felt entangled and unclear. That said, the process of mapping helped me notice aspects relative to the process which I wanted to unpick further. Specifically, how research evidence is chosen, how it is used, and how it is disseminated.

### Halliday's Systemic Functional Grammar

Thus far, these methods were developed intuitively, and I was concerned that analysis of this nature could be problematic. As discussed in the methodology section, some critics suggest that a weakness of CDA methodology is a lack of an explicitly detailed analytical framework (Rogers *et al.*, 2005) and it is argued that 'because of the complexity and ill-defined nature of CDA, authors must recognize that to ensure trustworthiness, transparency (e.g., in the form of a clearly articulated analytical framework) is crucial' (Mullet, 2018: 139). While I have been transparent about the steps I have taken, I had not developed what I perceived to be an explicit analytical framework. I do acknowledge that perhaps my understanding of a framework might

have been informed by my tendency to adopt postpositivist assumptions. Regardless, after mapping my data, it seemed that developing a pre-planned, explicit, and replicable approach could begin to mitigate the suggested weaknesses of this methodology.

Additionally, I felt that, in the previous stages my analysis was leading me to broad implications but that a more refined approach might help me to deepen the analysis of potential impacts of evidence use on teacher positionality. Gee argues that we do not uncover everything in discourse analysis, 'only enough to make the point or argument we are trying to make in some convincing way' (Gee, 2014: 28). Thompson (2004), drawing from the work of poet William Blake, suggested that a world of meaning is present in a 'linguistic grain of sand' and explained that attention to individual grammatical choices can be a useful way in which to consider peoples' understanding of their world (Thompson, 2004: 194). So, in this third stage of analysis, I set out to analyse my data through what might be viewed as a fine grain and strategic lens.

To develop this lens, I considered the roots of CDA. It 'emerged as a mixture of social and linguistic theories, and Halliday's systemic functional grammar was very influential' (Wodak & Meyer, 2016: 19). Functional grammar systematises that which is intuitively known about language (Thompson, 2004: ix). However, it goes beyond simply labelling language. Instead, the use of systemic functional linguistics, enables people 'to build a mental picture of reality' by making 'sense of their experiences of what goes on around them and inside them' (Halliday, 1985: 101). Through categories called metafunctions, the purpose of language use can be described as ideational, where 'language is used to organise, understand, and represent our perceptions of the world and of our own consciousness; interpersonal where it allows people to communicate with one another; and textual where language is related to context and other linguistic events (Bloor & Bloor, 2013: 13). Working simultaneously, these metafunctions create meaning which is related to context (Bloor & Bloor, 2013: 14). In short, according to systemic functional linguistics, by studying the grammar which people choose to use, we can study how meanings are expressed. (Bloor & Bloor, 2013: 2).

It is accepted that in discourse analysis, researchers design their own 'tools of inquiry and strategies for applying them' and that these are 'continually and flexibly adapted' (Gee, 2014: 11). Focussing upon grammar suited my background and methodology and, through the concepts within systemic functional linguistics, could allow me to probe my data in ways which would complement the annotation and mapping stages. As such, it inspired a framework which could yield meaningful insights. To develop this framework, I drew upon Halliday's introduction to functional grammar (Halliday, 1985) to choose tools which could be consistently applied to facilitate an analysis of how teachers positioned themselves in their interviews. Following the mapping stage, where I analysed interview data against the question of *how* do teachers use evidence to develop their pedagogical practices, I decided to explore *why* teachers use evidence. Knowing why they use it should reveal aspects of how teachers are positioned relative to that evidence. Following this, I explored what impact this might have on their personal pedagogies. Explained by Halliday to be 'the most significant grammatical unit' (Halliday, 1985: 101), I was drawn to considerations at the clause level as clauses 'represent patterns of experience' (Halliday, 1985: 101). He explained that clauses represent three processes: material processes or those of doing, mental processes or those of sensing, and relational processes or those of being (Halliday, 1985). I found this both elegant and useful because it allowed me to probe for understanding about participant positionality in a way which I would not have done otherwise. Above the clause, I considered circumstantial elements such as time, duration, and frequency as well as elaborations, enhancements, and extensions. Finally, I was drawn to considerations around the use of pronouns. These are function words that are identifiable from 'the speaker and hearer's mutual knowledge' (Gee, 2014: 149) and show how 'content words relate to each other' (Gee, 2014: 150). With these elements I developed my own toolkit (Gee, 2014b). Through a combination of coloured highlighting and underlining, codes were assigned to represent each element (as per the key below).

- Pronouns
- Clauses as representation of processes:

Participant's mental process- process of sensing



participant's relational process- process of being

participant's material process- process of doing

- Above the clause:

circumstantial elements- time, duration, frequency

elaborations, enhancements, extensions

I was not certain whether this toolkit would yield further insights and so decided to trial them on interview extracts. I selected extracts from each interview but, in order to make the process manageable, limited this to one page per interview. To choose extracts, I examined the response to the question about evidence use and selected a section of that text. I also used a 'CTRL + F' function, to highlight the term 'intervention' and selected extracts which related to these discussions.

These extracts were then printed, as physically coding, for me, was preferable. Adhering to my toolkit and key, I applied this bespoke coding framework to the extracts. While doing so, I noticed that at times it was difficult to ascertain which process a clause represented. I worried that perhaps these tools were being misunderstood or misapplied but found comfort in the notion that 'grammatical labels are rarely appropriate for all instances of category- they are chosen to reflect its central or 'core' signification' (Halliday, 1985: 106). With this in mind, I developed my personal approach by making decisions about the application of these tools. For example, participants discussed 'looking' to see which students had 'gaps' in knowledge and while some might consider this to be an action, to me this was a mental process and ultimately decided that it was reflective of the process of sensing. During my first attempt at coding, I refined my coding strategy. Once I reached the end of these extracts, I felt I had a suitable grasp of my toolkit and reprinted and recoded the extracts. While my use of these tools might differ to others, I ensured that my notes justified my coding decisions and that the extracts were handled consistently.

After coding the extracts for a second time, I considered the ways in which these tools might help me to notice discursive threads which might be meaningful. When anything new was noticed, these were described on the coded extracts. By reading and rereading, I had been able to refine my coding strategy and correct

inaccuracies, but more importantly, this process pushed my understanding of where and how I could draw meaning from participants' responses (see appendix 8 for examples of coded extracts). The repetition of the coding process helped me to discern how participants positioned themselves in relation to evidence-based practice, to me as a researcher and educator, and to what else they had already discussed. Together these considerations helped me to gain insight into their perspectives and to the context of their discourse.

Coding in this way allowed me to make connections that I would not have otherwise made. I then considered how the use of pronouns might differ depending on the type of process a clause represented; how elaborations, enhancements and circumstantial elements might reveal the 'other' in the room; how pronouns might indicate to what extent teachers have agency in their practice; and how clause types might indicate the function of staff training, perhaps as a performance management tool rather than as a professional development practice.

Finally, before compiling my analysis, extract coding was repeated in Microsoft Word and participants and their schools were assigned pseudonyms. The school names reflect names of those who have supported me while doing this research and the participant names, when combined with their roles, are alliterative. For example, assistant Anne, teacher Tracey, leader Lucy and governor George. As participants were immediately anonymised through the use of school and participant numbers, these decisions made each participant, their roles and their contexts memorable and facilitated greater depth of analysis.

## Doing Document Analysis

### Limitations

The purpose of employing this method was to explore information that is readily available to teachers. The internet was chosen as the location to explore as interview participants cited this as a resource for finding research. Amy, Lydia, Anne, Ava, and Alice noted that they look for information online, Tracey discussed online training, Grace suggested that online EEF materials were popular, and George suggested that practitioners might engage with video tutorials on YouTube. In terms of access, there were not any noticeable barriers. That said, the document analysis did

pose limitations. Teachers do not only engage with resources online and their pedagogies are impacted by information from various places. In schools they may interact with research in training, through curriculum guidance, and via information that is available in their staff rooms. Additionally, their formal training routes, in teacher training and professional development training that takes place as part of an ECT or NPQ programme, prompts teachers to engage with particular forms of research and evidence. In my other roles, I do come across these materials. For example, in a governor monitoring visit I was given a one-page photocopy from a book which was used as evidence in leadership training; in mentoring visits, I had the opportunity to look at the posters in a host of staff rooms; at a curriculum excellence conference, I was given a workbook which prompted attendees to engage with specific forms of evidence. While these could be seen as potentially rich data (there was a lot to be said about the workbook, in particular), they were not readily available to an outsider and were not openly collected as part of this project. Ethically, their use would be problematic and so were not deemed appropriate sources for analysis. In interviewing, the line is distinct; only that information which is discussed in the interview could be presented and analysed. Any conversations which might take place after that point, while interesting and, at times, informative, could not be included without the participant's explicit consent. However, when it comes to sourcing documents, this line is not as clear. I chose not to include anything which was not specifically collected while in the role of researcher and for the explicit purpose of being used in research. This decision was made so as not to jeopardise the relationships which were formed in my other roles where for example, the headteacher who handed me a printout in training would not have known that I might use the document in analysis and so might not have given his consent for it to be used for that purpose. In this example, in addition to the document, the provider would unknowingly enter the analysis. That said, the insights gleaned from these experiences continue to inform the views which are intrinsically woven into this project though were not explicitly analysed.

An additional ethical consideration which presented itself was whether consent should be sought from the authors or creators of publicly available material. It is not usual to seek consent for this type of data; however, 'there is no consensus as to whether those in online communities perceive their data to be either public or private'

(BERA, 2018). In thinking about the type of analysis which I intended to do, a use case and content analysis, it was decided that consent was not necessary as the data did not contain sensitive information and the analysis was not likely to cause harm to the authors or creators.

## Selection of Sources

Rosenshine’s principles and mathematics mastery were selected as themes for documentary analysis (see Table 3 below) as they were either cited by interview participants or were seen to be related to the practices which were discussed in those interviews. Lauren, Sophie and Grace discussed Rosenshine’s principles; Lucy, Anne, Leah, Suanne, Alice and Sophie discussed precision teaching; and Lucy, Amy, Lauren, Tracey and Ava talked about pre-teach interventions. These strategies were perceived by interview participants to be backed by research and so were given as examples of evidence-based strategies. These were not the only strategies which were discussed but were selected as a focus because Rosenshine’s principles were considered to be ‘in vogue’ (Grace, Saint Thomas’) and precision teaching and pre-teach interventions, as detailed in the literature review, were related to both Rosenshine’s and the wider movement of teaching for mastery.

*Table 3: Source List*

Source	Copyright	Author/Creator	Publisher	Type	
<b>Teaching for Mastery</b>					
1	Differentiation is out. Mastery is the new classroom buzzword	2015	Roy Blatchford	The Guardian	article
2	Mathematics guidance: key stages 1 and 2: non statutory guidance for the national curriculum in England	2020	DfE & NCETM	Department for Education	policy guidance
3	What exactly is maths mastery, anyway?	2022	Kate Parker	Times Educational Supplement	article
4	Mastery Explained: evidence, exemplification, and illustration to explain the mastery approach	2023		National Centre for Excellence in the Teaching of Mathematics	curriculum guidance
5	Mathematics Mastery (subsidised programme)	2023		Education Endowment Foundation	call for programme participation
<b>Rosenshine’s Principles</b>					
6	Principles of Instruction: Research based strategies all teachers should know	2012	Barak Rosenshine	American Educator	journal article
7	The Principles of Instruction	2016	Oliver Caviglioli	How2	poster

8	Rosenshine's 17 Principles of Effective Instruction	2018	Ross Morrison McGill	Teacher Toolkit	blog
9	Rosenshine's principles in action	2019	Tom Sherington	John Catt Educational, Limited	book
10	Tom Sherington's division of Rosenshine's principles of instruction into strands	2020	Jonathan Beale	The Tony Little Centre: Innovation & Research in Learning at Eton College	blog

To explore the experience of accessing information which underpins the evidence-based practices which teachers discussed, I sought documents which were designed for teachers, readily available and which were linked to the themes identified above. These sources were collected online through internet searches of 'teaching for mastery' and 'Rosenshine's principles'. Additional searches were undertaken with the prompt 'Rosenshine's poster' as this was discussed by an interview participant as a 'one-pager', or overview which was shared in professional development training (Lauren, Saint Thomas'). 'Mastery NPQ' and 'mastery DfE' were also searched as, through information presented at a BERA conference, I had an understanding that this approach was being promoted in policy documents. There was a tentative attempt to vary the document type and so, for each theme, no type is represented more than twice. The reason for this was that different forms of writing are often constructed to serve different purposes and so exploring a variety of sources could offer greater insights into how teachers are positioned in various places. That said, I did not set out to hunt down particular types of sources and instead explored those which internet algorithms deemed most relevant to my search prompts.

In the initial project proposal, there was an intention to consider how information which was moved into different recontextualisation fields changed over time. While, this thread did not remain as a specific focus, part of the selection criteria did include, for each theme, only choosing one source for any particular year. Again, it was felt that the variety had the potential to offer additional insights into how information was presented over time.

Documents which addressed the selection criteria were added to an excel spreadsheet which included the source name, author, copyright date, publisher, source type, and internet link. Initially, fifteen documents were added to the list, five under the theme of mastery and ten under the theme of Rosenshine's principles. The latter was refined to also include five documents so that each theme contained an

equal number of sources. Considerations around sourcing material, particularly in accessing and labelling documents also served as an initial analysis of those documents.

## Analytic Strategies

The documents which were selected for analysis were then printed and annotated. This approach mirrored the first stage of the interview analysis.

As discussed in the 'Pedagogic Recontextualisation Field' section of the literature review, I perceived a link between the popularity of Rosenshine's principles and an overarching drive for teaching for mastery. For this reason, I chose to analyse the documents related to mastery first, with the intention of exploring how ideas of mastery have been disseminated to teachers. Subsequently, I explored the documents related to Rosenshine's principles.

To analyse each document, I first considered the form, purpose, structure, and author, of each source and wrote a brief summary. I then undertook a loosely structured combination of both a use case and content analysis. In this, I considered the evidence-base which was drawn upon, opportunities to engage with source material, what was included, what might have been excluded, how it was presented, and grammatical choices such as adjectives used. Finally, I compared these aspects to interview participants' responses to consider the possible implications within recontextualised material for teachers and their practices.

In interviews, mapping was used to garner a better understanding of the processes around evidence use in schools and the Hallidayan toolkit was used to probe how teachers positioned themselves relative to that evidence. Neither the mapping nor the Hallidayan toolkit was designed for document analysis and so were not used in this phase of analysis. Despite this, the importance of writers' grammatical choices, 'how language is used' to address the 'fundamental components of meaning' (Halliday, 1985), in line with Halliday's functional grammar, remained though was explored through a less pre-defined frame.

Instead, analysis of documents more similarly aligned with the transcript annotation stage of interview analysis. Here, the type of document, language used, structure of writing and overall presentation was examined to ascertain who the intended audience was and what expectations use of the document might be seen to address. Also pertinent was what evidence was cited and whether the reader was encouraged to engage with that evidence. Of interest was whether there was a chain of information and the accessibility of the next link. Through these considerations, how teachers were positioned in public documents was analysed.

## 5. DATA ANALYSIS

### Interviews

Following an overview of interview participants and their schools, is the interview analysis and discussion section. This has been presented in three main parts which reflect the three methods of analysis detailed in chapter 4. Each section is then organised into subthemes. Within each theme, extracts have been provided to support arguments. Given my particular interest in recontextualisations, I felt it necessary to provide these extracts as the reader should have the opportunity to engage with the participants' original words as well as the researcher's interpretations. Doing so prompts the reader's own critical engagement.

Important to understanding the language participants chose to use in their responses is the context of shared knowledge (Gee, 2014: 119) between the researcher and the respondents. Demonstrated in these extracts is that my positionality as a recently practising teacher, chair of governors, and academic in education has suggested to my participants a degree of shared knowledge about the structures within which they act. This shared knowledge made possible the researcher's participation in the 'local communication' (Bernstein, 2000: 26) that was captured and has been analysed below.

### School Overview

Interviews were conducted in four schools, all of which were located in and around one city in the South West of England. The schools varied in size, with yearly published admission numbers ranging from 15 to 90 pupils and were rated by Ofsted as either 'Good' or 'Requires Improvement'. All schools belonged to one multi-academy trust which was established after 2010 when 'the Academies Act 2010 made academy status open to all schools, subject to Department for Education (DfE) approval' (Ofsted, 2019). This trust includes over fifteen Church of England primary schools across the county.



Drawing from documents such as the city council published admissions numbers and Ofsted reports, the schools are briefly described below:

*Saint Helen's* - a one-form entry primary school which had a 'Good' Ofsted rating.

*Saint Thomas'* - a recently built three-form entry primary and nursery school which, following a recent Ofsted inspection, improved its rating from 'Requires Improvement' to 'Good'.

*Saint Philip's*- a small primary school, despite being located near the city centre, with a published admission number of 15 pupils. It had a 'Good' Ofsted rating and apart from the reception class, pupils were taught in mixed-aged classes.

*Saint Margaret's*- a two-form entry junior school which had a 'Requires Improvement' Ofsted rating. All classes contained two age ranges from year 3 to year 6.

## Participant Overview

### *Saint Helen's*

Teaching Assistant	Anne
Teacher/ Governor	Tina
Teacher/lead	Leah
SENDCo	Suanne

### *Saint Thomas'*

Teaching Assistant	Amy
Teacher	Tracey
Teacher/lead	Lauren
Governor	Grace
SENDCo	Sophie
FSW	Freya

### *Saint Philip's*

Teaching Assistant	Alice
Teacher/lead	Lucy
Governor	George

### *Saint Margaret's*

Teaching A/A SENDCo	Ava
Teacher/lead	Lydia

## Stage 1: Transcript Annotations

At this stage of analysis, transcripts were read and annotated with the aim of exploring how participants discussed the use of evidence in their schools. Particular

attention was also paid to those interventions which were considered to be evidence-based.

### Strategies and Interventions

In this first stage of reading and annotating transcripts, a content analysis was undertaken to compile a list of interventions which participants considered to be evidence-based. The interview prompt asked for examples which might be considered to be 'brain-based' (Geake, 2008: 123) interventions (see appendix 4 for a full interview schedule), or those interventions which were informed by neuroscience, cognitive science or psychology. These, as well as any strategies or interventions which the participant discussed, were noted and included commercially available products and programmes, subscriptions to computer software and analytics, online training resources, teaching strategies, and specialist support. To facilitate further examination, interventions and strategies have been organised into the themes of reading; speech and language; mathematics; social, emotional, and mental health; special educational needs and disabilities; and general teaching practices.

- **Reading:** Phonics instruction, Phonics Bug by Pearson, Read Write Inc. phonics, Rigby Star phonics, reading prosodies interventions, daily reading interventions, Accelerated Reader by Renaissance, A.R.R.O.W.<sup>®</sup> reading and spelling intervention, Toe by Toe, reading alongside

Systematic synthetic phonics instruction was discussed frequently and was considered to be an evidenced informed strategy to teach reading. There were examples of resources designed to support this type of government backed phonics instruction as well as those meant to support reading more generally. Some interventions came in the form of commercialised products with many supported by computer programmes. Others, rather than being resources, were more traditional strategies which were understood to be effective such as reading alongside or daily reading interventions. However, owing to staffing needs these traditional strategies were seen to be inefficient because they are time consuming and can only be delivered to a single student at a time.

- **Speech and language:** Oracy project, Speech and Language Link

Owned by a software developer, Speech and Language Link is an online screening and therapy programme designed to support children with speech, language, and communication needs. Oracy interventions were linked to a city-wide oracy project.

- **Mathematics:** pre-teach interventions and post-teach interventions

These interventions could be used in any subject though they were most often discussed in relation to mathematics. The government preferred method for teaching mathematics is ‘teaching for mastery’ (DfE, 2020b) and these strategies are cited by the National Centre for Excellence in the Teaching of Mathematics (NCETM) as linked to the mastery pedagogy (NCETM, 2016). As compared to reading, the teaching of mathematics was perceived to be discussed as frequently but prompted fewer differences in the examples of evidence-based interventions.

- **Social, Emotional and Mental Health (SEMH):** Thrive<sup>®</sup>, work with the emotional literacy support assistant (ELSA), Dr Pooky Knightsmith resources

Thrive<sup>®</sup> (Thrive, 2023), a package which consists of an online tool and staff training, was designed to support children’s social and emotional development. It was perceived to be useful though the subscription model was seen to be too costly for schools to maintain. While declining mental health amongst children (NHS, 2022) was acknowledged as a concern, commercialised products in the form of mental health interventions such as this were not often discussed. Instead, participants cited staff who were effective in addressing SEMH needs. The emotional literacy support assistant (ELSA) was considered to be effective, but comments were made to suggest that this resource was often too costly to maintain at a level which could consistently support all children with SEMH needs. There was one reference to Dr Pooky Knightsmith’s free online training which was undertaken during covid lockdowns. Heralded as a mental health expert, her videos were designed to support practitioners in addressing mental health needs and promoting pupil resilience (Knightsmith, 2023).

- **Special Educational Needs or Disabilities (SEND):** TEACCH<sup>®</sup> Autism Programme, Motor Skills United

SEND needs and the use of brain-based interventions to address these were frequently discussed though many of the interventions used were subject specific rather than need specific. TEACCH<sup>®</sup>, a programme developed in 1972 by Dr Eric Schopler in the United States to support autistic students (UNC, 2023), was discussed as a resource to support pupils' specific needs in lessons across the curriculum. While designed for autistic students, in Saint Margaret's, strategies from this programme were used to support a variety of pupils who were achieving substantially below age-related expectations (ARE) and whose learning needs could not be addressed in whole class learning. Ava, a trained teacher who worked as a teaching assistant, explained that it was 'something that's been used for a long time in schools' (Ava, Saint Margaret's).

Motor Skills United was an occupational therapy resource which was created by Stockport children's occupational therapy service. It was a file which consisted of activities that were designed to support pupils with developmental coordination difficulties.

- **General:** Rosenshine's principles, catch-up funding mathematics and English tuition, 1:1, Precision teaching

The use of Covid catch-up funding, a government grant which is also known as the recovery premium, to tutor pupils whose learning was affected by the pandemic, was discussed as being effective but there were acknowledgements that this funding was coming to an end. Research around 1:1 support in lessons, where an adult such as a teaching assistant works solely with one pupil, states that it does not impact learning outcomes (Blatchford *et al.*, 2013), but in school contexts this practice was still considered to be useful.

### Defining Evidence

When asked about evidence use in their schools, because of the educational policy discourse I had engaged with, I expected discussions to focus on engagement with academic research which informed either the participants' or the schools' practices. While some responses made tentative links to academic research, many

responses indicated that, for these participants, the term 'evidence-based practice' was instead used in relation to data about pupil outcomes, making outcome judgements, and as a demonstration of their actions by showing others what they did rather than why they did it. Perhaps my experiences of this terminology while teaching in a secondary school was different to that of primary school teachers' experiences or, as indicated earlier, the discourse may be shifting to reflect the priorities of the evolving marketisation of education. In this shift, through 'the language of education... we are asked to think in business terms' which ultimately 'constitutes a new way of thinking about the relation of teacher and learner' (Pring, 2015: 36). That said, these responses were in line with a government evaluation of evidence use which saw schools' tendencies to value evidence which was considered to be 'most relevant and closest to their context' (DfE, 2017: 39). Regardless, responses gave insight into what each participant considered evidence to be as well as their understandings of the reasons for its use. Broadly, responses indicated a tendency toward explanations which aligned with a form of postpositivism with the reasons for its use satisfying performative expectations (Ball, 2003) or the supposition that causality (Biesta, 2020: 37) in education is desirable and achievable.

What constitutes evidence varied by context, which was identified by Sophie, a SENDCo at Saint Thomas'.

*I think you have different vocab., don't you, what's kind of the in thing and what's not and it changes over time, um I don't think really I have heard it an awful lot, no, to be fair. (Sophie, Saint Thomas')*

She was unsure about the term evidence-based practice but stated that it might mean different things to different people. She attempted to validate this assertion but moved on to highlight that educational discourse is fluid and suggested that popularity of terms change, perhaps independent of practice. Anne, a teaching assistant at Saint Helen's also identified differences in terminology but considered how they differ.

*I've heard of like evidence-base obviously going back to when my daughter talks about the psychologists and the people who have done so many experiments and so that they've got the evidence that it works. But in the classroom, I think that there's set targets and then when they've met the target then they base on that*

*evidence what they can do, they base their next targets. That's sort of how I see that, I don't know if there's more to it.... (Anne, Saint Helen's)*

Anne highlighted a disparity between scientific evidence and that evidence which she associated with the reality of educational practice, a distinction which is not often addressed when academics and policymakers aim to 'get evidence into education' (Gorard, 2020). She explained that in the classroom, 'they' use data such as pupil targets and outcomes. Her use of 'they' indicates that this form of evidence was used by teachers and that she was perhaps not involved in that process, whether that be in generating data or making judgements as a response to that data. This lack of involvement might have prompted her point that her understanding was personal and could differ from those around her. This perception that there might be 'more to it' suggests that there was not a shared culture of evidence-based practice. Teachers, however, through their training and teaching practices, seem to have had a more narrowly defined and shared explanation of what constituted evidence. This shared understanding seems to stem from an awareness of the role of evidence in demonstrating the impact of their teaching.

For Lucy, a teacher and leader at Saint Philip's, evidence was practical. She compared different forms of evidence but positioned one type as being more useful than another.

*It's more about what you're seeing as it happens with people rather than getting the evidence from a book... does that... if you're with me.... **Yes, I am with you. Ok, um-** -practical is the word I'm looking for--**that's fine so what would count as evidence in your school, do you think?** Um. Gosh. What wouldn't really? Um everything that you sort of, every interaction with a child would be evidence of something. It could be evidence of progress or so some of the progress that the children have made is... for some people they'd look at that and think oh that wasn't anything but actually for that child that is massive and yeah you can't put a sort of um, you can't quantify that really um their sort of progress. (Lucy, Saint Philip's)*

Lucy juxtaposed the evidence she used, a 'practical' evidence, against what might be considered academic evidence. The use of 'rather than' implied that one was perceived to be useful while the other was not. Evidence from a book was considered

to be separate from reality which was emphasised when she identified that her evidence was ‘with people’. It was as though she placed more value on that evidence which teachers play a part in constructing. The use of ‘you’ suggests a shared practice amongst teachers of interpreting what they see. Anne also discussed practical evidence in the use of pupil data, but Lucy explained that, while still linked to progress, her evidence was not always quantifiable. Despite this difference, efforts to attend to the expectations of external oversight was apparent in the examples which were cited as well as the manner in which they were discussed. In this there was a disparity between what Lucy considered to be progress and what would be acknowledged by others which indicated that, for Lucy, evidence could vary depending on who was collecting it. Here, evidence was useful for the teacher but personal and her attempt to explain how progress was not quantifiable, hence might be difficult to capture, appeared to be a source of tension. Working with and responding to this type of quantifiable data is a pillar of the ‘what works’ educational movement (Edoald and Nevill, 2021) in which she was operating, practices which were seemingly misaligned with her personal experiences.

### Causality

Unlike Lucy’s explanation, for some, evidence was infallible and links to Biesta’s notions around causality and complexity reduction (Biesta, 2020: 27). Leah, a leader in Saint Helen’s, explained that:

*I think theory based is more, I’ve got an idea, let’s see if it works. Whereas evidence-based is we’ve tested it already, we know it works. (Leah, Saint Helen’s)*

Leah’s undergraduate degree was in psychology which might explain why she chose to use language aligned with a positivist paradigm. For her, theories should be checked but evidence provided certainty. There was also a suggestion that this certainty was well established and did not require reassessment. While these assertions could be linked to her own background and interests, she was not the only one who discussed evidence in this way. Ava, a trained teacher who was working as a teaching assistant and assistant SENDCo, like Sophie, identified that the terminology was perhaps not

what was usually used in her school but also explained that by drawing on experiential evidence, you could do what works.

*it's just a case if I say working with children, seeing what works and if it works, doing it again which I guess is the evidence-based practice. We probably wouldn't use that terminology but I guess if something works and it's something we keep using and I guess that's done by um... test results, assessments. (Ava, Saint Margaret's)*

Again, there was a sense that evidence use was done with the intention of identifying what works and repeating it with the expectation that results would be the same. She was striving for a simple and linear causality, but here, this was tentatively elaborated upon to include measurable outcomes. She began with test results which are usually a summative and narrowly defined measure of learning but then broadened her example to include assessments. Assessments could include summative tests but also refers to those teacher judgements which are undertaken at different stages of the learning process. That said, both are used to measure progress. The themes of pupil progress are inherently linked to accountability practices (DfE, 2010: 13) and were recurring regardless of whether evidence was discussed as being personally generated pupil data, or in these cases, indications of causality in all contexts.

Suanne, a SENDCo at Saint Helen's, chose not to use this terminology in her school but indicated that evidence use was also about doing what works.

*It's a term that I have heard used, we don't, I don't tend to use it with the staff, I don't talk about evidence-based practice. **No?** It's not something that I would actually roll out there. **No, ok. What does it mean to you?** It's that they've, there's been some research done, there's studies been done, you've got proven evidence and you can carry out, so for example, carry out an intervention based on that evidence. **Ok, and why-** -so you know it's going to work. **Ok, if it, why is that something that you don't use?** Don't call it that cause we tend to look at the children and work out what the children actually need, there's lots of theories around what children need and we try and match it to those particular children. (Suanne, Saint Helen's)*

As a SENDCo, she would be expected to adhere to the statutory guidance in the SEND code of practice which stipulates that 'approaches used are based on the best possible evidence and are having the required impact on progress' (DfE, 2015:25). However, there was a sense that for her, while theories might be useful, research evidence, on



its own, was insufficient. She stated that in her school, they figured out what was 'actually' needed and explained that judgements were made to match strategies to pupils. For Suanne, evidence use started with an identification of pupils' needs. Her definition of evidence-based practice was that it was based in empirical research and was also meant to give assurance that specific strategies would work. She drew from an implied general understanding of evidence-based practice, and the stipulation in the Code of Practice that evidence-based interventions must be used, yet her dissatisfaction suggests that there was more to evidence use than what might usually be acknowledged. Here, between evidence and practice was a practitioner who was using theory to help her tailor strategies to suit her specific pupils. Suanne did not associate this process with how she had heard the term being used.

The idea that there is an accepted understanding which might differ from others' views is echoed by Grace, a governor at Saint Thomas'. She stated that:

*some people might define evidence-based practice as more things they would see in their own school and their own trust in terms of ok this works well, but I think most schools and trusts work much more beyond that level, in terms of using educational endowment fund's stuff a lot, I would think that's something, um we use a lot with trainees but I know a lot of schools use it because they think it's very accessible. Um I think there's also you know there's kind of flavour of the month, so Rosenshine is very much in vogue at the moment... (Grace, Saint Thomas')*

Again, evidence indicated what worked well but her definition suggests that what worked was context specific. Grace is also an ITT lecturer and discussed her experience of the broader use of evidence in schools. She indicated that many drew from research evidence conducted and disseminated by the Education Endowment Foundation (EEF). The reference to levels suggests a hierarchy whereby evidence derived from large scale studies sits above that which is contextually specific. There was no indication that using EEF guidance would necessarily result in a better way of doing.

Grace then explained that schools found EEF research accessible, which is its intention (EEF, 2023a). She implied that this recontextualised research (Bernstein, 2000), where research studies are summarised and suggestions for possible actions are given, was easily understood and used. The idea that this evidence was accessible to teachers is also a consideration as those articles which are published in academic

journals are generally behind pay walls and not readily available teachers. Instead, there is a reliance and use of other forms of recontextualised research such as articles written in the media (Guardian, TES), blogs, books or that which has open access such as charitable or government derived research. EEF, as was discussed in the literature review, is an independent charity which aims to bridge research and evidence yet here it is positioned as evidence in its own right. EEF publications are available online and free to view and so are physically accessible to teachers, though given that the organisation was in receipt of a £125 million DfE founding grant (DfE, 2011), its links to English education policy priorities cannot be denied. This caveat was not explicitly discussed but the assertion that ‘they think it’s very accessible’ does indicate that Grace’s viewpoint was perhaps more nuanced. Finally, the acknowledgement that decisions related to evidence-based practice can be linked to the popularity of specific strategies indicates that, even those strategies which are based on the right ‘level’ of evidence are not likely to be long-lasting. An example of a ‘flavour of the month’ was Rosenshine’s principles which will be explored later in this section and again in the document analysis.

### Performativity and Accountability

The idea that evidence is used differently in and out of schools was also apparent in Tracey’s response. She is a teacher at Saint Thomas’ and when asked about evidence use, initially discussed research she engaged with while completing her teacher training. Yet when asked about evidence in her school, she, like Lucy, gave practical examples.

*the benefit of doing the PGCE um in terms of writing essays and things you’re, you’re um reading research, you’re reading other people’s papers and you know citations and things so it’s a lot of that has come from evidence- ... **Ok, and what do you think counts as evidence in this school?** ...evidence that we use on a day-to-day basis would be in line with assessment and whether that is um summative assessment so your end of unit tests, or end of term tests, or whether that’s formative assessment you know lesson by lesson, have they achieved what I wanted to do in this hour? Um so really you’re gathering evidence all the time because you need to, at the drop of a hat be able to give a teacher judgement on where that child is across all subjects, and also their learning behaviours, their learning styles, that kind of thing. (Tracey, Saint Thomas’)*

Tracey, like Anne and Ava, cited evidence which was linked to assessment and like Lucy, these assessments were used to determine whether a pupil had made progress. She then stated that the reason for using this evidence was the need to provide teacher judgements. To whom those judgements were to be given, was unclear but her explanation does indicate that they were not for her own use. In this extract, she stated that these judgements must be given 'at the drop of a hat' which implies that the immediacy of this expectation was unsettling. There was a sense that Tracey was responding performatively (Ball, 2003) to the requirement to produce data outputs, a process which could be imposed upon her at any moment in time. It was also interesting to note that she felt she must be able to identify pupils' learning styles, a concept which was likely learned during her teacher training, but which has since been deemed a neuromyth (Elk, 2019: 28). Whether there was a notion in her school that learning styles should be known or whether these ideas remained from previous practices cannot be ascertained; however, the lasting impact of performative expectations on teaching discourse was apparent here as there was a time when teachers were required to ascertain and respond to their pupils' individual learning styles.

While Tracey described evidence expectations which she felt she must satisfy, Lydia, a member of SLT and teacher at Saint Margaret's considered those expectations relative to the evidence she collected from the teachers on her team.

*so you're looking for what you can find to give those judgements for children for where they are ...So, book looks, so looking at what children have written, planning and I don't check planning because I think that's very personal, but I do talk to staff so it's that triangulation, so you're talking to staff about what they're going to be teaching, you're watching lessons, you're talking to children, you're looking in books, you're looking at learning environments so it's about the whole package for the children, what's going on for them. So then if you find there's um a weakness in spelling in a cohort you can have a good look then, what's up on the walls, what's going on in the spelling lessons talking to the teachers about what's in place. (Lydia, Saint Margaret's)*

While only in her early forties, Lydia stated that she was 'probably considered quite an old teacher' who in her interview, made references to her values and how teaching practices have changed. Throughout, there seemed to be a tension between her

beliefs and the expectations which had been placed upon her. For her, evidence was multi-faceted and focussed on children's experiences. Despite her leadership position, there was still a sense that she must justify her practices to an outsider. For example, she listed forms of evidence and included teacher planning but immediately stated that she did not check this. For her, this was not a suitable form of evidence yet its inclusion in her list indicated that she believed others would expect her to monitor this planning. A bit later in the interview she verbalised how accountability expectations have changed.

*So much of it these days is you're told this is what you need to do, you need to do this, you need to do that, you need to do this, you need to do that. Whereas when I first started teaching you had much more of a free rein. (Lydia, Saint Margaret's)*

She highlighted a shift from teachers having made decisions to those decisions then being undertaken by another entity which then tells her what to do. Given her career progression, it might have been expected that she would feel she had earned more autonomy rather than less yet the repetition of the phrase 'you need to do' indicates that these expectations were felt.

Overall, Lydia stated that the goal of this evidence use was to give judgements for children and, coupled with aspects of performativity, links to ideas around datafication of education which is considered to be a means of school improvement (Roberts-Holmes & Bradbury, 2016). Lydia's school was judged as 'requires improvement' by Ofsted so would be in receipt of regular consultations with school improvement leads in the MAT. Her use of postpositivist terminology throughout the interview, such as 'I do talk to staff so it's that triangulation', was at odds with her holistic approach and could have been an attempt to satisfy those external expectations. While there was a sense that she was responding to oversight, her discussion reveals a reluctance to commit to priorities which were seemingly misaligned with her own.

Thus far, there have been examples of evidence which was used to justify judgements and was inherently linked to pupils and their outcomes. For some, evidence was used as proof of the appropriateness of their own actions. Alice a teaching assistant at Saint Philip's states:

*Yeah, so it's that proven, what you've done. Is that what we're talking about?... 'I suppose if it's what staff have done and you're looking at CPD, that type of thing. You've got your qualifications, your certificates and so on. If it's work you've done with the children, then obviously, their written work is evidence but also cause I do a lot of sports with them as well, it's photographic evidence uh and their feedback as well, I think is important, so um you know we try and get their voice on what they done as well and how they found things (Alice, Saint Philip's)*

Initially, Alice considered ideas around proof and sought validation for her interpretation of the question. Like Anne, the teaching assistant from Saint Helen's, she was unsure about the terminology which supports the idea that evidence-based practice might have a more generally accepted understanding amongst trained teachers rather than across the school context. Here, evidence was not about what the children have necessarily achieved but was used as documentation of actions taken with pupils. For Alice, evidence was linked to accountability but her accountability, that which was linked to time and task completion, was measured differently than teachers', for whom the focus was on pupil outcomes.

Amy was also a teaching assistant but worked at Saint Thomas'. Unlike Alice, her focus was on pupil outcomes, a reason for evidence use which was discussed earlier. However, rather than justifying these outcomes, which implies an explanation of the processes used to ascertain judgements, for her, evidence was proof of those outcomes.

*I understand evidence to be what is the outcome of either that input or that support or that lesson so what I could prove what that child has taken from that lesson. (Amy, Saint Thomas')*

Tina, an early years teacher had a similar view. She stated that:

*evidence-based, being a moderator you gotta have the evidence to prove your levels and stuff but I think it means a different term to what I'm used to. **What do you mean it means a different term t-** -Because I see it as evidence-base that you got to provide the evidence that they're at that level so as a moderator, I'd say is that a two or is that a one- **-yeah-** -what's the best fit. (Tina, Saint Helen's)*

In the previous three examples, the use of positivist language was apparent and was intended to convey certainty yet the reference to 'best fit' indicates that even this

evidence was not as straightforward as some might assume. Despite her multiple roles as a teacher, a staff governor, and a phase leader, Tina most associated evidence use with moderation. In this case, evidence was about validating one's data. For Tina and Amy, evidence could be seen but for some, seeing was evidence. Lauren a teacher, year lead and science lead considered evidence use in her school.

*I suppose every day we are using evidence informed with the children in terms of assessment for learning and things like that. So, gathering what the children can do already or what they can't do looking at those next steps and then filling those kind of gaps in subsequent lessons (Lauren, Saint Thomas')*

For her, assessment for learning was evidence. Again, we see that the priority for evidence use was in ascertaining pupil progress, but the verb gather could suggest that it was not just about knowing and understanding pupils but about having something to display that understanding to others. When explaining what counts as evidence, Leah also discussed the practice of assessing pupils and said that evidence in her school was:

*seeing the progress improve um, I guess it depends on what you're doing with the child (Leah, Saint Helen's)*

Earlier, this teacher and science lead stated that evidence-based indicated that something worked yet when prompted for an example, she cited pupil progress. Most chose examples which were linked to their own accountability measures and spoke about them appreciatively. Here, for example, progress was about improvement which might indicate that teachers were wanting to celebrate good practice rather than highlight issues or problems.

George, a governor at Saint Philip's, also discussed evidence and its part in improving education.

*Because if you can, you know it's th-, you manage uh what you can measure, don't you? You, it's if you don't know what your outcomes are then you can't make tweaks to improve it. You need to have a grasp of some elements of it that you can say if we did this to that, would it get better, you need to know what's getting better and what's getting worse- (George, Saint Philip's)*

For him evidence was about measurable outcomes and was used as a management tool. The goal of its use was to make education better, but this reflects the

government's focus on pupil data as a measure of successful teaching, despite the drawbacks mentioned earlier where some aspects were not quantifiable or required best fit judgements.

### Reflecting on defining evidence

In policy discourse, it is often implied that evidence-based practice is clearly defined and understood. These responses, however, highlight that in practice, this terminology is multi-faceted and complex. For some the terminology was unclear and varied. Despite my relationship to education as a former teacher and a current chair of governors, it was suggested by an interview participant that my definition might be different, perhaps taking into account my position as a researcher and academic. Many though spoke about their experiences and practices as though, to some extent, we had a shared understanding. This is demonstrated when participants used 'you' pronouns or drew upon terminology such as 'assessment for learning' or acronyms like CPD and did not feel it necessary to explain what these meant.

On the whole, responses saw understandings of evidence-based practice as linked to a drive to identify causality and to do what works. Ascertaining what works was often linked to educational priorities and varied by context. In the main examples given highlighted practices which were based on participants' experiences in their own schools. Some participants did discuss academic research as evidence but tended to draw from experiences with studying for undergraduate or postgraduate degrees or with national professional qualifications.

Examples of evidence-based practice were often linked to pupil progress and outcomes whether this be to justify how those outcomes were reached or in demonstrating those outcomes to others. Overall, it is apparent that prioritisation of certain forms of evidence sees policy's slant toward postpositivist assumptions perpetuated in how participants discussed evidence and in what they considered evidence to be. As a result, evidence-based practice often seems to be linked to management strategies which seek to hold teachers accountable for pupil progress and where there was a preference toward the collection and dissemination of simple measurable data to convey that progress. Using data such as this to justify practices could be seen as a misapplication as even positivists would posit that this is not good science. While these actions might satisfy the expectations imposed upon practitioners

by external bodies, in practice, it was not related to the process of engaging with research to facilitate professional development.

While discussion of evidence initially favoured school specific data, when prompted for examples of 'brain-based' research, participants did cite strategies which they believed were backed by research evidence. Rosenshine's principles and precision teaching were two examples which were discussed frequently and so responses linked to these will be analysed further.

### Rosenshine's principles

Rosenshine's principles, as discussed in the literature review, refers to Barak Rosenshine's ten research-based 'Principles of Instruction' which were first published in 2010 (Rosenshine, 2010). These ideas have since been developed into a self-professed 'practical guidebook' for teachers (Sherington, 2019) with demonstrations of how the principles can be put into practice. It is implied that they are applicable to all learning in classrooms and as Grace stated earlier, these ideas are currently popular:

*there's kind of flavour of the month, so Rosenshine is very much in vogue at the moment um and obviously you know we go through phases of different types of things (Sophie, Saint Thomas').*

Her references to time in the use of month, moment and phase indicate that this strategy, like others are not likely to be favoured for long. It could be that advances are being made at such a rate that teaching practices are evolving to respond to new information. However, Rosenshine's principles, in their current form have been around since 2010, so it is perhaps more likely that the expected short duration could be a result of changing strategies to suit policy expectations rather than as a response to emerging research. The explanation that 'we go through phases' suggests that there is a cyclical nature to these changes, a cycle which could be the result of the shifting educational priorities that often accompany changes in government. That said, given the current popularity of Rosenshine's principles, responses about this intervention have been selected for further exploration.

Like Grace, Sophie stated that Rosenshine's principles are popular, and she considered how they are used in her school.



*you try and evidence the theory behind it or I suppose they kind of perhaps go hand in hand maybe. The theory perhaps comes from the evidence, um so for us I suppose at the moment in time the in thing is Rosenshine and so that's the theory behind a lot of what we're doing, a lot of how children are learning um and obviously how that impacts on behaviour and culture within the school (Sophie, Saint Thomas')*

Affecting everything from the thinking behind pupil learning to behaviour management and culture in this school, these principles seem to be credited with various dimensions of teaching practice. First, she indicated that strategies might be linked back to a theoretical base and that evidence is used to demonstrate that theories exist behind practice. She then reconsidered this response to state that evidence could give rise to a theory. In this, she seemed uncertain as to the role that theories play in relation to both evidence and practice. That said, language such as 'at the moment in time' implies a shifting landscape and that strategies derived from these principles could be used only temporarily. The indication that they will lack longevity echoes Sophie's comment earlier that what is in and what is not changes over time. Though, given the links she made between theory, evidence, and practice it is a bit surprising that 'how children are learning' could be rethought or reworked from moment to moment, particularly given how little the educational structures themselves have changed in contemporary history. Later, Sophie revisited the use of these principles and considered why they are popular.

*I'm doing an NPQ in behaviour and culture and actually there's three units and the first unit is learning and that was very much about Rosenshine as well um so he's the big, that's the big thing at the moment in time, I suppose. **Why do you think that's, what do you think it is about that that makes it the in thing at the time?** Now I don't know how, how old Rosenshine is but maybe it's just a bit newer. You know when we were learning it's all gosh trying to think, you know when you're at Uni., you have all these different theorists, don't you, you've got your behaviour theorist and at this moment in time I can't think of them all- **No, no!**- off the top of my head but they're all a bit old school now, aren't they, I suppose. So, it may be Rosenshine, I don't know how old he is or when this you know research, because I've just been fed the research and I can't remember the date of it, perhaps it's just a bit more current I think, and perhaps it makes a bit more sense- **okay**- and so it can be, it's just more relevant, I think... (Sophie, Saint Thomas')*

Sophie reiterated that she felt Rosenshine's principles were popular 'at the moment' but elaborated to explain that this was likely because it was newer than other theorists she engaged with previously. However, Rosenshine's principles were based on studies which date as far back as the 1970s (Rosenshine, 2010). Rather than being newer, they perhaps more readily address the expectations of current educational policy. Sophie was doing a national professional qualification (NPQ), which she said had focused heavily on Rosenshine. This qualification was fully funded by the DfE and so anything taught in that course would be understood to be accepted and approved by this government body. As understandings of evidence-based practice were seen earlier to be linked to accountability measures, it is then not surprising that schools would adopt strategies which are being heralded by the DfE who works closely with Ofsted (2023). Here too, the engagement with these theories is interesting as Sophie stated that she had 'just been fed the research'. This comment could indicate a passive engagement or that she had little agency in this process. Sophie's perception was that Rosenshine was drawn upon as these strategies might have been considered to be more current and so more relevant to modern teachers while Lauren linked its use, and theory-based practice more broadly, to the headteacher's aspirations for the school.

*...so next question is about theory-based practice. So, is this a term that you've used or have heard used in your school? Yeah. Yeah, and I think it's probably a term that we are using much more now with [headteacher's] kind of aspirations for us to become a beacon school. I think lots of the, lots of things underpin that are, are the theory and making sure that the things we're doing are based in that theory. So Rosenshine's principles are something that we talk about a lot and they're linked into our um feedback policy and into our way that we start lessons and things so every lesson starts with a retrieval practice, a kind of recall of what we've learnt before, um we're introducing the vocab every session as well and explicitly teaching that to the children, um every lesson is taught in small steps as well so we start off with an, I do I'm going to you as the expert and then we're going to have a go together and now you're going to have a go independently building that across a sequence of learning. Um all of our planning as well... (Lauren, Saint Thomas')*

As stated earlier, this school was recently rated by Ofsted as requires improvement and so was on a trajectory of working towards not only improving that grading but, as was the headteacher's aspirations, being recognised as a context with exceptionally strong teaching and learning. It was believed that ensuring that teaching strategies are

underpinned by Rosenshine's principles would aid in the achievement of those aspirations. Here, they were considered to be theories which impacted various aspects of teaching, from the structure and content of lessons, to feedback, to lesson sequencing and planning. In this context, these principles seem to have informed how the teacher taught, what she taught and how she interacted with her students. Lauren seemed to be 'on the bus' with responding to theories in that way and as a subject and year lead; these attitudes could have also influenced the practices and attitudes of the teachers who were on her team.

It is noteworthy that despite the perceived popularity around Rosenshine's principles, those who spoke about them were all from Saint Thomas'. This is not to say that others were not aware of or did not use these strategies but for those in this school, these strategies were at the forefront of their teaching practices. Lauren's references to 'our way' and 'every lesson' illustrate an expectation of consistency which was illuminated by a conversation that Sophie and Freya had about changes to teaching practices.

***How do you think it affects teachers when these changes are-***

*Freya: -it depends on what personnel, whether they're, what was it that [headteacher] said they're-*

*Sophie: -on the bus or not on the bus really-*

*Freya: -yeah, no laggards, laggards (small laugh) or something else. That was in training, that was a theory.*

***Do these changes make the teacher more effective in their roles, do you think?***

*Freya: Some, some I do think maybe not. (Freya and Sophie, Saint Thomas')*

There seems to be a culture in this school that those theories which are drawn upon in training were expected to be used by all and those who were unwilling to accept them were dubbed as being slow with the implication being that, should they fail to get 'on the bus', they would be left behind. While changes implemented from training could make some teachers more effective, it was believed that this type of training did not improve practice for everyone. How this situation came to be was explored through the topic of continuing professional development training which was captured in data maps in the second stage of data analysis. Before moving onto that section, I will first consider responses about precision teaching.

## Precision Teaching

In some ways similar to aspects of Rosenshine's principles, specifically the practice of teaching in small steps and checking for understanding, is the use of precision teaching (PT). PT is a behaviour analytic system linked to the work of Skinner which calls for 'precisely defining and continuously measuring dimensional features of behaviour (Evans *et al.*, 2021: 561). Given the conceptual overlap, where the amount of information delivered and the assessment of the retention of that information is prioritised, extracts related to this strategy will also be explored further.

In Saint Thomas's there was discussion of shared practices, things that all teachers were instructed to do as a direct result of theories that were covered in their training. Precision teaching was discussed as though there was a similarly shared and accepted understanding of its use however when explaining what PT was and how it was used, participants' responses varied. It was not clear whether the lack of consistency was due to adaptations in different contexts and so was by design or whether the strategies were not yet as thoroughly explored, clearly understood, or as embedded and so inconsistencies persisted.

For Lucy at Saint Philip's, precision teaching could be used to address perceived gaps in learning. She explained that:

*...one of us might pick up that they've missed certain phonemes so you then focus on those in just a sort of quick short bursts. Sometimes we use precision teaching for that because that's all about just getting bang on and just about the children being able to remember those sorts of things ... (Lucy, Saint Philip's)*

In this example, the outcome of the intervention should have been apparent in pupils being able to remember, in this case, phonemes and the strategy would rely on quick, short bursts of teaching with a predefined and narrow focus. Anne also linked precision teaching to the act of memorisation and explained:

*...we also do like precision which is more like memorising words, I don't know if you've heard of the precision but you have like the top, there's the top two hundred um- **-common, yeah-** -yeah those words. Oh yes so you know what that's, what that's about but then- have seen lots of improvement with that because obviously you record the score and they try to beat their score and then when you listen to them read, it's amazing, they read so much more fluently*

*cause they recognise so many more words so that's definitely proven to have worked. I have seen that. (Anne, Saint Helen's)*

While Lucy discussed a strategy which could be applied to phonemes, Anne presented one which she linked specifically to teaching reading through the memorisation of a set list of words. There was no indication that for her, the method was, or could be, applied elsewhere. Also different was the perception of success which for Anne extended beyond memorisation of words. These were recorded as a score which she explained motivated students however the real 'proof' was in witnessing the impact on reading fluency. As Anne was a teaching assistant and would likely not be accountable to data such as the 'scores' she mentioned, she chose to celebrate reading fluency as a positive outcome of PT, a somewhat subjective measure of success. While the successfulness could be perceived in different ways, thus far the focus of PT on memorisation has been consistent.

Like Anne and Lucy, for Leah, the intended outcome of PT was also memorisation:

*I haven't been trained up, but I know the principle is five words, if it's reading anyway, five words, different orders, it's kind of rote learning and we change the orders every day. (Leah, Saint Helen's)*

That said, the methods used to achieve that outcome were somewhat varied. Rather than teaching which focused on speed and duration of sessions, as highlighted by Lucy through the teaching in 'quick, short bursts', here, the strategy was linked to repetition and specifically to how that repetition occurred. In this case it was five words, which they tested every day. She also explained that PT was a strategy which was linked to neuroscience.

*I mean the neuroscience in my head would be linked to precision and going over the pathways to recognise a word (Leah, Saint Helen's)*

Earlier, Leah likened teaching in this way to 'rote' learning, a practice arguably as old as education itself yet its use in modern education was somewhat validated, and perhaps perceived to be more current. This was justified through an explanation which was

linked to brain sciences. Despite what seems to be a clear, simple, and scientific explanation of the concept of PT, for Alice an assistant at Saint Philips, her understanding of PT was in direct contradiction to that explanation.

*... so we do precision teach, we do um like interventions with phonics, if somebody isn't getting phonics in a normal lesson, we'll bring them in and do it a different way and that again, it can be play-based, so it's fitting what suits that child. (Alice, Saint Philip's)*

Instead of repeating learning, she saw this strategy as teaching things which pupils were struggling to understand in new and different ways, using methods that were specifically linked to each pupil's individual needs. Here there was a sense that teaching episodes were unique, which seems in contrast to the repetition which was discussed earlier. She went on to explain:

*the ones that I've done precision teaching with, so if we've got a child who is really struggling with certain spellings or really struggling with maths it's like right, ok, and again with the precision teaching um it's going back, isn't it, and plugging those gaps that they may not have so I think particularly with Covid as well, cause there's a lot of children that yes they might be year three now but actually they didn't do an awful lot in year one and year two so they won't have those basics, like those foundation pieces of knowledge that they should have to enable them to do whatever, so... it's taking it back and plugging gaps and looking for those gaps as well, um and again if you know their spelling is absolutely shocking and they're just not grasping it, well why not? And then if you do like a phonics assessment, oh well actually they don't know most of the phase three sounds or that type of thing, picking up what's missing. (Alice, Saint Philip's)*

Alice, like Lucy, a leader from the same school explained that there might be things missed in learning. She, in line with covid educational policy discourse (Ofsted, 2021), called these missing elements 'gaps' and stated that PT could be used to address these. The commonalities here are that the strategy was not linked to any particular content and that its use was prompted by the identification of 'missing' elements of learning. Assessment in this way was one aspect of the fundamental PT theory which calls for defining a learning objective (Johnson & Street, 2013: 20) but the behavioural response aspect, the part Leah linked to neuroscience, does not seem to have the same shared response or understanding.

Rather than a neuroscientific explanation, which could elicit a perception that the strategy was somewhat precisely defined, Suanne a SENDCo from Saint Helens explained that it was recommended by educational psychologists.

*The precision...that came from the educational psychologist service... and that is little and often, it's an approach that lots of different schools use, and it is limited amount of time that they spend doing something but its overlearn, overlearn, overlearn, and then they progress, move forward... then we go back and we do a mixture so we don't just hit something once, um we'll revisit, we'll revisit it again to make sure that they have still taken that on board. (Suanne, Saint Helen's)*

Overlearning is seemingly an established teaching strategy but there was a sense that its use should be justified, in this case by calling upon brain sciences. Sophie a SENDCo at Saint Thomas' also credited educational psychologists with the use of PT.

*EP, education psychologist would always advise are those short, snappy, daily, repetitive ones um because it's that repetition, repetition, repetition which is a little bit old school, with that so your times tables but that is what the theory behind things seems to work, um that brain-based learning cause you're going over and over and over again it will eventually go into your long term memory so you can remember it. So say things like precision teaching, you know if that's done well every single day, children will remember their words or their spellings or something like that...*

*'-Okay, I was just going to ask how do you know if it's a good intervention? Yeah if there's theory behind it and you've got, there's evidence um not something that we've potentially made up so ... obviously precision teaching which is what all education psychologists recommend if a child's not getting something, precision teaching is what they say every time. So those four, we know work. (Sophie, Saint Thomas')*

Despite recognising the practice of teaching through repetition as being 'old school', its use was instead attributed to the educational psychologist's recommendations. There seems to be a sense that brain sciences were being used to validate longstanding teaching practices even when outsiders might have perceived those practices as simple and straightforward. Sophie explained that a 'good intervention' is one which was backed by theories, and which had not been 'made up'. In this extract there were implications that teaching experience and or intuition would not be sufficient evidence in making methodological choices in the classroom. The role of educators and the extent to which they were seen as a professional in their own right is called into question. That said, Sophie and Suanne were SENDCos rather than teachers and so

drawing on external advisors to guide teaching could arguably be due to considerations around their positionalities; however even in assessing interventions in her own context, Sophie looked to the EP. For example, rather than citing her own perceptions or even pupil outcomes, Sophie referenced the educational psychologist's recommendations to confidently state that they knew PT worked. Again, we see the theme of causality in what works; however here there was a sense that even pupil progression is, in itself, not enough to justify the teaching methods used to reach these positive and measurable outcomes.

Analysis of extracts about PT have focused on perceptions of how this strategy should be employed with discussions taking into account prompts for use, duration, frequency, content, and outcomes. Additionally, the justification for its use and emerging implication of those explanations on teacher positionality have been highlighted.

## Stage 2: Data Maps

The first level of analysis explored the questions: how was evidence defined, and in school contexts, which 'brain-based' interventions or strategies were considered to be evidence-based? In this second stage, perceptions of how research evidence was chosen and how it was disseminated were analysed. Where the first stage responded to themes identified through transcript annotations, this stage responds to themes identified through data mapping. Data mapping, a bespoke analytic tool, was employed as a method to garner an understanding of individual participants' perceptions of evidence use as part of their own development process. The process, though not limited to particular components, was expected to include elements of accessing research, interpretation, dissemination, action and perceived impact. Through mapping, these individual elements were visible, as was an overview which allowed movement between and around key themes to be seen (see appendix 7 for sample data map).

In data maps, arrows were often drawn from left to right, to point toward teachers, representing a sense that various elements were being brought to, or even imposed upon, them. These arrows were linked to training, accountability measures, and other external pressures such as lack of time. From teachers there was little



movement toward evidence, knowledge, or theory, suggesting that few statements were made to indicate that they perceived themselves, or others perceived them, as having a role in assessing, generating, or contributing to those elements which informed their own practices. In this case, evidence refers to engagement with information derived from research, whether their own or others'. On the maps, there were many examples of teachers discussing their definitions of evidence, those which were covered in the annotations stage of this analysis, and which often linked to assessment and data. Again, these were usually related to measures of pupil progress rather than teaching processes. However, where evidence in this project refers to academic research that informs pedagogical choices, examples of that evidence indicated that it was often, as Sophie stated earlier, 'fed' to them.

In considering what was being 'fed' to practitioners it became apparent that the MAT played a vital role in the selection and dissemination of evidence. In how that information was disseminated, recontextualisations of information were seen. As such extracts about the role of the MAT and recontextualisation in training were selected for further analysis.

### Role of the MAT

In relation to evidence-based practice, the mapping highlighted prioritizations of concepts and information in the movement from knowledge, theory, and evidence to the participant. Continuing professional development (CPD) training practices, specifically those within the multi-academy trust (MAT) were seen to be influential. When asked about using theories in her school, Ava referred to her trust.

*... how do you choose which theories you would use, in this school, do you think? Um I guess part of a MAT as well is just I suppose uh kind of told, recommended which ones to use and the ones which additionally I suppose children, are most effective for most children um (Ava, Saint Margaret's)*

In her full transcript response, it seems that Ava conflated theories and strategies but stated that the trust told them which to engage with. She then softened this statement to use the word 'recommended' but in both cases the trust was evidently involved, to some degree, in the selection process. She expressed a sense that the trust made those recommendations based on their understanding of what was most effective but

did not specify what effective meant in this context. Her inclusion of the phrase ‘for most children’ gives insight to the limitations of this type of general advice, that which is unlikely to address the needs of all pupils.

Suanne from Saint Helen’s also identified the role of the MAT in the selection and prioritisation of information for dissemination to staff.

***were you involved in choosing that with the MAT?** No. It was done through the speech and language, we’re gonna, apparently, we’re going to move on to speech and language in September. **Oh ok!** Because we just finished, the MAT have just done um autism education trust, so we’ve had a lot of training on autism, and I think the next one, the next one that we’ve all said, because children are coming in, whether it is the pan-, no it’s not the pandemic because I was a foundation teacher for ten years and year on year it’s getting worse, and it’s their speech and language is really, really poor, when they come in... -hopefully that’s what we’re going to be doing from September, we’ll have a focus on speech and language. (Suanne, Saint Helen’s)*

She explained that the MAT chose to focus recent training on autism which she linked to their connection with the autism education trust (AET), a not-for-profit programme designed to deliver continuing professional development to a ‘range of different organisations’ and which is supported by the DfE (AET, 2021). The motivation for the MAT’s work with the AET was not stated though given the programme’s government funding, the influence of policy priorities was implied. Additionally, while the cost of this programme was not advertised, their strategy document did reference their goal to ensure that the ‘licence is value for money’ (AET, 2021). The cost implication here might explain why when training such as this was drawn upon, it was delivered to all schools within the trust. On the one hand, being part of a trust might present opportunities for more and diverse training opportunities though here it sounds as though, perhaps due to time and money constraints, trust schools focussed on one specific area, that which the trust board chose to prioritise.

Suanne’s explanation of this training, that which was done by that MAT rather than that which was done by her, could suggest a lack of perceived value in this programme. However, she did express a need for the MAT’s upcoming speech and language training and cited her experience of worsening speech and language in foundation year cohorts. That said, regardless of agreeing with this intended focus, she stated that she was not involved in the selection of this CPD topic. Her use of the words ‘apparently’ and later ‘hopefully’ to refer to this future training, expressions of

uncertainty, could stem from her lack of involvement in those decisions related to her own professional development needs.

Similarly, Lucy considered the role of the MAT in selecting professional development training.

*most of our training um will come via um the MAT, so our our trust. Sometimes that's from [external provider], they filter, the MAT seem to use lots of their training um sorta things...so there would be internal training sort of in house and then most of our other comes from the trust. (Lucy, Saint Philip's)*

She used the word filter to refer to the MATs selection of training providers, implying a process which prioritises, sifts, or prevents information from making its way to staff. This comment, while seemingly neutral, did reiterate the lack of agency in CPD decisions that was expressed by Suanne. Lucy also referred to the MAT's use of a third-party training provider. In this case, the company was also a government approved apprenticeship training provider and so was also implicitly informed by educational policy priorities. Again, there was a tension in Lucy's response as she attempted to identify 'in-house' or context-specific training, but this was sandwiched between two examples of the trust's selection of CPD opportunities.

In addition to the MATs influence on training practices, Ava explained that they might have also chosen which intervention programmes were used in her school.

*if it's around speech and language, we have a programme that the interventions are given to us. So, the MAT bought into something called speech link- **-ok-** -and I assess the children and then I'm given feedback as to whether they need speech and language therapy or whether an intervention in school will work and the interventions are based around the areas that the children struggled with. And that is more about, that doesn't cover speech clarity, I might be going into too much detail- **-no, no-** -um, it's more about is their understanding at that point in time, have they got full understanding of basically what's going on in the classroom? So have they scored highly enough for me to say confidently, yes, this child is understanding what's being taught to them, they do understand what's going on in the classroom, so there are no issues. **Is, is this a judgement that you make, is there a computer programme sort of thing-** It's a computer programme. (Ava, Saint Margaret's)*

Ava explained that the MAT had 'bought in' to a specific programme. The phrase buying in is likely to refer to the cost implications for using a programme such

as this, but it could also relate to the idea of accepting the theories and practices which are intrinsic to that programme. Speech link was used to diagnose SLCN needs and gave recommendations for interventions which were deemed to be appropriate to address those needs. Here, the resulting teaching practices were not developed by the teacher, leaders or even those within the MAT but had been designed by a team which was owned by a software developer. When the MAT made decisions to use a programme such as this, the chain between theory, product and practice could be seen to be extended. Arguably, whether the school or the trust made the decision, the resulting practices from using the programme would not necessarily be any different but the decision making around the appropriateness of the product within a specific context could be seen to be being moved away from practice. Previously, decisions such as these may have been made by local authorities (DfE, 2017c) and so potentially more politically driven than those which are made through MATs. Though, as seen with external providers and AET, even within the MAT, training programmes had not been politically neutral. In fact, local authorities may have been better equipped to address the teaching and learning needs in specific local communities. MATs often span greater geographical areas and are perhaps less likely to tailor their selection of strategies to the needs in specific locations or contexts.

This consistency of approach in MAT decision making had been noted by staff within the trust. When asked which interventions or strategies she would like in her school, Sophie explained that these are trust-wide decisions made by the board.

***is there anything that you'd like to see in this school? Is there anything on the market or anything that you've researched or that you've read about that you think would be great here? Oooo, no I haven't actually um only because it is all, you know it sounds- you know because that comes from the trust side of it. You know the trust are who hold the purse strings all the money goes to the trust and its, and what sort of happens in school is very strategic, comes from the top, they look at all schools, what is the need, so next, so say for example next year is looking I think looking at speech and language and social, emotional, and mental health, making a connection there. So, actually that's where they're looking at putting in the money so that money'd be taken away from something else to put into there and going ok is that the right sort of move, whereas potentially this year was, not that it's related to this but, sort of autism. Ok, we've had kind of training now let's move on to something else. What's the need for the schools across the MAT, so that comes from the top level down. (Sophie Saint Thomas')***

Sophie reiterated an earlier point made by Suanne, that the next cycle of training would focus on speech and language. She explained that this was a decision which was made by considering the needs of the schools within the trust but said that what happened is 'very strategic'. Originally a term to describe military operations, the idea of strategy in decision making is more commonly associated with the business sector than the education sector. Though given the way in which MAT structures function, this corporatisation of educational discourse is becoming increasingly apparent. In the use of strategy was also an implied metaphorical military campaign which a later reference to right 'moves' extends but which could also be linked to implied performance indicators. The corporatisation of educational discourse is again apparent in Sophie's statement that decisions were made around considerations of their financial implications. This trust had recently moved to gag-pooling, a practice which sees general annual grants from all its academies held in one pot. The result is that the MAT maintained control of financial decisions which, in this case, affected professional development. This is not to suggest that budgetary restrictions and their practical impacts are unique to MAT structures but what is perhaps surprising is that prioritisation of training is seemingly done on a trust-wide best fit model and does not appear to be context specific. It would seem that as a result of this situation, Sophie chose not to allow herself to consider alternative strategies for her school and instead deferred this decision making, and potentially opportunities for her own pedagogical thinking, to those who work centrally in the trust.

Trust-wide consistency is a recurring theme. Lauren from Saint Thomas' said:

*-so, a few of us science leads have worked together on that so that's something else that I suppose they're, they're pushing out across the schools, so they've got some kind of commonality- (Lauren, Saint Thomas')*

Lauren explained how she was able to work together with science leads across the MAT. The opportunity for collaboration with other teachers was often seen to be valuable with some interview participants citing examples of using online spaces, messaging groups, and physical spaces to share and build their own practices. The benefit of collaboration was cited by Ofsted as being a reason why schools opted to become academies though it was cited alongside autonomy to innovate (Ofsted, 2019). However here, rather than drawing from others' experiences, this instance

seems to have been an exercise in ensuring consistent practice across schools. The verb 'pushing' to refer to how a new science scheme of work was implemented implies that recipients had little choice in how they engaged with the newly developed resource.

Even when it came to external training undertaken for one's own personal development, specific MAT priorities could influence the form it took. Lucy described an independent project she completed as part of her NPQ in senior leadership.

*So, I did it on um maths and um. So basically, looking at maths between the end of key stage 1 and the end of key stage 2 and picking out um disadvantaged children and what can we do to narrow the gap basically- **-Ok-** -um to make sure that they make expected or better than expected progress. As... compared with their non-disadvantaged peers. **Yes, yes there's a lot going on in the trust with that at the minute isn't there?** --Yes! - (Lucy, Saint Philip's)*

Here, Lucy's own research was directly linked to the strategic plans within the trust. It could be that the trust's focus on disadvantaged boys had been prompted by a need in her context or conversely, she chose this topic as a response to their priorities. Either way, this particular group of pupils and the discourse she chose to describe them align with both the trust and, more broadly, national policies. Terminology such as 'better than expected progress', 'narrow the gap', and 'compared with their non disadvantaged peers' are phrases which are consistent with current policy discourse (for example see DfE, 2018). Given that an intention of the academisation of schools was to allow educators freedom to focus on the needs in their own contexts (DfE,2010), it is perhaps problematic that within the trust, we see a consistency not only of practices, as described previously, but also of priorities across its schools.

Thus far, participants in each of the four schools had identified the MAT's influence in the selection of professional development training and the strategies which were used in each context. While, arguably, there are benefits to pooling costs for shared training, the drives toward reduction of expenses and consistency of practice as well as the influence of third-party providers were believed to impact the decision-making process. The implications of these motives appear to be a relinquishing of opportunities for pedagogical thinking, at least as it pertains to decisions around which strategies or ideas could be covered in professional

development training. Also relevant to this study is interview participants' perceptions of how they engaged with the information which was provided to them in their training or through teaching resources.

### Recontextualisations

Bernstein defined recontextualisation, a rule in his pedagogic device, as when a 'discourse is moved from its original site of production to another site, where it is altered as it is related to other discourses' (Singh, 2002: 573). Here discourses related to research were moved from the site of production, usually from academic institutions, and recontextualised through training and resources which saw them used as evidence which was used to inform teaching practices. Movement on data maps demonstrated that throughout the interviews there were examples of these types of recontextualisations, where information was taken from a source, simplified, or had conclusions drawn from it and then disseminated. Tina, a teacher at Saint Helen's described one such example of recontextualised information in the resources she used to support reading development.

*...the Rigby Star, I know because I used it at my old school, so actually it was easy. Everything's in the book, tells you, gives you all the questions, it tells you exactly what to do in the teacher book. So, it's a bit like Read, Write, Inc., it's so prescriptive, but it works ...*

*--how does it, does it impact you as a, as a teacher, do you think? Yeah, as well, my TA, she only started in September but because it's so prescriptive, that she can lead a group and she feels really important that she can teach a guided reading group, so the emphasis is given her confidence and control and a can do, as well (Tina, Saint Helen's)*

Here, ease of use was celebrated. Tina explained that it was prescriptive which her phrasing suggested was a drawback, one that she mitigated through successful outcomes, because 'it works'. Again, we see an indication that there was a tension between the teacher's views, that prescriptive techniques could be problematic, with the drive for outcomes, and simply doing what works to achieve these. She referred to the teacher book but when asked about impacts to her teaching, Tina chose to discuss the impact on her teaching assistant rather than on her own practice. She explained a benefit is that the prescriptive nature of the resources allowed her assistant to 'teach a

guided reading group'. While the confidence it imparted could be of value, the implications for what it means to teach or be a teacher is a cause for concern. For example, these resources are meant to support the development of reading skills, skills which are complex and multi-faceted. Guiding a pupil to answer questions correctly, while it may seem to have yielded positive outcomes, may not necessarily be aiding in the development of those skills, the development of which teachers are trained to assess and support.

Anne, a teaching assistant at the same school also described her use of a prescriptive resource.

*there's interventions that I do, mo- there's motor skills... what is it, motor skills that I do and it's just a booklet and it says its wr-, I can't remember who it's written by, but it's, it's PROVEN to work.*

...

*-It's just a resource that they give to me, and they say we'd like you to do motor skills groups and that's, that's where I take the information from. **Were you given any training in how to implement this or-** Not really, no, just word, just [SENDCO name] explained here's the book and it tells you all about it, or it tells you some things about it, so I just took it home and read it. And then I just go from there. Cause It's quite self-explanatory, I think. Because it tells you what it's focussing on and then you just choose the activities to work through. (Anne, Saint Helen's)*

She explained that she was provided with a booklet, Motor Skills United, which was all that she felt she needed to run interventions. She was assured by the marketing material's language which she said stated that these activities were 'proven to work'. That said, she was unsure who designed the activities and did not offer any more information about where they came from or what proof existed that they were beneficial. Anne selected the activities that she felt were appropriate and found them to be self-explanatory. While she expressed her confidence in using the resource, she also described how conversations with her daughter, who was studying psychology, have changed how she thought about and led her intervention groups.

*I think well I do all of those things but I don't do it- so say so like the visual one for example and it will say show them something and they have to copy it, a pattern or something and that's in that booklet but I just think that's an activity, oh they're finding that easier but I don't, haven't repeated it and made it more challenging each time to try and make those pathways work--Um so speaking to*



*her [daughter who was a psychology student] it has made me think more into that so that's something that I did do more, rather than do this activity and another activity, I'd repeat the activity and um give them a few distractions along the way as well, just see if, you know like just to see if it, if it helps them- (Anne, Saint Helen's)*

In both extracts, Anne was engaging with recontextualised information, first in the use of the resource and second in the information which was discussed with her daughter. That said, the latter prompted her to reconsider the use of the former. Anne did not receive any training to lead those activities, so it is unclear whether the repetition and challenge that she introduced was originally intended to be part of their delivery. As a result, it raises another question around the proof that she cited earlier. We must consider under what conditions and to achieve what ends this proof was established. As practitioners will deliver the activities differently, outcomes are likely to vary and so it could be argued that, rather than relying on an external assessment to determine what works, manner of delivery and usefulness of strategies should also be routinely reassessed.

It seems that recontextualisations, in and of themselves are not necessarily problematic but their external justification and prescriptive use in isolation could impart a false confidence which ultimately limited opportunities for the practitioner to tailor her strategies. Having information from a variety of sources allowed this teaching assistant to critically reflect, assess and refine the strategies she used to support her pupils.

For Anne, exposure to the field of psychology and subsequent opportunities to engage with the theories arose by chance but were perceived to be useful. One might expect that teachers have planned opportunities to allow for this type of thinking and engagement with research which could inform their teaching pedagogies. However, in discussions about training practices, dedicated time to critically engage with either research evidence or educational theory appeared to be limited. Lauren, discussed her training about Rosenshine's principles and explained:

*so [headteacher] shared with us a sort of one pager of the different aspects of it and we kind of zoomed in on, I suppose last week in staff meeting we were looking at um the bits of information in our history and geography schemes .... So I suppose it's maybe going back to your kind of question maybe rather than*

*looking at them explicitly, it's more about the application for us, here, and I think part of that is probably due to time and a kind of (laughs) getting the most impact, the most effect however, I'm going to share this but this is how it links to you, sort of moving it forward quickly. (Lauren, Saint Thomas')*

As discussed earlier, in this school, Rosenshine's principles were seen to inform thinking behind pupil learning to behaviour management and school culture. Despite their widespread influence, staff training was only through an overview that condensed an eighty-eight-page practical guidebook (Sherington, 2019) into a one-page summary of ten prompts. Each prompt was accompanied by a graphic representation and a one sentence explanation (see documentary analysis for further discussion about this resource). This resource was designed to help guide application and ultimately served as a way in which to probe history and geography schemes of work. From her explanation, training did not allow for the principles themselves, whether that be their basis or suitability, to be thoroughly examined. Instead, professional development focussed on implementation of the strategies. Some might argue that accepting strategies that the leadership team had chosen could show faith in those with the power to make these decisions and perhaps questioning, in this forum, would be neither useful nor productive. That said, a deeper understanding of from where the strategies were derived and how they were intended to be implemented could help teachers to use them more successfully, with the explicit caveat that success will vary by perspective.

In her response, Lauren noticed and addressed the absence of training around the principles themselves but reverted to ideas explored earlier that lack of time and need for immediate impact were the cause. Here, strong framing in professional development training, where 'the transmitter had explicit control over selection, sequence, pacing, criteria and social base' (Bernstein, 2000: 13) saw a prioritisation of regulative, rather than instructional, discourse. The fast pace created a condition where simple recontextualisations of information were perceived to be beneficial even when this prevented opportunities for teachers to develop their own pedagogical understanding or thinking. Ultimately, moving through strategies quickly ensured that all teachers accepted the decision for their use and, at least in this school, had the same behavioural response. At this point it is necessary to point out that this analysis does not necessarily attempt to capture teachers' feelings about being regulated in

their training as many will willingly submit themselves to this performative cycle (Ball, 2003), preferring what is perceived to be practical advice to theoretical study. Instead, what is being highlighted here are the circumstances and potential implications of the use of training as a management rather than developmental tool.

In the last example, the perceived need for pace motivated the use of a resource which reflected research evidence that had undergone a process of recontextualisation. Training practices also suggest that lack of time and money have similar effects.

*we have lots of CPD here as well so I work with um from [external provider name], the English advisor from there, um because we teach at [own school name], I think [third school name] do as well, using the no nonsense literacy scheme so teach from using that and I've had lots of training and work with the literacy advisor so that then I can pass that on to staff. **Ok, nice. And do you, so when you pass it on to staff do you lead CPD training here- -yeah-** (Lydia, Saint Margaret's)*

Lydia, having been a lead, experienced training from external providers which was not available to all teachers. She discussed her work with a literacy advisor, the guidance from which she then passed on to staff. This model where a leader was the sole recipient of training but who then trained her staff was likely done to limit both disruptions to teaching timetables and costs incurred from bringing in supply teachers to cover classes. Here, decisions made to support efficiency could be seen to be a regulatory tool as the person positioned to receive the training, recontextualised the information, selecting those elements which she felt should be shared with her staff. Here, what was relayed was changed and resulting opportunities for development were potentially limited by the carrier because 'every time a discourse moves from one position to another, there is a space in which ideology can play' (Bernstein, 2000: 32).

Thus far, recontextualisations of information that informed practice were apparent in resources and both internal and external professional development training. Recontextualisations were also apparent in instances of informal, or on the job, training as seen when Ava described how she was trained to use the TEACCH® intervention.

*...our SENCO um knows a lot about TEACCH® whether, I think it was probably here before she came here as well, it's just something that's been used for a long time in schools, um I'm not sure if training was done ever, initially, I guess because then it gets passed down to everybody else but there would have been training I guess in the school initially on it.... so now it's just a case of if somebody's coming in needs to use TEACCH® it would be go and watch [TA name] do it and then [TA name] obviously would talk through how she does it, probably go watch a few times so you're confident doing it, um **Does [TA name] get any top up training from wherever they access this? No?** No, no.... but that was just a case of again somebody who had the training, was confident doing it, we just went and watched them do it, got the sheet with all the instructions (laughs) and then watch them a few times, have a go at doing it, it's just yeah, I guess you learn as you do it. (Ava, Saint Margaret's)*

Here, while the instruction sheet remained the same, the practical guidance around the intervention was passed from practitioner to practitioner. Ava did not know who was trained initially but did explain that it may have preceded the current SENDCo. It was perceived to have been an evidence-based strategy but the research evidence that underpinned it was removed from those who implemented it. While this way of training, where you learn as you do, does value experiential evidence it does leave open the possibility that the original research was no longer applicable, had not been implemented in the manner in which it was intended or did not meet the needs of changing educational priorities. It should be acknowledged that this example of training through experiential recontextualisations, was specifically for TAs who usually have contracts that reflect an hourly wage. As such, on the job training is seen to be cost effective and as such is not unusual.

Having training passed down through TAs is not unique to Ava's context as Tracey gave an example of the same process.

*I know one TA has kind of trained other TAs but what initial training she had; I don't know. (Tracey, Saint Thomas')*

In this extract, Tracey was referring to a reading prosody intervention, one which she learned about from the TA who conducted the intervention with her students. She found it to be impactful as those students who took part performed well in their reading comprehension assessments. Though, in this case, hierarchically, teachers were receiving recontextualisations from above and below. Someone received

training which drew upon a source of knowledge and that training was passed to the next person, much like the children's game of pass it on, where a word or phrase is passed through whispers from person to person. The message, like recontextualisations, is often altered along the route and in this case, the teacher was the last to hear the information. Historically, teachers would hold the knowledge which was passed to their teaching assistants. However, here, the assistant was positioned as having more knowledge about teaching strategies than the teacher.

In mapping, I expected to see evidence recontextualised and fed down to teachers and a reciprocal process of teachers uses their experiences to feed back into that evidence, whether by generating, interpreting, and critiquing or through experiences using, that evidence would feed back into knowledge. I did not see much movement from participant back to generate evidence about teaching practices. Instead, teachers fed into evidence by interpreting data but experiences in the process of evidence-based practice did not seem to feed back into their own, the school's or the trust's evidence base for teaching pedagogies. Only in so far as they knew the children and so could tell leaders where the gaps were in their learning, but usually not in deciding how to respond or address them. When asked to define evidence-based practice most participants discussed evidence as elements which were linked to assessment and data, specifically measurable learning outcomes.

### Stage 3: Fine Grain Analysis

The first level of analysis explored the questions: how is evidence defined, and in school contexts, which 'brain-based' interventions or strategies were considered to be evidence-based? In the second stage, perceptions of how research evidence was chosen and how it was disseminated was analysed. In this third, fine-grain, level of analysis, and building from the previous two, I have sought insights into how perceptions of the use of interventions considered to be evidence-based positioned teachers.

To do this, a selection of extracts from participants who were teachers, including those teachers who were also leaders, about their perceptions of why and or how they used interventions have been considered. To provide a well-rounded view, a

response from each teacher and leader has been included. Thus far, responses from teaching assistants and governors have been insightful, particularly in exploring the use of research evidence in schools. However, the perspective of teachers is pivotal in understanding their positionalities, and so teachers' responses will be focused upon in the fine grain analysis. Teachers' extracts, with reference to aspects of systemic functional linguistics (Halliday, 1985) were coded following the procedure detailed in the analytic strategies section of chapter 4 (see appendix 8 for coded extracts). The coding key is summarised below. Then, organised by participant, the extracts, with coding deleted, and their subsequent analysis and discussion follow.

Coding key:

### Pronouns

Clauses as representation of processes:

participant's mental process- process of sensing

participant's relational process- process of being

participant's material process- process of doing

Above the clause:

circumstantial elements- time, duration, frequency

elaborations, enhancements, extensions

Revisiting an extract seen earlier, Leah, a teacher and leader at Saint Helen's, explained why precision instruction, a strategy which she believed to be surrounded by a 'lot of data and research' was used in her school.

***Ok, do you have any evidence-based approaches that you use, that come to mind? So, I think like precision, instruction. I think there's a lot of data and research around that and... And how did that come to be used, how did you come to use that? Who, who suggest--Um, that was the SENDCo, so the SENDCo introduced it. It is something that has been part of the school for a long time, so...Ok, how were you trained up in precision teaching. I haven't been trained up, but I know the principle is five words, if it's reading anyway, five words, different orders, it's kind of rote learning and we change the orders every day. (Leah, Saint Helen's)***

For Leah, the circumstantial information, that the strategy had been part of her context for a long time, served as a justification for its use and implies that longevity is an indication that it was effective. While it is something that was part of her practice, she did not have any training but used sensing clauses to state her knowledge and understanding of how it was implemented. For her, a lack of training did not seem to be perceived as negatively impacting her practice.

Tracey, the teacher at Saint Thomas', gave a fuller description. She started by noting where she received training then explained why she found a pre-teach intervention in mathematics to be effective.

*... in terms of intervention, there, we, it was during lockdown actually, we were given online training about assigning competency, and that was really, that's probably the most beneficial thing I've done and the idea with that is you pre-teach children who you feel will struggle in the lesson or say after the Monday, if they've kind of not, they're not quite where you want them to be you can pre-teach them so it's almost like, not, not giving them the answers but giving them, um the correct vocabulary and giving them the method which is going to help them during the lesson. And then during the lesson, you ask them to demonstrate to the class, and they, and you hope they're going to use that vocabulary that you've already had a you know a ten-minute session on prior to the lesson. Um, and then in that way, in terms of their sort of self-efficacy and they're sat there feeling you know, well, I'm the only one with my hand up, cause they're kind of if there's say three of them in the pre-teach- **-they're primed for it-** -yeah, and that was, I really liked that and I like you know the whole sort of idea behind that... I think just because, I think doing it before you teach the lesson, it makes you feel less like you're always trying to catch up or fighting fire oh they haven't got it, oh you know, so it's, it's preventative. **Ok-** -and I find that, that is um, I find that is a better use of time then because they've done the lesson once and then three or four children are picked out and I think straight away they're maybe a little dip in their self-esteem, oh we didn't get it, everyone else did. So then you're battling that, not just, they can't do, I don't know, column subtraction for example, so now not only are they not focussing on what you want them to do, they've kind of got this, and I think it's a bit of a block, in terms of oh no I'm assuming this is sort of neuroscience, you know that, now they're feeling emotional, it's kind of blocking just the kind of the learning part of your brain and then yeah if they're fe-, if their emotions are good and they're feeling like yeah I can do this, then I think they can access that part that, that you know the rational, the language and everything. (Tracey, Saint Thomas')*

When compared to Leah who explained why precision teaching was used in her school, Tracey chose to give a far more detailed response. The difference in quantity of

information given might point to a caveat of in the moment and on the job learning as Tracey, who undertook an online training course explained not only what was used but how and why she believed it was useful. Whether Leah was generally more succinct or whether these discursive choices were a direct result of her confidence relative to discussing the intervention cannot be ascertained. That said, the differences are stark and warrant consideration. In Hallidayan terms, to have had training is expressed as a possessive process of being in the attributive mode. In other words, this training becomes an attribute which is ascribed to Tracey. (Halliday, 1985: 113), changing who she is and consequently how she speaks about her practice. Further to that idea is that having training, in any form, changes the participant in some way. In this case, the change is perceived to be positive, but this is not to suggest that all training would have the same effect.

Coincidentally, this process is reflected in the very intervention which she was describing, whereby pre-teaching an episode of learning to specific pupils was meant to change their ability to engage in lessons. In a sense, the strategy was to individually ascribe the learning which was explained here as 'assigning competency'. That said, her description of assigning competency did not capture one of the core purposes of that strategy which, as described in the literature review, is for pupils to recognise the different abilities each can bring to a particular task (Lotan, 2010: 36). Rather than assigning competency, this was perhaps more simply a learning scaffold, one which did help the learner feel more able to succeed but which did not necessarily recognise the individual skills they might already have.

Like their students, teachers were not necessarily celebrated for their individual abilities. Tracey, in discussing the training used the pronoun 'we', suggesting that all teachers were expected to undertake this course. In the full interview transcript, she alluded to a feeling that this was perhaps to keep teachers, who were working from home during lockdown, busy. This resulted in an interesting dichotomy of effects where on the one hand, she indicated frustration at being told to engage with a host of free online courses which may or may not have been relevant to her practice, to the other where she encountered, arbitrarily it seems, a course that she found particularly useful. That said, she used sensing clauses and 'I' pronouns to celebrate how effective she found the intervention to be. Circumstantial elements in how quickly the



intervention could be delivered were perceived to be beneficial. It was also seen to directly address performative pressures which Tracey described through metaphors in the sensing clause of fighting fire and the action clause of battling. The accountability measures remained the same, so too did the content of her teaching. However, having been attributed a tool which gave her a greater understanding of pupils' needs, as well as strategy for using her time to respond to those measures more efficiently, had allowed her to perceive herself as more effective in her practice.

Lauren worked at the same school as Tracey but unlike Tracey, her discussions about interventions were far less focussed on her own personal experiences and were instead orientated towards methods of teaching which were described as shared by all. Below are three extracts where Lauren discussed different aspects of intervention use.

*I suppose daily, daily readers is almost a kind of thing in school that schools do, isn't it? It might be every school did it too, it was sort of like these children need to be read with more frequently so in terms of evidence, I'm sure there is evidence to support it but whether it's just something that kind of gets ingrained within schools that read with these children more frequently...*

...

*-there's probably some things that we've more, that are more based explicitly on evidence and other things that I would, that are and we know as teachers are backed in evidence if you read more frequently and you've got that practice and that repetition, we know those things will work but maybe not, we don't explicitly think about it when we're talking about daily readers. (Lauren, Saint Thomas')*

Lauren was responding to a question which asked: why would daily reading be the way in which you would intervene? Her initial response was that it was just something that was done in schools. There was a sense that there was evidence to support the practice, but that sense seems to be based on her experience that the practice was a consistent and a historically rooted approach to building reading skills. After a prompt about the evidence, which is used to teach, she continued her explanation with an example of the relational process of being. This clause was used to express the assertion that being a teacher implied certain shared knowledge or understanding. Here, experience resulted in a tacit knowledge (Gascoigne & Thornton, 2014:3) which

was not overtly expressed through the linking of practices to an evidence base but which, due to the outcomes of those practices, was assumed to be evidence-based.

*Yeah, um I think some of it just comes from this is just what we've done always, like we said about daily readers, one-to-one daily readers is something that kind of always happened. Um. Often, it's always based on kind of data and where the gaps are in data so if you've got a group of children who are struggling with um comprehension for example then there might be a guided reading intervention that you would choose to run in order to kind of support children in that aspect of reading that they're finding tricky, um yeah I think yeah it sort of comes from our kind of data and possibly our sort of school priorities as well um things that we know we need to focus on so boys writing um was a focus for us so having kind of a group of, so developing interventions (Lauren, Saint Thomas')*

She reiterated that daily reading had a historical legacy and used the word 'always' to emphasise this point. She sensed that actions were a response to a shared understanding of data and school priorities. Though at odds with this shared thinking was the response of choosing an intervention. In this action clause there was a suggestion that the choice of response to the gaps in data were down to an individual but seemed to return to a community mentality in indicating that a group might have been involved in developing interventions to meet the needs of a chosen cohort of pupils. Thus, the choice she alluded to was perhaps limited in scope.

*I think looking at attainment data probably so if there are children who either have slipped from EYFS, they came up as expected we now think they are working towards in year one or year two, that boost to kind of boost them back up to where we thought they were going to be. Um those interventions probably are mainly aimed at those children who are working towards. (Lauren, Saint Thomas')*

In this final extract from Lauren's interview, she had moved her focus from collective practices to collective thinking. Here, even assessment of student attainment, her own sensing clauses, were accompanied by the pronoun 'we'. It might have been that as a leader, Lauren was positioned differently to Tracey and so used 'we' to represent the actions and expected process of thinking for both her and her team. Modelling expectations in this way is a teaching technique which is instilled during teacher training, as stipulated in the core content framework which states that 'modelling helps pupils understand new processes and ideas' (DfE, 2019a: 17). Regardless,

thinking portrayed in this way speaks to the 'on the bus or off the bus' culture around teaching practices which was discussed as being something that this school's headteacher had expressed. While not told explicitly what to think, regulative discourse (Bernstein, 2000) restricts opportunities to think about one's actions which could limit a teacher's perceived levels of agency in their teaching practice.

The discourse of school leaders had aspects in common, particularly in the use of the pronoun 'we' as can be seen in Lucy's extracts.

*So, our, the interventions that we use are dependent on what the child needs. So, there might be... and they vary half term on half term. So, there it might be the first half term you pick up that there's um that we pick up that there's a problem with friendships and socialization ... so we could do some social stories around that. They might work in little groups but in the classroom we don't... everybody does it differently, but we don't send our interventions out if you see what I mean. We do the interventions within the class because otherwise it could be seen that the children are missing out on other things so we tend to do the interventions within the classroom um yeah so it could be like PSHE and social uh situations. We had once interventions on maths, we do a lot of pre-teaching in maths to give some of the children, not the answers but, the confidence they need to be able to answer the questions in the session that's coming up. Um so I did a lot of research about pre-teaching and about its impact and actually it's really impactful um particularly we find with the older children with upper key stage two so we've used that and there might be a phonics intervention because you pick up, or one of us might pick up that they've missed certain phonemes so you then focus on those in just a sort of quick short bursts. Sometimes we use precision teaching for that because that's all about just getting bang on and just about the children being able to remember those sorts of things so it kind of varies. (Lucy, Saint Philip's)*

The difference for Lucy was that in her response, there were several reorientations, where a word or phrase was used then replaced with another word or phrase. In sensing the needs of the pupils, she began with the singular 'you' then repeated the clause with the plural 'we'. These competing positions were repeated throughout. In one example she attested that 'everybody does it differently' but then reverted to 'we' to describe the actions of teachers in her school. Even when describing her own research which was done as part of an NPQ and, in this extract, is the only instance in which she used the word 'I', she expressed the findings using the pronoun 'we'. Perhaps the reason for these reorientations is hinted at through her elaborations where she referred to perceptions of a third party in explaining 'otherwise it could be

seen.’ Collective practice might be a method to address accountability measures, the pressures of which could be too severely felt if shouldered individually. The changing of words in this way was not reserved to her use of pronouns, and did have wider implications as seen in the following extract:

*you would say what you’re going to do, um, and you have your entry data so where that child is now, what you’re going to do and then, assess is the wrong word but, you see the impact of that and that would be your exit data, to ensure, because there’s no point doing an intervention if it’s not had any impact so then you would then look at what the impact is. (Lucy, Saint Philip’s)*

In this Lucy described the school’s procedure for conducting an intervention. She chose to change the word assess, having indicated that it was wrong, to the term ‘seeing impact’. Assessment could, to some degree, be synonymous with seeing impact though the fact that Lucy felt that she should change the terminology suggested that, to her, there was a significant difference. Assessment can take many forms, whether that be summative, formative, assessment for learning and assessment as learning (Dann, 2017), some of which is the teachers’ own internal judgements and so potentially only known by the teacher herself. Whereas in seeing impact, it was implied, would be visible to all. Lucy linked this measurement of impact to data, data which defined her. In the clauses she used to describe that data, she chose to express this through the possessive process of being (Halliday, 1985: 113), thus the focus, for whomever else would do the seeing, moved from the students and their progress to the teacher and her data. Also implied in this reorientation was that when framed in this way, an intervention would always result in visible impact, explained here to indicate that pupil progress was a given. Whereas the verb assess does not have the same implication. In explaining the process around delivering interventions, Lucy’s discursive choices demonstrated the inherent link her actions had to accountability for pupil outcomes but, in possessing data, how personally felt that accountability might have been. Lauren’s discursive choices also centred around the collective as a response to data; however, she was newer to teaching than Lucy and so her discourse might be more readily aligned to current expectations and practices whereas Lucy, who was a more experienced teacher, was seen to be adapting her discourse to suit the changing educational context.

Lydia, from Saint Margaret's was also an experienced teacher and leader. Like Lucy, accountability expectations affected not just her discourse but also indicated how those expectations determined what it meant to be a teacher.

*So, the interventions we use in school are very specific for what the children need in terms of their gaps in learning. So, we've got our assessment grids and if there are gaps in there or if children are falling behind then it's all very much okay, so the children are, have a weakness in spelling so what spelling intervention have we got ... (Lydia, Saint Margaret's)*

For Lydia, the interventions she used were linked specifically to the school she worked in. Her actions were determined by the context. Like Lucy, Lydia was seen to describe the assessment grids and next the interventions which were at her disposal with clauses that represented the possessive process of being (Halliday, 1985: 113), a being which was shared by those within her school. Her response to gaps was to refer to a bank of interventions which were already possessed by that school. Here, Lydia's being, what she's 'got', was not determined by experience, but rather by resources and she did not suggest that she might tailor those intervention, seek new interventions, or even create her own. Seen earlier, Lydia's response to expectations, was to justify how and why she did not change her actions to meet expectations of external stakeholders though here, she too uses 'we' pronouns in both action and being clauses. Despite a perceived attempt to resist the impacts on her personal practice of accountability expectations, it seems that ultimately, in aligning with a group mentality, albeit a context specific group mentality, she too had accepted that fate.

The final teacher interview which will be considered was distinctly different from the rest. This was felt in the interview itself but at that time, it was difficult to pinpoint exactly what about it was so unique. Tina, from Saint Helen's prefaced her interview with her lack of time, agreeing to be involved in the project so long as it did not run too long into her lunch. It was assumed that the pace in the somewhat rushed interview that followed was what felt so distinct from the others however, the fine grain analysis made apparent other stark differences. At first it seemed that of the teachers interviewed, Tina, an early years practitioner and leader, used the pronoun 'I' far more readily than any other teacher or leader.

*Um, at the moment I'm using um guided reading which I didn't think it was going to work because I just thought they were too young but, because we were doing Read, Write, Inc. and because everyone in my class can now read, um we have six children at the most and they all have the same book and it's their time to actually talk and it's made such a massive impact. Um it's been love-, and they love it, everyone is doing their own like play-based things but they know that it's their time and they know that, the other children know that it's going to be their time on another day so that it's really nice that they can go 'yep, group time, I know I can talk in this time, I've got the teacher totally with just our group, reading a book. Cause I love reading. (Tina, Saint Helen's)*

Though when teachers' transcripts were revisited, it became apparent that this was not the case. Instead, the difference was in how Tina positioned herself through the clauses she was using. When other teachers and leaders used the pronoun 'I', this was often in sensing clauses with verbs such as 'think' or 'suppose'. For them, in this sensing, it seemed that they were not entirely certain or were attempting to leave room in their response to be corrected or repositioned. Tina, on the other hand, made her claims with unparalleled conviction. For example, she said:

*well, I've been teaching years, I know what works. Read, Write, Inc. works. Guided Reading works. (Tina, Saint Helen's)*

She cited her experience as her knowledge base, but when her response was juxtaposed to Lucy's, another well-established teacher and leader it became clear that their discourses were orientated to fulfilling different purposes. It was seen that through reorientations, Lucy's served to align herself with current policy whereas Tina's implies a prioritisation of her own tacit knowledge (Gascoigne & Thornton, 2014:3) which had been gained through 'teaching years'. While not central to this study, the distinction between teaching early years, which is often treated as a separate entity within primary school contexts, might have influenced the way in which Tina was expected to engage with research evidence of the nature explored in this study. As a result, she perhaps did not feel the need to attend to evidence-based discourse in the same way as the others.

It could be argued that the teachers and leaders in previous examples were using language to indicate that they were members of a social group. It is much like Bernstein's examples of language use which indicates social solidarity (Atkinson, 1985:

44), which could be perceived to be positive as it signifies a sense of belonging. Halliday (1966) pointed out that language can establish and maintain social identity (Webster, 2003: 50). Here, the communal language in isolation is not perceived to be problematic; however, the discursive choices of that community, indicate that through the manner in which they attended to accountability expectations, their roles and subsequently their professional identities were altered. It is said that an 'increased focus on an administrative agenda centred on control and compliance will lead to the creation of a teaching profession whose identity is both limited and prescribed' (Steadman, 2023a: 9) and while this is framed as a future implication, it can be argued that for these teachers, evidence-based practices had already affected their professional identities, both collectively and personally. Tina's claims of knowing and the implications of knowing on her practice suggested that to some degree, through feelings of autonomy in her early years practice, she had escaped prescription based on evidence and had established a teacher identity which encompassed both the social and the personal. Her actions and elements of being were linked to the group but she also described thinking and being which were personal. Through this social identity she was situated within a community but maintained the agency to develop her own pedagogy.

In this stage of analysis, meaning was made from participants' grammatical choices which attended to metafunctional categories. In the ideational, participants used language 'to understand the environment'; in the interpersonal, it was used 'to act on others in it', in this case it was myself as the interviewer; and in the textual, relevance was 'breathed into the other two' (Halliday, 1985).

Overall, in the exploration of pronouns and clause types, it was found that the use of 'we' in action clauses pointed to a lack of individualization in the strategies teachers used in their classrooms. Pronouns in being clauses displayed the role that accountability played in their relationships to their individual class and their pupils' data, where teachers possessed both those pupils and their pupils' data as part of their being. However, clause types demonstrated that some teachers did not discuss training as having been as personally impactful. For example, in the statement 'we know as teachers' (Lauren, Saint Thomas') where in this case, training did not alter their perception of their being in the same way as accountability expectations had.

Pronouns in sensing clauses indicated that many teachers saw the assessment of their pupils as being a teaching responsibility which was personal to them. However, there were examples of 'we' which were used in sensing clauses and even a case where a teacher, in respect to making judgements in the classroom stated, 'we now think' (Lauren, Saint Thomas'). The use of pronouns within clause types pointed to an inclination toward shared practices and understandings as opposed to personal professional development or individual pedagogical thinking. These shared practices often related to MAT derived training and initiatives.

In their use of elaborations and enhancements, accountability structures were apparent, whether in referencing others' perspectives or in reorientations of speech to align with current educational discourse. In enhancements around time, language around frequency and duration suggested insecurities in teachers' practices and pointed toward an awareness of an everchanging context. There were implications of uncertainty around actions which were perhaps a response to how rapidly expectations of teachers change in response to government policies.

## Document Analysis

With a focus on two themes, mastery teaching and Rosenshine's principles, ten documents were selected for analysis, and included resources which were either available to teachers or designed for teachers. The analysis of documents was designed to explore information which underpinned the evidence-based practices which interview participants discussed. The main question which guided this stage was How does the discourse in documents position teachers and how does this relate to interview participants' responses? As such a focus on how the grammar in these documents positioned teachers was of interest.

## Document Overview

Selected documents represented information from various sources which were publicly available to teachers and are detailed on the table below.



Table 3: Source List

Source	Copyright	Author/Creator	Publisher	Type	
<b>Teaching for Mastery</b>					
1	Differentiation is out. Mastery is the new classroom buzzword	2015	Roy Blatchford	The Guardian	article
2	Mathematics guidance: key stages 1 and 2: non statutory guidance for the national curriculum in England	2020	DfE & NCETM	Department for Education	policy guidance
3	What exactly is maths mastery, anyway?	2022	Kate Parker	Times Educational Supplement	article
4	Mastery Explained: evidence, exemplification, and illustration to explain the mastery approach	2023		National Centre for Excellence in the Teaching of Mathematics	curriculum guidance
5	Mathematics Mastery (subsidised programme)	2023-4		Education Endowment Foundation	call for programme participation
<b>Rosenshine's Principles</b>					
6	Principles of Instruction: Research based strategies all teachers should know	2012	Barak Rosenshine	American Educator	article
7	The Principles of Instruction	2016	Oliver Caviglioli	How2	poster
8	Rosenshine's 17 Principles of Effective Instruction	2018	Ross Morrison McGill	Teacher Toolkit	blog
9	Rosenshine's principles in action	2019	Tom Sherington	John Catt Educational, Limited	book
10	Tom Sherington's division of Rosenshine's principles of instruction into strands	2020	Jonathan Beale	The Tony Little Centre: Innovation & Research in Learning at Eton College	blog

## Mastery in Mathematics

Interview participants did not use the word 'mastery' however, as indicated in the mastery section of the literature review, strategies which were discussed, such as precision teaching as well as pre-teaching and post-teaching interventions, were linked to the Department for Education's publications about mastery teaching. These strategies were most often discussed in relation to the teaching of mathematics. As such, documents about mastery which were specifically related to the teaching of mathematics were explored.

### The articles

First to be analysed is an article entitled 'Differentiation is out. Mastery is the new classroom buzzword' which appeared in the Guardian, in 2015. In this, the author introduced the context of mastery teaching.

*Recently a dose of an eastern-inspired "mastery" has entered our schools, with the impact in maths being measured by an Education Endowment Foundation report. It's caught the attention of policymakers, and earlier this year the*

*Department for Education flew in teachers from Shanghai to raise standards with their “mastery” style. The Oxford University Press has also produced a paper exploring mastery in maths and how it can raise achievement. The national curriculum frameworks for English and maths are now rooted in it. (Blatchford, 2015)*

Early in the article, the journalist noted the influence of East-Asian teaching on the strategies which were being explored by policymakers and referred to key players in the field. In this one paragraph, the DfE, EEF and Oxford University Press were all cited, as well as the implications of their findings to the national curriculum. The lack of context around these influential stakeholders suggested that the readers would be educators or those well versed in the field and, seeing the direct relevance to their themselves or their practice, might be inclined to engage with the rest of the article. The purpose of exploring mastery was clearly stated as being to raise standards, but which standards and why were not stipulated. Embedded links which would take the reader to the report, and articles could again be seen to encourage engagement with the ideas. Next was a description of what the author perceived mastery teaching to be:

*At the heart of the Chinese classroom is the teacher’s unshakeable belief that all children are capable of learning anything if that learning is presented in the right way... In lessons where mastery is practised, teachers ensure that at least once or twice in a session the students are in awe of the teacher’s own scholarship. Pupils are encouraged to wonder how the teacher worked out a conundrum. The idea is that their interest will be piqued and they will want to be able to do it too.*

In this extract, the teacher was described as having belief in both their students and themselves. It begged the question, in which aspect are teachers in England perceived to be lacking? There was also a reference to ‘the right way’ of presenting material which suggested that through mastery teaching, the responsibility of ensuring that pupils make progress sits entirely with their teachers and sets the stage for an environment in which they are increasingly held accountable for that progress. That being said, the ‘teacher’s own scholarship’, which seemed to refer to their subject knowledge, was portrayed as valuable. However, the cultural divide, where in East-Asia, teachers, because of their profession, are ‘respected by the community’ (Cheng & Wong, 1996: 35), was not portrayed as problematic despite the final sentence which described pupils who admire their teachers. It seems that the relationship between

teacher and student determined whether this approach would be successful though was not focussed upon. The role of the teacher in the success of mastery was expanded upon in the next extract which stated:

*The teacher – like a seasoned stand-up comic judging how long to keep his audience on hold – will then share an inventive clue, comment, or question to enable the pupils to reveal their own knowledge and skills. (Blatchford, 2015)*

According to this description, intrinsic to the ‘mastery style’ was a teacher who made judgements while teaching. The use of seasoned suggests that experience is valuable and will inform those judgements. This example did not portray the prescription and lack of autonomy which has become so strongly associated with mastery teaching techniques and instead portrays a teacher who is knowledgeable and as such is afforded a level of autonomy in their teaching.

The Times Educational Supplement (Tes)

Tes is magazine which is written for teachers and leaders. In this, was a feature article entitled ‘What exactly is maths mastery, anyway?’ which began with the following extract:

*The government has spent £100 million on its Teaching for Mastery maths programme, and yet, given the availability of a number of other ‘mastery’ programmes, there is confusion in schools about a clear definition of ‘maths mastery’. Kate Parker takes a look at the maths mastery landscape and the evidence behind it (Parker, 2022).*

It opened with an explanation that the government had spent a substantial amount of money on mastery teaching but that there were also other programmes on the market. By introducing ‘confusion’ about these programmes, it was implied that there was a concern that schools did not have a clear understanding of this approach. The suggestion that a clear definition was sought, indicated that consensus was desirable, specifically that all schools had the same understanding of mathematics mastery.

There was then an explanation that the writer would survey the landscape and evidence though what type of evidence would be explored was not indicated. Despite their usual allowance of readers being able to access three free articles per month, this piece was only available, for a fee, to their subscribers. The framing of this article which used government spending to introduce the importance of mastery techniques,

as well as the implication of uncertainty, is intended to cause teachers to doubt their own understanding of what mathematics mastery might be. This introduction seemed to have the intention of unsettling teachers who use mastery techniques, ultimately encouraging them to subscribe to Tes content. Here, teachers and leaders are positioned as lacking necessary, due to government initiatives, professional knowledge.

### The policy guidance

Co-written by the Department for Education and the National Centre for Excellence in the Teaching of Mathematics, mathematics policy guidance was securely linked to the teaching for mastery approach. The acknowledgments included NCETM's, the curriculum which promotes mastery, directors, a professor and headteacher who were based in Shanghai, as well as a host of 'mastery specialist teachers'. The Summary explained that the publication is non-statutory guidance but was instead created to 'help teachers and schools make effective use of the National Curriculum to develop primary school pupils' mastery of mathematics' (DfE, 2020b). While non-statutory it did prioritise aspects of the statutory curriculum and gave suggestions for how these should be taught. The following extract offered guidance on how the publication should be used:

#### **How to use this publication**

This publication can support long-term, medium-term and short-term planning, and assessment. At the long-term planning stage, this guidance can be used to ensure that the most important elements that underpin the curriculum are covered at the right time, and to ensure that there is continuity and consistency for pupils as they progress from one year group to the next. At the medium-term planning stage, teachers can use the guidance to inform decisions on how much teaching time to set aside for the different parts of the curriculum. Teaching time can be weighted towards the ready-to-progress criteria. The ready-to-progress tables at the start of each year group and the 'Making connections' features support medium-term planning by demonstrating how to make connections between mathematical ideas and develop understanding based on logical progression. At the short-term planning stage, the guidance can be used to inform teaching strategy, and the representations and 'Language focus' features can be used to make concepts more accessible to pupils.

In the Guardian article, the importance of teacher knowledge and judgements in the mastery approach was emphasised. This guidance instead prioritised curriculum

planning. While these two things are not necessarily mutually exclusive, the ‘teachers own scholarship’ was previously emphasised and seemed to refer to subject knowledge rather than the curriculum knowledge which this guidance was designed to support. Which curriculum content, when it should be taught, for how long and with strategies are all being prompted and leaves little room for the celebration of the teacher’s own scholarship.

### The NCETM curriculum guidance

The National Centre for the Teaching of Mathematics is funded by the DfE and was designed to support professional development in the teaching of mathematics (NCETM, 2023b). On its website, there was a tab dedicated to mastery. Within the section called ‘mastery explained’, was a further section called ‘supporting research, evidence and argument: key texts for the key components of teaching for mastery’ that explained:

*An exchange programme between teachers from England and Shanghai has informed effective pedagogic strategies for achieving mastery of maths. The striking performances of Shanghai and other East Asian countries in maths have become well-established. They have been measured in successive international tests such as TIMSS and PISA.*

*For each of the key components of teaching for mastery identified below, we offer a key text. This text is chosen for its relevance and accessibility, both in terms of readability and being able to access it for free online. We also provide a list of further relevant reading. Links in the main text will take you to the suggested key text and further reading. Much of this material features on a reading list for teachers on the Maths Hubs Mastery Specialists Programme. (EEF, 2023b).*

The exchange programme was cited as the evidence base from which ‘effective’ pedagogic strategies were designed. The performance on international assessments is what prompted the view that the teaching of mathematics was more successful in East Asia. Again, this evidence base is presented as unproblematic. There is no explanation as to, whether better performance on these tests were any indicator of a pupils’ future academic attainment, or for more broad educational purposes such as improved social outcomes. Again, the cultural differences between East Asia and the UK are not

discussed and the implication is that if a strategy worked there, it should also work here.

Key components to mastery were to follow this extract but how they were identified was not explained. The lack of explanation suggests that the reader was expected to uncritically accept these elements of the NCETM's research. What followed is a selection of key texts which readers were encouraged to engage with; however, their selection criteria made assumptions about the teachers who would be reading the material. Relevance and accessibility were cited as having informed the selection. Relevance is subjective and no explanation was given as to who would find the information relevant. However, it seemed to have been determined by which material featured in the NCETM's own training and so was self-referential in that respect. Concerns around accessibility positioned teachers as being external to certain forms of educational knowledge, specifically journal articles which, if not subscribed to by an institution would only be available for a fee. Additionally, by making a judgement about readability suggests a perception about teachers' capabilities and inclinations. Prior to reading any research, teachers' professional development was perhaps limited, or at the very least guided, by the judgements which were made about which material should be engaged with.

### The call for programme participation

Despite their own findings that the impact of mastery learning is 'based on limited evidence' (EEF, 2021b), The Education Endowment Foundation posted a call for participation in a subsidised mathematics mastery programme. The programme was recruiting 100 places for Key Stage 1. There was a fee of £1,110 per year for 2 years and the project would give schools:

*Access to two years of the Mathematics Mastery programme at a subsidised rate. Each KS1 year group has 30 weeks of fully planned lessons, sectioned into units, with all lessons structured in the same six-part format. Each unit has a tutorial for teachers, professional development videos, and is resourced with planning guides, task sheets, lesson slides and exemplification materials. Standardised assessments are provided for each term and EOY [end of year], focused on key constructs. To support schools and teachers there is training and*

*in-school support, an online toolkit, and collaboration opportunities amongst teachers delivering the approach. (EEF, 2023b)*

Here, the mastery approach has been packaged into a fully resourced curriculum. The inclusion of 'fully' planned lessons suggests that they would not require tailoring, perhaps to specific needs or contexts. The adherence to a six-part format is presented as a positive and suggests a prescriptive approach to teaching is desirable. Also included was tutorials and professional development videos. The content of these seems to have been designed prior to schools' involvement and there is no indication that these would be tailored to respond to different teachers' needs. Following this, in-school support and training were listed as part of the offer but was not prioritised in the list which might indicate that there is a perception that the pre-planned material would be either more valuable or more appealing to schools. Through this curriculum design, judgements were made about what should be taught, when and how as well as when and how pupils should be assessed. The teachers are framed as people who deliver this approach, rather than those who through their beliefs, in their students and themselves, as mastery was previously described (Blatchford, 2015), have adopted it.

To begin with, the teachers' scholarship and skills were described as integral to mastery teaching. However, through policy and curriculum guidance, the role of the teacher was gradually altered until teaching to this 'style' was presented as adherence to pre-planned criteria which was selected by an external body. Influential in this curriculum design were policymakers and their stakeholders, particularly in the EEF and NCTEM who have both received funding from the DfE. Finally, through teaching for mastery, teachers' judgements were removed as were opportunities to tailor the material to suit their pupils. Here, as discussed in the literature review, is 'misleadingly objective and hyper-rational' (Ball, 2003: 217) strategies which result in more rigorous accountability of outputs and could be seen to decrease rather than increase the power teachers have to make decisions on the front line.

## Rosenshine's Principles

Documents related to Rosenshine's principles which, as was described in the literature review, respond to the priorities of teaching for mastery will now be explored.

### The article

'Principles of Instruction: Research-based strategies that all teachers should know' (Rosenshine, 2012) appeared in *American Educator*, a quarterly journal published by the American Federation of Teachers. In this, Rosenshine explained that he drew upon research to develop his ten principles and subsequent suggestions for classroom practice (Rosenshine, 2012). The following extract was taken from the first page of the article and states:

*These principles come from three sources: (a) research in cognitive science, (b) research on master teachers, and (c) research on cognitive supports... Even though these are three very different bodies of research, there is no conflict at all between the instructional suggestions that come from each of these three sources... the fact that the instructional ideas from three different sources supplement and complement each other gives us faith in the validity of these findings.*

*Education involves helping a novice develop strong, readily accessible background knowledge. It's important that background knowledge be readily accessible, and this occurs when knowledge is well rehearsed and tied to other knowledge (Rosenshine, 2012:12)*

Rosenshine briefly acknowledged the different bodies of research, though sandwiched research about teachers in between two examples of sources orientated toward 'cognitive' studies. Using this term, particularly in the third example which might have been expressed as 'brain' or 'learning' scaffolds appears to have the intention of affecting a 'scientific legitimacy' (Geake, 2009: 1) to his principles. This choice is notable as in his original pamphlet, he did not describe the research sources in this way (Rosenshine, 2010).

Rosenshine glossed over the problematic nature of drawing from research which was developed under different ontological and epistemological paradigms, and which were perhaps more diverse than he suggested. The further reading which was referenced in the article's endnotes reflected a mixture of psychology, sociology, and



cognitive science as well as both empirical and constructivist philosophies. In and of itself, their use together was not necessarily problematic; however, it is unlikely that the various studies attended to the same purposes and values of educational activities. For constructivists, context is important, but for realists, it is less so and these differences, and the impact it would have on the various research articles from which he was drawing, might have warranted further discussion. Despite this, Rosenshine stated that he perceived these sources to supplement and complement one another which, in his view, was enough to assure their 'validity'. Again, positivist language was referenced to convince the reader that his principles were to be trusted despite the explanation which revealed that viewing them as commensurable was an opinion. To that end, in that assertion was the reference to having 'faith' in his findings, which was at odds with the notion of validity as faith is more associated with beliefs in ideas which cannot be proven.

Rosenshine then defined the purpose of education as he saw it, the aspect which his principles were meant to address. Again, this was stated as an assertion despite the range of views which exist about the purpose of education. For example, Biesta suggests that the 'educational task consists in making the grown-up existence of another human being in and with the world possible' (Biesta, 2017: 7). For Rosenshine to imply to his readers that the purpose of education could be summarised in one short statement could indicate that his strategies were orientated to that single purpose and could undermine the wide range of work that teachers do.

At times the language implies that his findings offered undeniable truths though in other places, he was more tentative with his wording. For example, statements such as 'the following is a list of some of the instructional principles that have come from these three sources', 'review can help us', and 'effective teacher activities also included' (Rosenshine, 2012) offered opportunities for teachers to expand upon the ideas he put forth. Additionally, through providing the studies from which he drew these conclusions, albeit a pared down list from his original pamphlet, readers were implicitly invited to engage with source material. Like his tentatively worded statements above, the opportunities for critical engagement were available.

Rosenshine concluded the article by reasserting his position on the commensurability of the various sources which informed his findings:

*Even though these principles come from three different sources, the instructional procedures that are taken from one source do not conflict with the instructional procedures that are taken from another source. Instead, the ideas from each of the sources overlap and add to each other. This overlap gives us faith that we are developing a valid and research-based understanding of the art of teaching.’ (Rosenshine, 2012)*

In this, positivistic language was again used to convince readers of the ‘validity’ of his instructional ‘procedures’ which were derived from these sources. However, in the final sentence he stated that it ‘gives us faith’, where who he is positioning himself with is unclear, whether it be teachers or researchers. Given the following phrase that ‘we are developing’, clarity would be beneficial as it is unclear whether in this ongoing process, teachers are encouraged to contribute to the developing body of knowledge. Finally, the dichotomous presentation of ‘principles’ and ‘validity’ against the concluding phrase of ‘the art of teaching’ calls into question Rosenshine’s axiological position which, throughout the article, had been inconsistently presented. The reader, despite the opportunities to critically engage, is ultimately encouraged to trust Rosenshine and to develop their pedagogies in line with both his findings and his view of the purpose of education.

### The posters

Oliver Caviglioli’s poster entitled ‘The Principles of Instruction’ was a simply designed graphic summary of Rosenshine’s principles with a blue, black, and white colour scheme (HOW2, 2016). It was acknowledged by Sherington to be the stimulus for his book and was noted to be in wide circulation, having appeared in many school contexts (Sherington, 2019). The original poster was created by Caviglioli as part of a series of HOW2s, which were one-page visual guides of teaching techniques and was extensively spread across the unofficial recontextualisation field of social media outlets, such as on X (formerly Twitter) and through blog posts.

# THE PRINCIPLES OF INSTRUCTION

## TAKEN FROM THE INTERNATIONAL ACADEMY OF EDUCATION

This poster is from the work of Barak Rosenshine who based these ten principles of instruction and suggested classroom practices on:

- research on how the brain acquires and uses new information
- research on the classroom practices of those teachers whose students show the highest gains
- findings from studies that taught learning strategies to students.



**01 DAILY REVIEW**

Daily review is an important component of instruction. It helps strengthen the connections of the material learned. Automatic recall frees working memory for problem solving and creativity.

**02 NEW MATERIAL IN SMALL STEPS**

Our working memory is small, only handling a few bits of information at once. Avoid its overload — present new material in small steps and proceed only when first steps are mastered.

The poster had a header with a brief background of who conceptualised the principles, and the resources which were drawn upon. These were described as ‘suggested classroom practices’ and left room for the reader to evaluate whether they might be appropriate for their teaching. Unlike Rosenshine’s more recent article, Caviglioli opted not to use the word ‘cognitive’ and instead used the original descriptions of Rosenshine’s sources: ‘research on how the brain acquires and uses new information, research on the classroom practice of those teachers whose students show the highest gains, findings from studies that taught learning strategies to students’ (HOW2, 2016). Listing these sources as research, rather than ‘evidence’ would again indicate an intention for the reader to critically engage with the material. The word ‘research’ does not carry with it the same conclusive connotations as does the word ‘evidence’. Despite this, interview responses indicated that participants considered this poster to be a depiction of ‘evidence-based’ strategies.

Next, each of the principles was described. For each principle, there was a title, a graphic depiction, and a two-sentence summary to explain the graphic. Rosenshine’s work was not cited in full, so the year of publication was not readily available to viewers. That said, it does state that the information was ‘taken from the international academy of education’. In some places the verbs in the principles were phrased as commands, for example in ‘avoid’ and ‘present’. These could have suggested to teachers that they must follow this guidance. This was a contrast to the original source material where wording was tentative and included statements such as ‘some successful teachers taught’ and ‘teacher activities might also include’ (Rosenshine, 2010). Also on this poster was the instruction to ‘proceed only when first steps are

mastered' which, given the previously discussed focus on mastery curriculum, indicates why these strategies could be appealing.

The poster had multiple versions. In some, the colour had been redacted to allow for less costly printing and easier distribution in schools. In others, the colour scheme was changed which was the case for a yellow, black, and white version that was designed to accompany a book about 'how learners retain and recall information' which included 'evidence-based strategies for improving memory' (McGill, 2022). The latter was perhaps a marketing tool used by McGill to alert readers to his book so that he might capitalise from the popularity of Rosenshine's principles. More recently, it had been reworked by Sherrington to align with his own book. On Caviglioli's site, the new poster, which shared a red, black, and white scheme with Sherrington's book (Sherrington, 2019), was followed by the statement that Sherrington 'has turned the ten strategies into a more powerful poster, chunked into four stages of a lesson' (Caviglioli, 2018).

The wide distribution of the poster resource did make it somewhat challenging to track down the original publication date as many of the existing links to the HOW2 site directed users to a login screen. Logins were only available to members of staff whose organisation subscribed to their content. It was finally through a blog post by Sherrington (Sherrington, 2018) that I was able to access the original resource where it was originally posted (HOW2, 2016) though on this Caviglioli is not cited as the creator. While not directly related to the content or the positioning of teachers, it does demonstrate how information in this 'unofficial' recontextualisation field might be difficult to trace. In a way it can become a contextless space which, as discussed in chapter 1, could be problematic; in these spaces, outdated or even incorrect information can be perpetuated with the consequence of misleading pedagogic practice.

Using a poster such as this as the evidence-base from which to build teaching strategies, as was discussed by Sophie at Saint Thomas', could contribute to how teachers were positioning themselves in their practices. By not engaging with original studies, or in fact Rosenshine's initial, more tentatively worded, paper (Rosenshine, 2010) they were not given the opportunity to interpret, critically explore or question

research. The poster, to some extent, presented Rosenshine's recontextualisations as undeniable truths which could be why phrases such as 'we know as teachers are backed in evidence' (Lauren, Saint Thomas') was being used by interview participants.

### The book

Tom Sherrington, a teacher turned education consultant and author of the popular blog teacherhead, published a book which synthesised Rosenshine's principles into a 'guidebook' for teachers (Sherrington, 2019). The blurb for this book stated:

*Barak Rosenshine's Principles of Instruction are widely recognised for their clarity and simplicity and their potential to support teachers seeking to engage with cognitive science and the wider world of education research.*

*In this concise new booklet, Rosenshine fan Tom Sherrington amplifies and augments the principles and further demonstrates how they can be put into practice in everyday classrooms.*

*The second half of the booklet contains Rosenshine's original paper Principles of Instruction, as published in 2010 by the International Academy of Education (IAE) - a paper with a superb worldwide reputation for relating research findings to classroom practice.*

*Together with Sherrington's insightful and practical guidance, it forms a powerful booklet that no teacher can afford to be without. (John Catt Publishing, 2019)*

The use of adjectives in the marketing material indicated how teachers were positioned in relation to educational research. Words such as 'clarity' and 'simplicity' were meant to appeal to busy teachers but could also suggest that this is the extent to which they were capable of engaging with the science which is said to underpin the research. It begs the question of why teachers who would seek to engage with that research, the suggested target audience of this book, would do so through a resource that had recontextualised those studies, particularly when the original recontextualisation, Rosenshine's paper (Rosenshine, 2010) was available online.

The structure of this book also deserves attention as Rosenshine's paper, the information which formed the foundation of Sherrington's demonstrations, was reserved for the latter half. Implicit in this organisation of information was that this contextual information need not be read or understood prior to engaging with the practical applications. Overall, rather than an opportunity to 'engage with cognitive

science', use of this book in the manner in which it was designed would position teachers as either unable or incapable of such engagement. Marketing in this way is not uncommon and mirrors Claxton's Building Learning Power material where he recontextualised his own 'scholarly' research to be more 'practical' which meant telling teachers what they could do (Claxton, 2015).

### The blogs

Teachertoolkit is self-professed to be the 'most influential UK Education blog' and it was here where its author, Ross McGill, described 'Rosenshine's 17 principles of effective instruction' (McGill, 2018). McGill contextualised his blog with the theme of highly effective teaching, though does not explain what it means to be effective. Then, before citing Rosenshine's research, he advertised his own book which had a reference to the material. He then described Rosenshine's three sources, opting for the most recent version which cited 'cognitive science' but, unlike Rosenshine, did not indicate that these different sources could be perceived to have incommensurable interests. Instead, McGill swiftly redirected the reader to another one of his products, in this case, his teacher training materials:

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#### **Teacher training materials...**

Due to readership request, I have recorded a webinar resource to explain Rosenshine's research which is combined with my own pragmatic advice for schools and teachers, demonstrating what it looks like in the classroom. It is shared in this format (with slides) so that you can upskill yourself to lead the CPD for yourself in your own school.

He cited requests from readers as the prompt for these materials and explained that the research is combined with his own 'pragmatic' advice for schools and teachers. The reference to pragmatism, it seems, was an attempt to attend to the practical expectations that teachers face. He linked his materials to continuing professional development and suggested that through engagement with his summaries and slides, which cost £5.99, his readers could 'upskill' themselves so that they could lead CPD in their schools.

Next, McGill revisited the idea of research before methodically summarising each of Rosenshine's principles.

## What does the research say and what resources can a teacher use?

“ This (scientific) research backs up what teachers do (the craft of teaching) in the classroom and exemplifies two important issues within education: The frustration that some believe we do not need research to tell teachers what they can do, yet on the other hand, research which supports the complex work that teachers do which can only raise the profile of the teaching profession as a rigorous process. ”

### 1. Review the last lesson

**Research finding:** The first recommendation from the research, is that a daily review is an important component of instruction. A review can help teachers strengthen the connections from the material to what students have learned.

**In the classroom:** The most effective teachers in the research of classroom instruction understood the importance of practice, and they began their lessons with a five-to-eight-minute review of the last lesson.

**Resource:** [5 Ways To Make Knowledge Stick](#)

The quote, the source of which was not stated, implied that Rosenshine’s research was ‘scientific’. From the presentation here, the reader would not be aware that Rosenshine did not undertake ‘scientific’ research; he recontextualised existing studies which were actually from a range of perspectives. Like Rosenshine’s article this ‘science’ is juxtaposed with a view of teaching as a ‘craft’. The justification of this type of research to attend to the values which accompany creativity could be perceived to be axiologically misaligned. These juxtapositions continued with the assertion of teaching as complex work alongside the implication that the profile of the teaching profession needed to be raised. With the use of the word ‘rigour’ there seemed to be an attempt to attend to political discourse while also appealing to the suggestion that practitioners’ feelings were that research of this nature might be of little value.

The rigour which was invoked, and suggestion that it was necessary was somewhat performative. McGill implied that Rosenshine’s principles were conceptualised as a result of a rigorous process, which in and of itself is debateable, but rather more importantly, did not then position teachers to be rigorous in their own reading or use of that research. There was no encouragement to consider individual contexts in the implementation of strategies, there was an unexplained conflation of Rosenshine’s principles, and the subsequent strategies and the structuring of each principle did not invite critical engagement. Each was structured with a title, brief summary of research findings, a brief summary of what this looked like in the classroom, and a link to one of McGill’s resources. In contrast to Rosenshine’s article

(Rosenshine, 2012), McGill did not include links or prompts to read the original studies. Finally, a Research summary at the end of the blog was not a summary but instead, encouraged readers to download Rosenshine's 'full research paper'. This prompt did not suggest it actually be read, but instead asked that readers share it alongside McGill's own image of the 17 'principles'.

Rosenshine's principles seem to be used as a marketing tool which McGill reinvokes throughout subsequent years. In 2021, McGill revisited the concepts and posted a blog called the origins and evolution of Rosenshine's principles (1982-2017) and in 2023 he posted a blog called 'The potential pitfalls of Rosenshine's principles' (McGill, 2023). The content of the latter, like the resources he linked in the original blog, can only be accessed through a 'VIP' login. It would seem that in these recontextualisations, teachers were positioned as consumers of products rather than as professionals who were seeking knowledge and information.

Researcher in residence at Eton, Jonathan Beale, also wrote a blog for teachers. His was called 'Tom Sherrington's division of Rosenshine's principles of instruction into strands (Beale, 2020). It was produced for the Tony Little Centre which has the tagline Innovation and Research in Learning and according to their website, synthesises evidence to provide 'practical strategies which teachers can adopt in their teaching and professional development' (ref). While disseminated by what some might consider to be a prestigious school, the post which summarised both Rosenshine's principles and Sherrington's organisation of those principles into what he calls strands (Sherrington, 2019) was not particularly innovative. Other than one reference, which was drawn upon to define cognitive load, the post worked exclusively with Sherrington's book and Caviglioli's posters. In this, no new information was offered. It cited a previous week's post which was described as a brief introduction to Rosenshine's principles and a link to his 2012 article. While not as aggressively positioned as in McGill's blog, in Beale's teachers were prompted to, somewhat passively, consume rather than engage with information. This positioning attends to the needs of the authors of such blogs rather than their readers.

The principles of instructions which Rosenshine first published as an International Academy of Education booklet was part of a series which was said to



provide 'timely syntheses of research on educational topics of international importance' (Rosenshine, 2010). The word timely might suggest that these snapshots provided information about the most up to date 'scientific' research which was available and that this was perhaps part of its appeal. Sophie even stated that she perceived Rosenshine's to be 'newer' than other theories. However, while his work had been recontextualised in various spaces, there seems to have been little effort to draw upon the further reading he prompted readers to engage with, or to relate his strategies to the evolving field of educational research. Despite his assertion that his findings offer 'some of the instructional principles' (Rosenshine, 2012) that came from the original sources, his principles seem to be narrowing over time. Seventeen strategies were conflated to ten, which were subsequently organised into four strands. Rather than adding strategies, which he suggests there is research to support, fewer strategies are used with increased prescription.

Overall, through document analysis it became apparent that language prompted the use of specific forms of evidence. The recontextualised evidence which was drawn upon, specifically scientific evidence which policy makers favour, changed as it was repurposed to attend to narrow views of the purpose of education, a purpose which was orientated toward assessment and teacher accountability. Teachers were positioned as lacking time, inclination, or ability to read academic research and so writing structure and selection of information discouraged them from critically engaging with that evidence. Moreover, the dissemination of such evidence through unofficial recontextualisation fields made some resources difficult to trace which could aid in the perpetuation of incorrect or outdated strategies. Rather than engaging with source material, teachers were encouraged to accept recontextualised information. Adhering to the strategies which were derived from evidence, and which left little room to be tailored to specific contexts, deprioritised professional experience. Ultimately, the wording of these documents indicated that consensus was desirable and positioned teachers to have fewer opportunities to make professional judgements. The positioning of teachers in these documents, where there is little expectation of critical engagement, matches the training experiences that teachers discussed, where they were expected to be 'on the bus' and had research 'fed to them'.



## CONCLUSION

Within this thesis, I have researched discourses of evidence-based practice and how these might position teachers. Bernstein's pedagogic device, specifically his notions around recontextualisation, provided a framework through which I considered the problem of evidence use. Subsequently, Biesta's causality, and Ball's performativity were introduced as theoretical tools which I used to consider the nature of that problem. Aspects of evidence-based practice were then discussed. This began with how policy prompts the use of specific forms of evidence, then practices which evoke that evidence were explored, and finally, how the use of evidence in training and professional development might influence the construction of teachers' identities was examined. The additional contextual considerations of the Covid-19 pandemic and the movement of schools into multi-academy trusts were also considered. After exploring the concepts which I perceived to be directly relevant to my research questions, I then developed my research theory and design. In those considerations, my alignment with pragmatism, the assumptions which underpin critical discourse analysis, as well as a selection of methods were explained, and their use was justified. Next, the experiences of data collection, the decisions which were made during those processes, and the development of analytical strategies were recorded. Then, I analysed and discussed my data which comprises fourteen interviews with stakeholders in four primary schools, five documents about mastery teaching in mathematics and five documents about Rosenshine's principles. Finally, in this chapter, an overview of my findings will be presented as according to Dewey, 'all principles by themselves are abstract. They become concrete only in the consequences which result from their application' (Dewey, 1938). Here, I will summarise those consequences to teachers' positionalities of evidence-based practice that were captured in this project. Subsequently, my contribution to knowledge, potential next steps, project evaluation and final reflections will be explained.

## Findings Overview

The objective of this research was to garner an understanding of some possible impacts of evidence use on teachers' positionalities which could inform decisions around future continuing professional development practices. The core questions were: what are the impacts on teachers' positionalities of training practices which are based on the use of evidence which has undergone processes of recontextualisation (Bernstein, 2000: 31), and does the use of this type of evidence limit teachers' pedagogical options? To address these questions, I first conducted interviews where I explored the ways in which participants discussed evidence use in their schools; the ways in which participants discussed interventions which they considered to be evidence-based, particularly brain-based; and how training about those interventions positioned teachers. The analysis of interviews was conducted in three stages: annotations, data mapping and fine grain.

In the annotation stage of analysis, I found that when asked about evidence use in their schools, rather than discussions which focused on engagement with academic research which informed the participants' or their schools' practices, many responses indicated that, for these participants, the term 'evidence-based practice' was instead used in relation to pupil outcomes, making outcome judgements and as a demonstration of their actions by showing others what they did, rather than why they did it. Broadly, responses indicated a tendency toward explanations which aligned with a form of post-positivism with the reasons for its use satisfying performative expectations (Ball, 2003) or the supposition that causality (Biesta, 2020) in education was desirable and achievable.

In the data mapping stage of analysis, I found that arrows were often drawn to point toward teachers, representing a sense that various elements were being brought to, or even imposed upon, them. From teachers there was little movement toward evidence, knowledge, or theory, suggesting that few statements were made to indicate that participants perceived themselves, or others perceived them, as having a role in assessing, generating, or contributing to evidence which informed their own practices. Where evidence in this project refers to academic research that informs pedagogical choices, examples of that evidence indicated that it was often

'fed' to them. Also apparent at this stage, was the role of the multi-academy trust in the selection and dissemination of research evidence. This research evidence was often distributed through continuing professional development training.

Finally, in the fine grain analysis of interviews, I found that participants were actively making choices to attend to current educational discourse, and that these choices indicated how they positioned themselves in their practice. In their use of pronouns and clause types, the word 'we' in action clauses pointed to a lack of individualization in the strategies teachers used in their classrooms and suggested an inclination toward shared practices and understandings as opposed to personal professional development or individual pedagogical thinking. These shared practices often related to MAT derived training and initiatives. In their use of elaborations and enhancements, accountability structures were also apparent, whether in referencing others' perspectives or in reorientations of speech to align with current educational discourse. In these, phrases such as 'probably', 'kind of', 'sort of', and 'might be' suggested that teachers felt uncertain about their actions. Enhancements about time, frequency, and duration, such as 'sometimes' or 'at the moment', suggested an awareness of an everchanging context which was perhaps a response to how rapidly expectations of teachers change in response to government policies.

The questions which guided the document analysis were how does the discourse in documents position teachers and how does this relate to interview participants' responses? With a focus on mastery teaching in mathematics and Rosenshine's principles, I found that the recontextualised evidence which was drawn upon, specifically that scientific evidence, which policy makers were seen to favour, changed as it was adapted to attend to narrowly defined views of the purpose of education. Recontextualised research was often reorientated toward teacher accountability in that it was presented as a way in which to prepare pupils for assessment. Teachers were positioned as lacking time, inclination, or the ability to read academic research and so writing structure and selection of information suggested that they need not critically engage with that evidence. Moreover, the dissemination of such evidence through unofficial recontextualisation fields made some resources difficult to trace which could aid in the perpetuation of incorrect or outdated strategies. Rather than

engaging with source material, teachers were encouraged to readily accept information and implement strategies. Adhering to the strategies which were derived from evidence, and which left little room to be tailored to specific contexts, deprioritised teachers' experiences. Ultimately, the wording of these documents indicated that consensus was desirable and positioned teachers to have fewer opportunities to make professional judgements. The positioning of teachers in those documents was aligned to the ways in which teachers discussed their use of research evidence in that, in their training, there were few opportunities to critically engage with that evidence.

## Implications of Evidence-based Training Practices

Current educational policy results in the prioritisation of certain forms of evidence use in schools. Reliance on these types of evidence-based interventions, and the specific forms of knowledge which underpins them, is a form of 'complexity reduction' (Biesta, 2020: 40) which seeks to provide certainty in education. Detrimentially, this drive for certainty is leading to a 'narrowing of what counts as educational knowledge' (Hordern, 2019: 2). This project demonstrates that these practices surrounding evidence use shape professional discourse and that accountability structures and school priorities limit the opportunities in which teachers can engage with research to personally grow or tailor their own pedagogies. Instead, their professional development training takes 'on a regulatory role, whereby individuals avail themselves to be trained and retrained' (Singh, 2014: 5). In this training, improvements to education are pushed forward by value laden and, arguably, problematic evidence. Adhering to the practices put forward by that evidence, such as only using systematic synthetic phonics to teach reading or beginning every lesson with a review of the previous lesson, allows policymakers to have control over both education's inputs and outputs. In this way, teachers' practices are constrained as, in addition to the expected outcomes, their teaching strategies are also prescribed. The resulting changes in practices are not simply changing teachers' actions but are also changing their identities.

In these changes of actions and identities, there is also an expectation that previously prioritised initiatives are also maintained so rather than a change there is an addition of a different identity which has the potential to clash with previous positions, resulting in unmitigable tensions. 'Working-age teachers are increasingly leaving the profession before retirement' (Newton, 2021:34) and it is perhaps due to the impossible task of simultaneously attending to expectations from competing positions. Poor teacher recruitment and retention rates indicate that there is a substantial issue and public airing of professional dissatisfaction highlights teachers' 'frustration at their lack of agency in teaching' (Newton, 2021:37) so it is worth considering how altering a teachers' identity in this way might be contributing to their frustrations.

Nearly thirty years ago, Bernstein wrote that 'today the state is attempting to weaken the pedagogic recontextualising field through the official recontextualising field, and thus attempting to reduce relative autonomy over the construction of pedagogic discourse and its social contexts' (Bernstein, 2000: 33). Evidently, helped by the movements of schools into MATs, this situation persists and sees practices around the use of evidence as limiting the development of individual teacher pedagogies which could ultimately weaken teachers' abilities to respond to both England's perpetually changing educational landscape and the diverse needs of their students. If accepted unquestioningly, replicating others' processes of doing and thinking could result in a context where consistency comes at the price of autonomy, and results in a workforce which accepts a version of Orwellian 'newspeak' (Pring, 2015: 36). In this dystopian fiction, an extension to Bernstein's ideas of regulative discourse where language use solicits agreement and offers 'little incentive or opportunity' to express individual differences (Atkinson, 1985: 44), language was used to limit opportunities for independent thought. In this it is written: 'Don't you see the whole aim of Newspeak is to narrow the range of thought? In the end we shall make thoughtcrime literally impossible because there will be no words in which to express it' (Orwell, Chapter 5). The use of evidence to prescribe professional development practices implies acceptance and ultimately narrows not only the strategies which teachers can have at their disposal but the pedagogical thinking which they are able to engage with. These types of professional development practices impact teacher identity and could

be laying the foundations for an ill-equipped and thus non-sustainable teaching workforce.

In describing the relationship between mature teacher and immature student, in the teaching of organised subject matter, Dewey suggested that 'basing education upon personal experience may mean more multiplied and more intimate contacts between the mature and immature... and consequently more, rather than less, guidance by others' (Dewey, 1938). He did suggest that there was a problem to consider in how this best be accomplished and posited that 'the solution of this problem requires a well-thought-out philosophy of the social factors that operate in the constitution of individual experience' (Dewey, 1938). Going forward, seeing the value of individual experience, and using teacher development training to support, rather than replace or ignore that experience, could make for more meaningful development opportunities which would arguably be beneficial for both teachers and their students. Pring states that 'once the teacher 'delivers' someone else's curriculum with its precisely defined 'product', there is little room for that transaction in which the teacher, rooted in a cultural tradition, responds to the needs of the learner' (Pring, 2015: 37). This limitation is not restricted to the content of the curriculum but also, as Bernstein would suggest, to the way in which that content is communicated. As was seen in this project, the way in which research evidence is selected and disseminated in teacher training and professional development does not create many opportunities for teachers to thoughtfully engage with or tailor that evidence to respond to the needs of their pupils. However, if teachers had the agency to use both their experience and their training to meet their learners' needs in a variety of ways, they might be better able to respond to their students' various personal experiences which, as Dewey suggested, would result in better learning. Given the direct link between teacher agency and identity (Steadman, 2023a: 26), valuing experience in this way has the potential to positively affect the views teachers have about themselves and their profession.



## Perspective and Position

Early in this project, I outlined the personal considerations which would be at the forefront of this research. These were, why are my background and philosophies significant and how have my background and philosophies impacted each stage of this research project? Here, I will reflect on these points.

Having been internationally educated, up to and including university in the United States with postgraduate qualifications obtained in England, and having been a secondary school teacher in England, I have a unique perspective. 'You base what you take to be typical on your experiences, and since people's experiences vary in terms of their social and cultural groups, people vary in what they take to be typical (Gee, 2014: 89). My time as a teacher allowed me an insider's view into education policy in England. However, my background as an American gave me an atypical view of educational policies and practices. The inspection framework and the appeasement of inspectors who adhere to narrow criteria is not something I had experienced before. Instead, it was my experience that schools worked to appease parents, those who voted on school budgets and sat on school boards. These distinct perspectives created a juxtaposition of viewpoints which caused me to question current policies and practices from an unusual standpoint. My philosophical assumptions had the tendency to lean toward a type of post-positivism where 'the investigator and the investigated are considered to be independent entities' (Coe *et al.*, 2017: 101). Yet in describing my research methodology, I outlined how my views contributed to this project. Particularly within a CDA methodology, where one's own positionality and interests are explicit (Wodak & Meyer, 2016: 4), my teaching background and various roles in education meant that I, unlike other educational researchers, was able to engage with the distinct communication specific to these contexts. For example, my unplanned interview prompts included statements such as 'what I'm trying to get to the heart of, is, is what evidence we use when we teach'. There was no intention to purposely position myself as within education, but my background led to these unconscious choices which caused me to engage with my participants in this way (Halliday, 1985: xxv). In a study which employed Bernstein's pedagogic device to examine the transmission of power through discourse, knowing the contextual rules was paramount in understanding the 'local communication which the device made

possible' (Bernstein, 2000: 26). As such, my background and philosophies contributed to each stage of this project, and my previous post-positivistic position was left behind.

## Contribution to Knowledge

From a Deweyian perspective, knowledge is linked to action in that 'to get knowledge, we need action' (Biesta, 2010b: 109). Accordingly, what follows is where a potential contribution to knowledge could be made, if this research were to be acted upon.

As part of a systematic review of literature which sought to explore teachers' identities in their professional lives, it was noted that in the types of teachers who were researched, there was a gap in literature related 'specifically to primary school teachers' (Rushton *et al.*, 2023: 15). Particularly because they do not have subject-specific identities, this previously overlooked demographic is a distinct group which deserves attention. Thus, it was suggested that a better understanding of 'the nuanced ways in which different contexts, ages of children, relationships and professional practice can affect teachers' working lives' (Rushton *et al.*, 2023: 15), could be useful. In the context of a MAT in the Southwest of England, this project focused specifically on how evidence-based practices impacted the positionality of primary school teachers. This research could help to address that gap in knowledge, and the findings could be used to inform how evidence is used to inform primary school teachers' professional development. For example, those who support professional development practices should consider the implications of their training strategies to ensure that teachers are given opportunities to develop individual practices which are aligned with their contexts and their own personal professional development needs. This could mean reconceptualising whole school professional development sessions, reconsidering the ways in which strategies are embedded into practice, and drawing from multiple sources of information, including teachers' own experiences, to inform teaching methods. Ultimately, it would mean fostering an environment where teachers are encouraged to critically engage with methods and to develop their own individual pedagogies.

In addition to the findings, there is a methodological contribution to knowledge. Given that an overreliance on Fairclough's analytical framework (Rogers *et al.*, 2005) was described as a weakness of CDA research, my analytical approach could add to the field a different method of conducting a CDA. In this, through the mapping and fine grain analysis stages of interviews, I created bespoke analytical frames which helped me to explore teachers' discursive choices.

## Next Steps

This research project prompted thinking which would benefit from further exploration. These were: how the prescriptive pedagogies which are derived from recontextualisations of research findings might influence pupil motivation, how they might influence the learning experiences of pupils with SEND, and how they position teaching assistants. During data analysis, the impact that evidence-based practice had on learners was discussed. My participants made comments about 'assigning competency' or 'moving their learning forward' which has implications that learning is done to pupils rather than with them. I wonder how teachers' lack of agency coupled with prescriptive pedagogies impacts pupils' motivation to engage with their learning. Interview participants also spoke of their frustration with having to use phonics with pupils who have Down's syndrome because these pupils struggled to grasp phonemes and instead learned to read through whole word approaches (Prahl and Schuele, 2022). I wonder how the limiting of diverse pedagogies impacts those whose needs are not met with current strategies. Finally, teaching assistants were positioned differently than teachers. Their responses indicated that, despite being the least formally trained members of staff, that they were more likely to independently engage with accessible research. Their close relationships with students and opportunities to develop their own approaches saw them citing examples of how they conducted their own research and how their findings affected their thinking about teaching and learning (Gulliver, 2023).

## Project Evaluation

When thinking pragmatically, 'an inquiry's success depends on how well it works – that is, whether or not its fruits (conclusions, judgements, solutions) produce satisfactory experiences' (Hilderbrand, 2013). As a personal experience, this inquiry was successful. The challenge of pursuing doctoral study changed my thinking. In terms of a more collective experience, that which this research is meant to act upon, there are two ways I would evaluate this project. The first is to consider whether the strategy selected allowed me to explore the problem I defined, the second is whether that knowledge helps to fulfil the purpose of conducting a CDA.

The strategy was successful as, through a discourse analysis of interviews and documents, I was able to explore how the covert messages in educational policy are apparent in teachers' speech. Through their grammatical choices, teachers demonstrated how evidence-based practice does influence their pedagogies, and ultimately their professional identities. As with any form of research there are barriers and some would suggest that this small-scale qualitative study might not be useful as it focussed upon the experiences of stakeholders in one region, in one MAT, and in one level of schooling. However, those notions and the practices which this type of thinking instigate are precisely what I set out to critique. As such, this is not necessarily a barrier but a paradigmatic impasse which could not be reconciled without forfeiting values. That said, further exploration into the factors which affect teachers' identities could add value to this growing body of knowledge.

In terms of the activism inherent in CDA, the use of the methodology allowed me to develop actionable insights which I hope will be used to improve professional development training practices.

## Final Reflections

Noted in the CDA considerations section of chapter 4 was the need for the researcher's positionality to be thoroughly explored. As such she should 'turn the critical discourse analysis framework back on herself to analyse how her participation in the research contributed to the reproduction or disruption of power relations' (Rogers *et al.*, 2005: 383). I was cognizant of not producing a research project which sought to impose findings upon practitioners. Instead, I hoped to provide

'emancipatory insights' (Biesta, 2020: 21) which might prompt discussion around professional development practices within primary schools in MATs. This became increasingly relevant following a recent experience at the British Education Research Association's annual conference which indicated that there was widely felt concern for the future role of teachers in education. It was clear that research of this nature was being sought after and that it could both validate the thoughts and feelings of those in the teaching profession and instigate a change to current practices. Additionally, the learning and growth that took place as a result of doing this project has left me in a better position to continue to work toward improving the use of research evidence in school contexts. Ultimately, the goal is to work toward improving the professional lives of teachers so that they feel fulfilled in their roles and are better equipped to improve the lives of their students.

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# Appendices

## 1. Ethical Approval



28/04/2021

**Confidential**

Jacklyn Barry

Dear Jacklyn Barry

**Research Ethics Application Approval - Faculty Research Ethics and Integrity Committee:**

2707

Brain-based Learning Interventions: using a discourse analysis to explore implementation in English secondary schools

Thank you for addressing the comments made by the reviewers. The committee has considered your application and has granted ethical approval to conduct this research.

Approval is for the duration of the project. If you wish to continue beyond this date, you will need to seek an extension.

Please note that if you wish to make any minor changes to your research, you must complete an amendment form or major changes you will need to resubmit an application.

Yours sincerely

Dr Verity Campbell Barr

Chair, Faculty of Arts, Humanities and Business - Education Research Ethics and Integrity Committee

## 2. Participant Information Sheet

**Title:** Brain-based Interventions: exploring implementation in English primary schools

### **Description of Project**

This project will examine the process by which brain-based learning strategies make their way from the labs into the classroom. Prior to engagement with schools, documents will be analysed to explore how education policy, scientific studies, media portrayal, and marketing materials refer to brain-based learning strategies. Following that, interviews will be conducted to find out what stakeholders think about their use in the classroom.

Ethical procedures for academic research undertaken from UK institutions require that interviewees explicitly agree to being interviewed and understand how the information contained in their interview will be used.

### **The Interview**

- the interview will take approximately 30 minutes and will be conducted either in person or remotely
- your participation is voluntary and you will not receive any payment or compensation
- I will ask for your permission to audio record and transcribe the interview
- I don't anticipate that there are any risks associated with your participation however, you are free to withdraw yourself and your data at any time during the data collection or up to two weeks after the interview has been conducted, without giving any reason and without there being any negative consequences. To do so, please email the researcher who will confirm your withdrawal in writing. In addition, should you not wish to answer any question(s), you are free to decline or to ask for audio and video recording to stop.
- you will have the opportunity to ask questions and are free to contact me with any questions you may have in the future
- I will analyse the interview transcript
- access to the interview transcript will be limited to myself and academic colleagues and researchers with whom I might collaborate as part of the research process
- responses will be kept strictly confidential. Your name will not be linked with the research materials and will not be identified or identifiable in the report(s) that result from the research.
- Upon completion of the project, a summary of results will be disseminated to each interview participant
- extracts from the interview may be used in conference presentations, papers, reports or journal articles developed as a result of the research.
- any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymized, and every effort will be taken to ensure that other information in the interview that could identify yourself is not revealed. It is important to note that while due diligence will be taken, within individual settings

participants may be recognisable by what is said, for example on the summary of results.

- after completion of the study, I will keep anonymised data for future research purposes, such as publications related to this study.
- I will password protect and store the interview recording and transcript on an encrypted external hard drive for 10 years after the completion of the research project (in which all participants will be anonymous, unidentifiable, and unnamed) in compliance with the Data Protection Act
- any variation of the conditions above will only occur with your further explicit approval

If you have any further questions or would like to withdraw from the study please contact me:

**Jacklyn Barry**

Researcher

Plymouth Institute of Education

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This research has been reviewed and approved by the University of Plymouth Education Research Ethics and Integrity Sub-committee. If you wish to make a complaint about the conduct of the research, please contact the Research Administrator of the Faculty Research Ethics and Integrity Committee, Claire Butcher.

### 3. Interview Consent Form

#### Interview Consent Form

**Title:** Brain-based Interventions: exploring implementation in English primary schools

**Researcher:** Jacklyn Barry

Thank you for agreeing to be interviewed as part of the above research project. This consent form is necessary for me to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation. Please, would you therefore read the accompanying information sheet and then sign this form to confirm that you agree with the following statements:

- |        |   |
|--------|---|
| Yes/No | I have read and understood the project information sheet.   |
| Yes/No | I am happy for you to use my data for the purposes described in the Participant Information Sheet.                                    |
| Yes/No | I have had the opportunity to ask questions.  |
| Yes/No | I agree to take part in this interview.   |
| Yes/No | I understand that I have the right to withdraw myself and/or my data at any time during the interview and up to two weeks thereafter. |
| Yes/No | I agree to have this interview audio recorded.  |

Participant's Signature \_\_\_\_\_ Date \_\_\_\_\_

As the researcher, I am committed to upholding the guidelines set forth in the Participant Information Sheet.

Researcher's Signature \_\_\_\_\_ Date \_\_\_\_\_

Please return a signed and dated copy of this form to:

[Jacklyn.Barry@plymouth.ac.uk](mailto:Jacklyn.Barry@plymouth.ac.uk)

You may also wish to keep a copy of this form for your own records.

## 4. Interview Schedule

**Title:** Brain-based Interventions: exploring implementation in English primary schools

**Researcher:** Jacklyn Barry

Thank you for agreeing to speak to me today. A few points to cover before we begin:

- Consent form
  - Not linked to governance
  - Participant information sheet, right to withdraw
  - No right or wrong answers, can skip questions
  - Able to record?
  - Questions or concerns?
1. The best place to start is to hear a bit about you so please could you tell me, what is your current role and how long have you held this position?
    - a. What type of training have you received for this role?
  2. The term evidence-based practice means different things to different people. Is this a term that you have used or have heard used in your school or elsewhere?
    - a. Where have you heard it and what does it mean to you?
    - b. What counts as evidence in your school?
    - c. What types of evidence do you gather?
    - d. What evidence do you use?
    - e. Can you give an example of how evidence is used?
  3. What about the term theory-based practice? Is this a term that you have used or have heard used in your school or elsewhere?
    - a. Where have you heard it and what does it mean to you?
    - b. Can you give an example of how theories are used?
  4. I am researching the use of brain-based interventions. These are interventions which draw on cognitive science, neuroscience or psychology. How would you describe the types of learning interventions which are used in your school?
    - a. How long has this intervention(s) been used?
    - b. Were you involved in the selection or implementation of this/these intervention(s)? If so, how were you selected to take part? If not, who selects interventions in your school?
    - c. Why do you think this type of intervention(s) was/were selected?
    - d. Which factors or criteria are considered when selecting intervention(s)?
    - e. What type of training was involved in the implementation of this/these intervention(s)? Who delivered the training? Were you given any

- materials to support your training? If so, who made these materials? Were they helpful? Why or why not?
- f. Is there any ongoing support, training or monitoring in the use of this/these intervention(s)? Who is supported, how and how often? Do you have any resources to draw upon? Are these updated or changed over time?
  - g. Has this/have these intervention(s) made an impact on students and their learning and how do you know? Can you tell me about the impact on specific students? How does use of this/these intervention(s) impact staff? Can you give an example? Has this/these interventions had any impact at home? How do you know? What has been the feedback from parents?
5. Thinking about the teaching side of things, what do you feel are the potential benefits to implementing brain-based learning interventions in your school? In your opinion, are there impacts on a teachers' ability to teach? Can you give an example?
  6. Thinking about the teaching side of things, in your opinion, do you feel that there are potential barriers to implementing brain-based learning interventions in your school? If so, what are they?
  7. If these barriers were removed, what types of interventions would you want to have in this school? What impact do you think this would have on students? Teachers?
  8. Do you have any final questions, comments or thoughts?

That brings us to the end of the interview. It has been wonderful to hear your views on this topic. Thanks again for taking the time to share them with me!

Cognitive science- the study of thought, learning, and mental organization, which draws on aspects of psychology, linguistics, philosophy, and computer modelling.

Neuroscience- any or all of the sciences, such as neurochemistry and experimental psychology, which deal with the structure or function of the nervous system and brain.

Psychology- the scientific study of the human mind and its functions, especially those affecting behaviour in a given context.

Intervention- broadly- strategies which move learning forward for all students

## 5. Interview Log

Participant Number	Participant Role	Consent Sent	Participation Sheet	Interview Schedule	Consent returned	Interview Date	Interview Notes
<b>School 1</b>							
7	Teaching Assistant	21/06/2022	21/06/2022	21/06/2022	28/06/2022	28/06/2022 11:00	
8	Teacher/ Governor	21/06/2022	21/06/2022	21/06/2022	28/06/2022	28/06/2022 11:30	wanted to be quick as was on lunch
9	Teacher/lead	21/06/2022	21/06/2022	21/06/2022	28/06/2022	28/06/2022 12:00	
10	SENCO	21/06/2022	21/06/2022	21/06/2022	28/06/2022	28/06/2022 12:30	
<b>School 2</b>							
Head approved request- I reached out to staff							
2	Teaching Assistant	16/06/2022	16/06/2022	16/06/2022	16/06/2022	16/06/2022 18:00	
5	Teacher	21/06/2022	21/06/2022	21/06/2022	24/06/2022	24/06/2022 13:15	
3	Teacher/lead	13/06/2022	13/06/2022	13/06/2022	23/06/2022	23/06/2022 10:00	
14	Governor	21/06/2022	21/06/2022	21/06/2022	14/07/2022	14/07/2022 12:00	
13	SENCO	30/06/2022	30/06/2022	30/06/2022	12/7/2022	12/7/2022 11:00	
14	FSW	12/7/2022	12/7/2022	12/7/2022	12/7/2022	12/7/2022 11:00	(Transcript 13) in room and asked to contribute
<b>School 3</b>							
Head approved request- head reached out to staff							
12	Teaching Assistant	20/06/2022	20/06/2022	20/06/2022	1/7/2022	1/7/2022 10:30	
1	Teacher/lead	13/06/2022	13/06/2022	13/06/2022	15/06/2022	15/06/2022 1:00	
4	Governor	22/06/2022	22/06/2022	22/06/2022	23/06/2022	23/06/2022 12:30	location was very noisy
<b>School 4</b>							
Head approved request- head reached out to staff							
x	Teaching Assistant	24/06/2022	24/06/2022	24/06/2022	1/7/2022	1/7/2022 9:30	disengaged- did not return emails
11	Teaching A/A Senco	24/06/2022	24/06/2022	24/06/2022	27/06/2022	27/06/2022	
6	Teacher/lead	23/06/2022	23/06/2022	23/06/2022	27/06/2022	27/06/2022	

## 6. Sample Interview Transcript

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Date: 27/06/2022  
Time: 10:00  
Participant 6  
Role: Class teacher/SLT  
Length: 22:49

Context: A quiet classroom. For part of the interview, there was a member of staff leading an intervention with two students.

**You've done the consent form and you've said I can audio record. Um. This is nothing to do with my role in governance, um if you do not like any of the questions you can skip them.**

Yup

**There's no right or wrong answers, I'm just trying to get a sense about your um experiences and um if you decide that you'd like to withdraw your information, if you don't want to be involved, you have two weeks after today, just shoot me an email and I'll, I'll delete.**

Ok.

**Thanks again for taking the time.**

You're welcome.

**And that was all the jazz I had to get done before (both laugh). So what is your current role and how long have you held this position?**

So, I'm year six class teacher, at the moment. I'm on SLT, I'm lead English, but the writing side of English so I partner with [name] who does the reading because we're across two sites. So it's here at [school name] and down at [other school name] so actually leading English across two sites for one person is a massive role so we split it into reading and writing so we can work together.

**Oh, right that's interesting, is the writing person also, uh the reading person, sorry, also here as well?**

Yep

**And you guys go over there?**

Yeah, yeah, yeah.

**Oh, really interesting.**

And then I'm just about to become phase lead, um in September for year five/six.

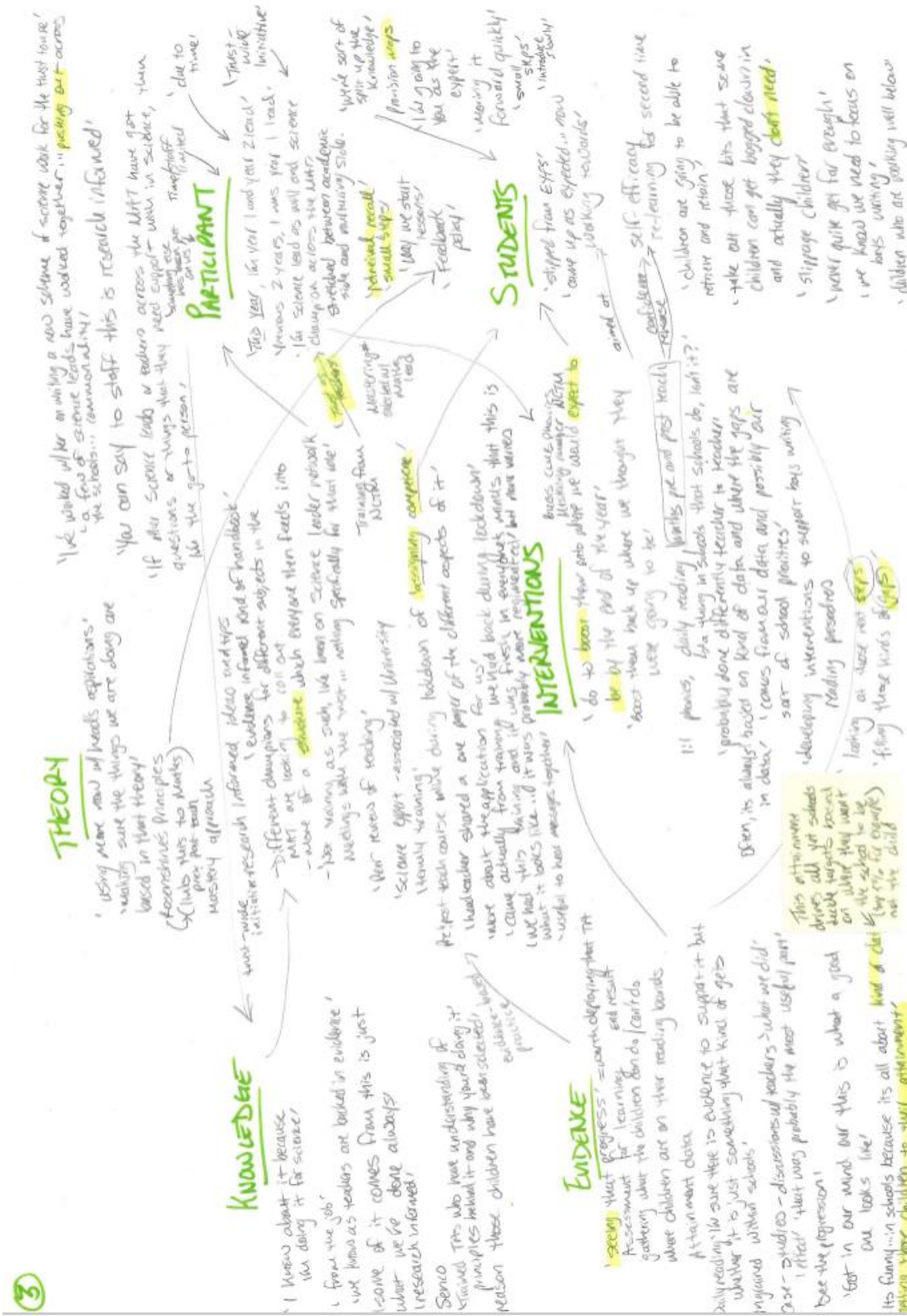
**Oh wow! More hats!**

(both laugh) yeah.

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# 7. Sample Data Map



## 8. Fine Grain Analysis Coded Extracts

*'Ok, do you have any evidence-based approaches that you use, that come to mind? So I think like precision, instruction. I think there's a lot of data and research around that and... And how did that come to be used, how did you come to use that? Who, who suggest--Um, that was the SENDCo, so the SENDCo introduced it. It is something that has been part of the school for a long time. so...Ok, how were you trained up in precision teaching. I haven't been trained up but I know the principle is five words, if its reading anyway, five words, different orders, it's kind of rote learning and we change the orders every day.'* (Leah, Saint Helen's)

*'... in terms of intervention, there, we, it was during lockdown actually, we were given online training about assigning competency, and that was really, that's probably the most beneficial thing I've done and the idea with that is you pre-teach children who you feel will struggle in the lesson or say after the Monday, if they've kind of not, they're not quite where you want them to be you can pre-teach them so it's almost like, not, not giving them the answers but giving them, um the correct vocabulary and giving them the method which is going to help them during the lesson. And then during the lesson, you ask them to demonstrate to the class, and they, and you hope they're going to use that vocabulary that you've already had a you know a ten minute session on prior to the lesson. Um, and then in that way, in terms of their sort of self-efficacy and they're sat there feeling you know, well, I'm the only one with my hand up, cause they're kind of if there's say three of them in the pre-teach- -they're primed for it- -yeah, and that was, I really liked that and I like you know the whole sort of idea behind that... I think just because, I think doing it before you teach the lesson, it makes you feel less like you're always trying to catch up or fighting fire oh they haven't got it, oh you know, so it's, it's preventative. Ok- -and I find that, that is um, I find that is a better use of time then because they've done the lesson once and then three or four children are picked out and I think straight away they're maybe a little dip in their self-esteem, oh we didn't get it, everyone else did. So then you're battling that, not just, they can't do, I don't know, column subtraction for example, so now not only are they not focussing on what you want them to do, they've kind of got this, and I think it's a bit of a block, in terms of oh no I'm assuming this is sort of neuroscience, you know that, now they're feeling emotional, it's kind of blocking just the kind of the learning part of your brain and then yeah if they're fe-, if their emotions are good and they're feeling like yeah I can do this, then I think they can access that part that, that you know the rational, the language and everything.'* (Tracey, Saint Thomas')

*'I suppose daily, daily readers is almost a kind of thing in school that schools do, isn't it? It might be every school did it too, it was sort of like these children need to be read with more frequently so in terms of evidence, I'm sure there is*

evidence to support it but whether its just something that kind of gets ingrained within schools that read with these children more frequently...

...

-there's probably some things that we've more, that are more based explicitly on evidence and other things that I would, that are and we know as teachers are backed in evidence if you read more frequently and you've got that practice and that repetition, we know those things will work but maybe not, we don't explicitly think about it when we're talking about daily readers. (Lauren, Saint Thomas')

'Yeah, um I think some of it just comes from this is just what we've done always, like we said about daily readers, one-to-one daily readers is something that kind of always happened. Um. Often, it's always based on kind of data and where the gaps are in data so if you've got a group of children who are struggling with um comprehension for example then there might be a guided reading intervention that you would choose to run in order to kind of support children in that aspect of reading that they're finding tricky, um yeah I think yeah it sort of comes from our kind of data and possibly our sort of school priorities as well um things that we know we need to focus on so boys writing um was a focus for us so having kind of a group of, so developing interventions' (Lauren, Saint Thomas')

I think looking at attainment data probably so if there are children who either have slipped from EYFS, they came up as expected we now think they are working towards in year one or year two, that boost to kind of boost them back up to where we thought they were going to be. Um those interventions probably are mainly aimed at those children who are working towards.' (Lauren, Saint Thomas')

'So, our, the interventions that we use are dependent on what the child needs. So there might be... and they vary half term on half term. So there it might be the first half term you pick up that there's um that we pick up that there's a problem with friendships and socialization ... so we could do some social stories around that. They might work in little groups but in the classroom we don't... everybody does it differently but we don't send our interventions out if you see what I mean. We do the interventions within the class because otherwise it could be seen that the children are missing out on other things so we tend to do the interventions within the classroom um yeah so it could be like PSHE and social uh situations. We had once interventions on maths, we do a lot of pre-teaching in maths to give some of the children, not the answers but, the confidence they need to be able to answer the questions in the session that's coming up. Um so I did a lot of research about pre-teaching and about its impact and actually its really impactful um particularly we find with the older children with upper key stage two so we've used that and there might be a phonics intervention because you pick up, or one of us might pick up that they've missed certain phonemes so you then focus on those in just a sort of quick short bursts. Sometimes we use precision teaching for that because that's all about just getting bang on and just about the children

being able to remember those sorts of things so it kind of varies.' (Lucy, Saint Philip's)

'you would say what you're going to do, um, and you have your entry data so where that child is now, what you're going to do and then, assess is the wrong word but, you see the impact of that and that would be your exit data, to ensure, because there's no point doing an intervention if it's not had any impact so then you would then look at what the impact is.' (Lucy, Saint Philip's)

'so the interventions we use in school are very specific for what the children need in terms of their gaps in learning. So we've got our assessment grids and if there are gaps in there or if children are falling behind then it's all very much okay so the children are, have a weakness in spelling so what spelling intervention have we got ...' (Lydia, Saint Margaret's)

Um, at the moment I'm using um guided reading which I didn't think it was going to work because I just thought they were too young but, because we were doing Read, Write, Inc. and because everyone in my class can now read, um we have six children at the most and they all have the same book and it's their time to actually talk and it's made such a massive impact. Um it's been love-, and they love it, everyone is doing their own like play-based things but they know that it's their time and they know that, the other children know that it's going to be their time on another day so that it's really nice that they can go 'yep, group time, I know I can talk in this time, I've got the teacher totally with just our group, reading a book. Cause I love reading.' (Tina, Saint Helen's)

'well I've been teaching years, I know what works. Read, Write, Inc. works. Guided Reading works.' (Tina, Saint Helen's)

*'Every **ending is arbitrary**, because the end is  
where you write The end.  
A period, a dot of punctuation, **a point of  
stasis**. A pinprick in the paper: you could put  
your eye to it and see through, to the other  
side, to the **beginning of something else.**'*  
(Margaret Atwood, *Robber Bride*)