Storying the 'good' teacher:

Figuring Year 6 mathematics

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Abstract

A new statutory mathematics national curriculum for primary schools was introduced in 2014 to address the perceived underperformance of English pupils in international tests. This curriculum included content previously taught in secondary schools and came with an invitation to teachers to take 'the freedom to develop more innovative and effective approaches to teaching' (Minister of Education Michael Gove, 2012).

This freedom sits uncomfortably in the wider context of the neo-liberal education system where results are valued over pedagogical integrity and pupils are increasingly viewed as data. In 2015-16, primary school teachers, working at the sharp end of primary school accountability systems in Year 6 classrooms, were teaching this curriculum for the first time and preparing pupils for revised key stage 2 (KS2) national curriculum tests. Many critics have described teachers' professional integrity as suffering under a 'performative' system, finding that teachers often focused solely on achieving test results. This thesis explores how Year 6 teachers see themselves as doing a 'good' job in this context.

This research presents a qualitative study focusing on the work of three Year 6 teachers over one academic year. Video recordings of mathematics lessons provided a rich stimulus for discussion in termly interviews, which were analysed through the twin lenses of Holland, Lachicotte, Skinner and Cain's (1998) *Figured Worlds* theory, and Bakhtin's work on dialogism. Being an 'expert-insider-outsider researcher' proved to be both useful and problematic: my existing relationships with participants presented methodological and analytic insights while also raising ethical issues across the course of the research.

The three case studies reveal the different ways in which Year 6 teachers narrate themselves as being 'good' at their work, suggesting a connection between their 'histories-in-person' and their interpretation of the educational discourses related to their work in Year 6. Cases also reveal the extent to which I co-constructed teachers' stories.

This thesis demonstrates the impact of local and personal contexts on how Year 6 teachers work and on how they talk about their work. It shows the value of my chosen theoretical lenses in providing tools for understanding teacher identity, and the varied ways in which teachers both orchestrate educational discourses and enact policy.

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1. Introduction

In 2012, in an open letter[1], the then Secretary of State for Education set out the principles behind his new national curriculum for primary schools in England that would become statutory from 2014 (NC2014):

> I want our curriculum changes to provide heads with a clear sense of high expectations in the essential subjects of mathematics, science and English. Our curriculum changes should also ensure that schools are held properly and rigorously accountable for helping all pupils to succeed in key subjects. And our curriculum changes must provide the gifted teachers we have in our classrooms with both a sense of the higher standards that we know they are driven to reach and the freedom to develop more innovative and effective approaches to teaching. (Gove, 2012)

I begin the thesis with this extract from Gove's letter, in full, because in many respects it is what sparked my interest in this research. During the period of curriculum development which led to NC2014 (DfE, 2013a), I shared this text widely when speaking with primary teachers and mathematics subject leaders in primary schools. I felt that, while the letter indicated what would be in the new national curriculum (content at a higher level) and what would not be there (direction on how to teach this), it also served as a reminder that pupil performance remained important. I remember thinking that the language (especially 'gifted teachers') was interesting given that Gove had a poor relationship with teachers and the teacher unions. My suspicions that this would be read as contradictory were borne out when I shared the extract, and the overriding response from teachers and subject leaders was derision. They read Gove's text granting them 'freedom to develop more innovative and effective approaches to teaching' as an instruction to find their own ways of ensuring that pupils would achieve 'higher standards', expressing dismay at what they saw as a barely concealed warning that they would be blamed – 'held properly and rigorously accountable' – if pupil results didn't match government targets. This thesis explores three teachers' enactments of the 'essential subject' of mathematics in NC2014.

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[1] The letter, sent in June 2012 to Tim Oates (chair of the National Curriculum Review (DfE, 2011c)), served two purposes. Firstly, it included notes of thanks to Oates and his team for their work on the review; and secondly the letter was used to set out how the Department for Education (DfE) had acted on the Expert Panel's advice thus providing a statement of intent for the curriculum under development.

1.1 The challenges of implementing NC2014

NC2014 was written in response to the perception among ministers that England had 'sunk in international league tables[2]' (DfE, 2011a), despite there being doubts about the reliability of the test data for England (Pope, 2014). England's political leaders acted in a way that is typical of those experiencing a 'PISA shock' (Wiseman, 2013:304); they looked to improve subsequent league table performances by adopting policies and practices from high-performing jurisdictions irrespective of cultural and systemic differences (Askew et al., 2010). These changes presented particular challenges to the teachers I was working with.

1.1.1 Raised expectations and new curriculum content

One outcome of the Government's focus on high-performing jurisdictions was a new emphasis on 'mastery' as a means of raising standards for all children, explained here by the National Centre for Excellence in the Teaching of Mathematics (NCETM, a government funded quango with a remit to support curriculum implementation):

> The content and principles underpinning the 2014 mathematics curriculum reflect those found in high performing education systems internationally, particularly those of east and south-east Asian countries … What underpins this success is the far higher proportion of pupils reaching a high standard and the relatively small gaps in attainment between pupils in comparison to England … Though there are many differences between the education systems of England and those of east and south-east Asia, we can learn from the 'mastery' approach to teaching commonly followed in these countries. (2014:1)

The aspiration to raise standards also impacted on the expectations of what would be taught in each year group:

> In our reforms to the curriculum we're readjusting the balance to make sure the basics are secure first, in line with high-performing jurisdictions. At primary level, this will mean increased focus on arithmetic … requiring not only that pupils learn things like their tables earlier – at Year 4 instead of Year 6 – but also that they develop

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[2] The international league tables referred to are PISA and TIMSS.

structured arithmetic, developing the foundations for algebra. (DfE, 2012)

As a consequence, the curriculum for all year groups now contains content that would previously have been taught in later years, meaning that teachers working in key stage 2 (KS2) classrooms (with pupils aged seven to 11) are delivering unfamiliar content that was previously only found in secondary school curricula.

1.1.2   A change in assessment structure

At the same time as managing changes to the curriculum, schools were required to move away from using the established system of a vertical scale of 'national curriculum levels' to measure attainment and progress. Instead, the assessment structure was replaced by government-set performance descriptors including a 'national standard' which was closely related to national curriculum content. Pupils who passed the KS2 national curriculum tests were now said to be working at the national standard (DfE, 2014c). Test results were to be translated into a 'scaled score' with 100 as the indication that the national standard was achieved (anything below 100 effectively became a fail). The rationale was that 'abstracted, descriptive 'levels' … reduce the clarity' (DfE, 2011c:7.4) of pupils' performance in tests and also caused confusion between what was to be learned and what was to be assessed. Outside of tests, nation-wide, schools had also used 'levels' to describe and track pupils' ongoing progress and were now told to move away from this system and to create their own approach more closely related to curriculum content. How this was to be done, was up to schools:

> Our new national curriculum is designed to give schools genuine opportunities to take ownership of the curriculum. The new programmes of study set out what pupils should be taught by the end of each key stage … How schools teach their curriculum and track the progress pupils make against it will be for them to decide. Schools will be able to focus their teaching, assessment and reporting not on a set of opaque level descriptions, but on the essential knowledge that all pupils should learn. (DfE, 2013b:1.6)

Despite this apparent emphasis on teacher autonomy, politicians went on to demand that schools meet raised accountability expectations including the 'challenging aspiration that 85% of children should achieve the new expected standard by the end of primary school' (DfE, 2014b:5). This was an increase from a target of 65% under the previous (less cognitively challenging) standards (DfEE and QCA, 1999) which was achieved by 86% of

KS2 pupils in 2014 (DfE, 2014a). So following the implementation of NC2014, the national target was for pupils to achieve as highly as before despite the tests becoming harder. The teachers in my networks did not welcome the freedom 'to take ownership' and 'to decide' how to track pupils' attainment and progress. It added an additional (and many teachers felt, unnecessary) burden of change while emphasising the demands of accountability.

1.1.3 The introduction of fractions topics from key stage 3 (KS3)

The mathematics curriculum is made up of multiple topics and in this thesis I focus just on one of these, 'fractions'. I have chosen this for two reasons. Firstly, it was a topic where a great deal of content moved from key stage 3 (KS3) to KS2, especially in relation to 'calculating with fractions'. And secondly, the topic is interesting because of the general agreement that 'fractions are one of the most complex mathematical domains that students encounter during their school years' (Anthony and Walshaw, 2007:177). It is considered to be an especially challenging aspect of mathematics to understand (Nunes and Bryant, 2007; Spangler, 2011) and so the raised expectations in NC2014 in relation to fractions pose a particular problem for learners.

While this thesis does not dwell on how fractions were taught, I was interested in how the teachers in this study, working under pressure to meet standards, chose to teach aspects of the topic which would not have formed part of their initial training. The teaching of fractions thus became the interesting context for my research into teachers' enactments of NC2014.

1.2 The challenges of conducting this research

I approached this research as a former primary school teacher and now as an educational consultant, supporting primary school leaders and teachers at all stages of their careers with teaching mathematics. I know about the work of teachers and the context of primary schools, I understand accountability measures and the pressure on schools to perform. I have seen the impact that national curriculum tests (also known as standardised

assessment tests, or SATs)[3] have on Year 6 teachers and I have an idea that preparation for these tests dominates mathematics teaching in Year 6.

I hold strong views on how mathematics should be taught and over recent years have been an active member of the mathematics education community. On behalf of two mathematics subject associations, I was deeply involved in consultations on reforming the national curriculum and had a good understanding of what the changes were and what the rationale was behind them.

These elements of my own history presented particular challenges and affordances as I came to do this research.

1.2.1   Focusing on Year 6 teachers

The work of Year 6 teachers quite naturally became my focus for this thesis. Pragmatically this was an easy choice because the year in which I would be collecting data (2015-16) was the year in which they would be working with NC2014 for the first time and preparing their pupils for revised tests to reflect the tougher content of NC2014. They would also be managing the move away from describing attainment using national curriculum levels and working to the new expectation that 85% of pupils be expected to achieve at a national standard. In the words of Gove, they would be 'held properly and rigorously accountable' (Gove, 2012).

Under this particular set of circumstances, I became interested in how Year 6 teachers worked with the new national curriculum. I wanted to know how they experienced the professional 'freedom' bestowed on them, and whether the pressure of raised expectations led to pedagogical dilemmas. I sought to better understand how Year 6 teachers felt able to do a 'good' job when under such pressure to perform. I recruited three Year 6 teachers from my existing networks and observed all of their lessons on fractions spanning the whole academic year, interviewing them at various points. A research question emerged:

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[3] Performance in KS2 SATs is used to determine a school's position in national and local league tables. From 2015, KS2 pupils take three tests in mathematics (paper 1 is an arithmetic paper, and papers 2 and 3 are reasoning papers). They also take two papers on English grammar, punctuation and spelling, and a further test in English reading. In addition, English writing and science is assessed by teachers (there is a biennial science sampling test). I use the terms 'SATs' and 'national curriculum tests' interchangeably.

Research Question 1: How do Year 6 teachers narrate themselves as 'good' in the context of England's high stakes accountability system?

1.2.2   Researching from the inside

As an insider researcher (I come to describe myself as an expert-insider-outsider researcher in this thesis) I brought extensive knowledge of the research context and I was also known to my three participants. As I analysed the data, I began to realise how my own particular role played a part in the three teachers' emerging narratives, and I draw on my theoretical framework – *Figured Worlds* (Holland et al., 1998) and dialogism (Bakhtin, 1981; 1986; 1990) – to understand this better. Being an insider researcher presented both affordances and challenges, and a second research question arose:

Research Question 2: How can dialogism support an understanding of insider research?

1.3   Thesis overview

In chapter two, I review the literature describing the English education landscape in which policies are enacted. I view this landscape as 'performative' and examine some of the professional behaviours that have become normal as schools became competitive and highly scrutinised. I look at literature on how mathematics, as a politically important subject, sits within this national context. I close the chapter by examining how local (school-level) contexts and teachers' personal contexts have an impact on enactments of policy, and state my first research question.

In Chapter three, I explore the theoretical tools used in this thesis. I adopt Holland et al.'s (1998) *Figured Worlds* theory to support my understanding of teachers' narratives, and as a result research question one is restated with three sub-questions to account for my interest in how the theoretical tools of 'history-in-person', 'positionality' and 'orchestration of discourse' are present in and support my understanding of my participants. In addition, I adopt Bakhtin's (1981; 1986; 1990) dialogism, which provides a framework for understanding my relationship with participants as a special case of self-other relations. At the end of this chapter I state a second research question relating to how dialogism supports analysis of insider research.

In chapter four, I examine the nature of my insiderness and how it was beneficial for recruiting teachers, but also the source of various ethical dilemmas involving my relationships and status. I explain my decision to present data in three case studies and outline how this data was collected and analysed.

Chapters five, six and seven each contain a case study of one teacher. The cases are discussed and compared in chapter eight. In this chapter, I answer each research question in turn and return to the literatures introduced in chapters two, three and four. I close the chapter with a discussion of some of the challenges of researching Year 6 teachers.

The thesis concludes in chapter nine with a summary of findings. I outline the contribution to knowledge of this research to the literature on performativity, arguing that teachers do not easily submit to the authoritative voice that results are of utmost importance. In addition, this thesis contributes to the body of research that is an application of social theory. I discuss some suggestions for future research including the possibility of responding to recent changes to the Ofsted school inspection handbook. The thesis closes with my reflection on the limitations of insider research and my five year journey as a doctoral researcher.

2. Literature Review

This thesis focuses on the work of three Year 6 teachers in England during the academic year 2015-16. These teachers work at the sharp end of primary school accountability systems as the results achieved by their pupils in national curriculum tests determine how their schools are judged and positioned in tables of school performance. 2015-16 is of particular interest because it is the first time that Year 6 teachers were tasked with teaching from a new set of national curriculum statements (NC2014) against which their pupils were subsequently tested in May 2016. Also significant at this time was a shift in how pupil attainment was to be described, from a well-established nuanced system of 'levels' to the use of standardised scores and the more straightforward reporting of pupil achievement as pass/fail. My interest is in how teachers work with these new policies and my intention in this chapter is to review literature which situates this policy context and which provides insight into the nature of teachers' work.

Firstly, I consider the broader educational landscape. This includes an overview of the marketisation of the English education system following reform in the late 1980s leading to teachers' roles being changed, resulting in less professional autonomy than before. I then discuss how the introduction of high stakes accountability measures has changed how schools operate and teachers work, suggesting that teaching is focused on meeting accountability targets and pupils are increasingly viewed as units of data. This system is labelled 'performative'.

Next, I consider how the subject of mathematics is of particular political interest given that results in international tests are used as a way of comparing nations. Three mathematics initiatives dating from the 1990s to the present day are introduced as illustrative of how English politicians have attempted to influence the teaching of mathematics and improve pupil performance.

Thirdly, I discuss policy enactment and particularly the way in which local, school-level contexts have an impact on how teachers enact national policy such as NC2014. Following Braun et al. (2011), I examine four aspects of local context and relate these to mathematics policies.

Finally, I explore the role of teachers' personal contexts in their interpretations and enactments of policy, including a consideration of how teachers' experiences and skills as teachers of mathematics, and their beliefs and values about the nature of good mathematics teaching, impact upon their work. I conclude by setting out three discourses of The Good Teacher as a charismatic subject, a competent craftsperson and a reflective practitioner (Moore, 2004).

2.1 The education landscape in which policies are enacted

I now consider the broader picture of education policy in England and how this has developed over the past 30 years in ways which have irrevocably changed the relationship between teachers, Headteachers and policy makers. I illustrate the way in which, over this period, national policies have impacted upon the local running of schools and both altered teachers' sense of professionalism and impacted upon their professional work. This section thus provides a backdrop for later discussions about the local and personal contexts in which policies are enacted.

2.1.1 A marketised education system

The Education Reform Act 1988 (ERA88) marked the beginning of a significant shift in how the English education system worked at every level. These new education policies, some of which I will outline below, reflected the broader political shift in England (and elsewhere) towards agendas which later became termed 'neo-liberal' (Gordon and Whitty, 1997; Gorard et al., 2002; Hursh, 2005):

> Neoliberalism is in the first instance a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterised by strong private property rights, free markets, and free trade. The role of the state is to create and preserve an institutional framework appropriate to such practices … if markets do not exist (in areas such as land, water, education, health care, social security, or environment pollution) then they must be created, by the state if necessary. (Harvey, 2005:2)

The result of the new policies was the creation of an education market, and Gove's invitation to teachers can be seen as the latest iteration of the 'individual entrepreneurial freedoms and skills' being promoted. The shift to neoliberalist principles – with schools

now viewed as decentralised competitive businesses run by Headteachers, and parents as customers with a choice over which school to patronise – marked changes to the division of labour in schools which impacted upon teachers' professional status and the nature of their work. I expand on this below.

As Ball (1993) notes, the case for creating an educational market was mooted by Chubb and Moe (1990), who claimed that higher standards would result through a form of natural selection. The ERA88 policy intended that successful schools would attract more pupils while those rated as less successful would lose pupils and would also lose money due to 'per capita' funding (Keddie, 2013). Under-subscribed schools would be forced to close, or as is now more common, be taken over or 'sponsored' by a more successful school.

The ERA88 first introduced a standardised national curriculum which, importantly for the marketplace, provided a universal provision making it easier for parents and pupils (i.e. the 'customers') to compare and choose schools. Whilst this curriculum sought to iron out recognised differences in the education received by children of different genders, ethnicities, social classes or parts of the country (Tizard et al., 1988), it was criticised for reflecting 'the traditionalist, ethnocentric preferences of ministers and pressure groups' (K. Jones, 2016:139) at the expense of the local and personal curricula developed by skilled teachers. The introduction of a standardised curriculum was seen as a step towards the deprofessionalisation of teachers, removing them from decisions about what to teach (K. Jones, 2016).

Alongside the national curriculum, the ERA88 introduced national curriculum tests **(also known as standardised assessment tests, or SATs)** in English, mathematics and science for pupils at the end of key stage one and key stage two (KS1 and KS2, when pupils are age seven and 11) in order to 'create an index of performance' (Reay and Wiliam, 1999:343) akin to GCSEs in secondary schools. Pupil performance was to be published in league tables and used as the basis of measuring and comparing schools. In this way, 'assessment data [are] being used as a proxy for the overall standard of education in a highly politicised landscape' (Pratt, 2016:3). Despite the rhetoric of decentralisation, these two statutory elements – the curriculum and SATs – not only facilitated competition but also the control of education and its market by politicians (Ball, 1993).

Alongside these policies, arrangements for regular school inspections were formalised in 1992 with the creation of the school's inspectorate, Ofsted. Although an independent body, Ofsted reported directly to the Secretary of State regarding schools' provision in relation to the quality of education provided, the standards achieved by pupils, financial management and also the spiritual, moral, social and cultural development of the pupils (Education (Schools) Act, 1992). In their research into the impact of inspections on teachers, Jeffrey and Woods (1998) describe the way in which these regular high-stakes inspections, intended to have an impact upon the workings of schools, have become part of 'education culture' to the extent that 'inspection in some shape or form has become part of the daily lives of schools' (p2). In that sense, inspection is also part of the daily lives of teachers and impacts upon their work. I return to this below.

The national curriculum, statutory testing and the introduction of high-stakes inspections are central to the neoliberal education system's audit culture. Apple (2005) describes the consequence of this:

> The ultimate result of an auditing culture of this kind is not the promised de-centralisation that plays such a significant role rhetorically in most neo-liberal self-understandings, but what seems to be a massive re-centralisation and what is best seen as a process of de-democratisation. (p15)

Because of this 'massive re-centralisation' and control by government through the curriculum, testing and inspection regimes, Headteachers actually have little choice or freedom – or 'democracy' – to lead their schools as they wish (Reay, 1998) and teachers have even less choice or freedom over the content or nature of their work.

2.1.2   The rise of new managerialism

Following ERA88, Headteachers were positioned as leaders and school managers within the neoliberal system, and in a 'political landscape filled with talk of 'turning round' schools and 'delivering excellence' via highly productive 'visions' and leadership 'mission' strategies' (Alexander, 2010:443), they found themselves judged according to their capacity to manage their school and improve its performance against the centralised audit criteria.

In her research into staff relationships in secondary schools, Reay (1998) noted that this new managerial role for Headteachers had consequences for teaching staff and their

work. Effective school leadership was newly defined as successful implementation of government policy, measured as performance in tests and inspections; the teachers interviewed by Reay describe how their Headteachers transferred the pressures that they were under from government, onto the staff, resulting in strained relationships.

Teachers were no longer included in decisions about school-level implementation of policy, in part because the speed of change and the need for quick responses to the market did not allow for consultation, with the consequence that teachers felt disenfranchised, deprofessionalised and 'done to':

> The strategic activity of ordinary teachers has been progressively curtailed over the last decade … prior to ERA[4] teachers had more control and individual autonomy over which of the many teaching tasks to prioritise … ERA has brought changes in the nature of intensification, imposing both a widening, and a concomitant narrowing, of teachers' tasks in which priorities are dictated to teachers rather than by them. (Reay, 1998:189)

Compliance by teachers became valued over innovation, and teachers were judged and compared according to the degree to which they adhered to the Headteacher's priorities and met demands related to centralised audit criteria. Unsurprisingly, Reay reported that levels of resentment among teachers were high.

2.1.3 Performativity

In his influential paper, *The Teacher's Soul and the Terrors of Performativity*, Stephen Ball (2003) adopted the phrase 'performative'[5] to describe this new culture in schools:

> What do I mean by performativity? Performativity is a technology, a culture and a mode of regulation that employs judgements, comparisons and displays as means of incentive, control, attrition and change – based on rewards and sanctions (both material and symbolic). The performances (of individual subjects or organisations) serve as measures of productivity or output, or displays of 'quality', or 'moments' of promotion or inspection. As such they stand for, encapsulate or represent the worth, quality or value of an individual or organisation within a field of judgement. The issue of who controls the field of judgement is crucial. (p216)

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[4] 'ERA' is Reay's abbreviation of Education Reform Act 1988.

[5] The term was originally used by Lyotard (1984) who claimed that in postmodern society efficiency is 'measured according to an input/output ratio' (p88) leading to an emphasis on performance and outputs.

All involved in the marketised education system are concerned with performance in a 'field of judgement': pupils performing in SATs; teachers performing to demonstrate pupil attainment and their compliance with a local field of judgement; and Headteachers demonstrating the effectiveness of their management of schools revealed by the school's position in government-determined national league tables and through gradings in Ofsted inspection reports.

The introduction of a set of Teaching Standards in the 1990s by a newly formed Teacher Training Agency (later to become the Training and Development Agency for Schools, TDA) ensured that 'teaching expertise [became] more narrowly defined' (Alexander, 2010:410) at the national-level. Teachers were (and continue to be) encouraged to apply and develop themselves against the latest centrally agreed standards of how a teacher should act (DfE, 2011b) and these nationally imposed criteria were (and continue to be) used at a local level to judge performance at all career stages.

The professional work of teachers becomes about performing and demonstrating this performance, and this has been especially so since 2013, when Headteachers were instructed to link 'all pay progression to performance' (DfE, 2017b:6). Teachers aim to perform in a way that pleases Headteachers, and Headteachers aim to perform in a way that pleases government ministers.

Teachers enact policies in this performative context and Ball (2003) argues that the emphasis on performance results in teachers making compromises. He describes teachers as 'ethical subjects [who] find their values challenged or displaced by the terrors of performativity' (p216), viewing teachers as (ethical) victims of the (unethical) system. He claims they have no choice but to either leave the profession or compromise their personal beliefs about education and give in to 'the terrors of performativity'. Jeffrey and Woods (1998) describe this conflict between what they saw as the universal (ethical) educational values held by teachers, such as child-centred teaching approaches and formative assessment, and the (unethical) financially-led market values, suggesting that it is extremely hard for teachers to retain a commitment to the former when under pressure to meet the expectations of the latter.

Ball (2003) wrote that performativity demanded that teacher's educational values be abandoned and replaced by a commitment to the new values of accountability and to a

school's 'organisational performance' (p223). Through the process of marketising the system, he suggested that the professional teacher was reimagined:

> A new kind of teacher and new kinds of knowledges are 'called up' by educational reform – a teacher who can maximise performance, who can set aside irrelevant principles, or out-moded social commitments, for whom excellence and improvement are the driving force of their practice. (p223)

Reay (1998) develops this notion of professionalism to include compliance and conformity:

> In 1990s state schooling, being a good teacher has expanded beyond 'being good at teaching' to encompass issues of institutional loyalty and compliance with organisational values … We are seeing the beginning of a shift away from professional towards corporate identities among teachers … Within the new corporatism conformity has an even higher value than before, while dissent is increasingly constructed as disloyalty. (pp185-6)

Good teachers became less individual and more 'corporate' as they strove to meet performative demands. Smyth (2001) suggests this leads to a notion of the 'preferred teacher' which exemplifies the way in which teachers must now act in order to be preferred by whoever is judging them (e.g. their Headteacher, an Ofsted inspector, or themselves). Teachers now have no option but for their professional practices to be inauthentic. I return to interpretations of what it means to be a 'good' teacher later in the chapter.

2.1.4 Surveillance and self-regulation

Reay (1998) observed that Headteachers closely monitor and regulate teachers' work in the school-level field of judgement. She noted that the powerful processes of surveillance that are employed become internalised by teachers, resulting in teachers regulating themselves in order to ensure their compliance and contribution to the overall success of the school. Keddie (2013) adopts the term, 'accountability mechanisms' to describe instruments of performativity through which teachers are monitored and surveilled (e.g. the spreadsheets and trackers through which pupil attainment and progress are monitored, and surveillance activities such as 'learning walks'[6]).

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[6] A 'learning walk' involves someone visiting classrooms to particularly observe and enquire about what learning is taking place. Learning walks are most commonly carried out by a Headteacher and members of the school's governing body.

Like both Ball (2003) and Reay (1998), Perryman (2006) uses a Foucauldian lens which foregrounds issues of discourse and power. In her research into Ofsted inspections and their impact on school life and the work of teachers, she likens the self-regulating impact that surveillance has on teachers during the course of inspection, to the impact of the panopticon on the behaviour of prisoners:

> Panoptic performativity describes a regime in which frequency of inspection and the sense of being perpetually under surveillance leads to teachers performing in ways dictated by the discourse of inspection in order to escape the regime. Lessons are taught to a rigidly prescribed routine, school documentation and policies closely mirror the accepted discourses of school effectiveness and the whole school effort is directed away from education and towards passing inspection. (p148)

Success in this important national field of judgement becomes the central force behind the local field of judgement, and far from schools being exemplars of entrepreneurial freedom in the market, they fabricate in order to conform and comply. 'Panoptic performativity' results in fabricated performances by teachers who self-regulate so to be acceptable whilst under the gaze of Ofsted:

> The fabrications that organisations (and individuals) produce are selections among various possible representations – or versions – of the organisation or person … these selections and choices are not made in a political vacuum. They are informed by the priorities, constraints and climate set by the policy environment. To paraphrase Foucault, fabrications are versions of an organisation (or person) which does not exist – they are not 'outside the truth' but neither do they render simply true or direct accounts – they are produced purposely to 'be accountable'. (Ball, 2001:216)

Particularly at times of inspection, schools and teachers present a version of themselves – informed by the policy environment – that they know will be favourably received by inspectors. And so the paradox exists that inspection data which is supposed to ensure a transparent means of judging and comparing schools and teachers, reflects fabricated performances.

Page (2017) suggests that it is not only at the time of inspection that performance is self-regulated. His concept of 'surveillance as simulation' is helpful for understanding the way in which Ofsted inspections come to permeate school life outside of inspections and impact daily upon teachers' professional work:

It is not enough for head teachers to prepare for future outcomes, they need to ensure their schools are simulating future outcomes … The result is that teaching has become a simulation – not in the general sense of being a rehearsal – but in the sense that the simulation has replaced what the profession once considered real with its notions of autonomy and individual judgement. The traditional, panoptic strategies of surveillance in schools of course affected teaching practice but it was for limited periods, for the week of inspection when teachers would produce fabrications designed to manipulate evaluations. Simulated surveillance, the conjoining of multiple techniques into a surveillant assemblage, has had a far more dramatic impact. (p11)

Teachers' work can now be viewed as a constant 'simulation' of what is required in the field of judgement as determined by their Headteacher and informed by Ofsted. Teachers are no longer autonomous but are valued for their ability to successfully simulate performance all year around. In this way, a school is always ready for judgement and the outcomes of future inspections are known in advance. To the same end, pupil attainment is tracked and monitored throughout a child's school career so that progress is maintained, and results in KS2 SATs are predictable and achieved.

2.1.5   Datafication

Gleeson and Gunter (2001: table 9.1) map ways in which teachers have become 'modernised' since the 1960s, observing that teachers' orientation to children has changed dramatically over this period. They write that before ERA88, teachers had an 'ethical commitment to children' which transformed as the system became marketised, and children became 'customers to be attracted to the school through high learning outcomes'. Finally, with performativity, teachers' orientation to children shifted again, viewing them now as 'objects and targets to be assessed and counted'.

The enumeration of pupils' achievements in national curriculum tests (as well as their attainment and progress across years) contribute to the way in which pupils became viewed as 'objects and targets'. The extraordinary level of data that is gathered by teachers and is used in schools has been described as the 'datafication' of pupils which happens when:

…children are decoded and disassembled into discrete units of data that can be distributed, aggregated, recoded and reassembled through various technical, methodological and graphical techniques. (Williamson, 2014:1)

Bradbury and Roberts-Holmes (2018), exploring the notion of datafication in primary and early-years settings, suggest that this reduction of pupils to 'discrete units of data' hides the complexity of pupils' actual learning. Similarly, Pratt (2016) notes that qualitative descriptions of learning are no longer valued because they cannot be easily enumerated for analysis. Bradbury and Roberts-Holmes (2018) claim that the emphasis on producing data for the purposes of analysis results in teachers necessarily succumbing to particular ways of working. For example, certain curriculum subjects (see the section on mathematics, below) – and ways of working within these – become prioritised because they generate particularly useful data, and teachers become reimagined as data collectors who are tasked to demonstrate very visibly that learning is happening. For datafication to be successful, everyone involved must subscribe to the accuracy of the numbers generated which leaves teachers with little choice because to doubt the data would be to dismiss much of their work. In these ways, producing and analysing data is now central to teachers' professional work.

Data may be about pupils, and it may be shared with them (Alderton and Gifford, 2018), but it is owned by schools (especially those leading the school: the Headteacher and Governors) and teachers as their performance is judged according to the results achieved by their pupils. As Pratt (2016) found, many teachers referred to 'my data' when describing their assessment practices because it is through these 'that teachers' success, or lack of it, is largely defined' (p2). Demonstrating that pupils have made appropriate levels of in-year progress has become a new way of defining successful teaching, and pay reviews now focus upon this data (DfE, 2017b). Pratt (2016) also notes that monitoring and rewarding progress made by pupils in each academic year, normalises competition between teachers within a school. As he says, 'now progress at one stage is a personal responsibility and success simply ups the ante for the next teacher' (pp9-10) who is also expected to demonstrate progress. In this way, teachers' professional work becomes competitive and focused upon maximising demonstrable gains within the year – because this will ensure that they are 'preferred' – as opposed to looking at a wider picture of pupils' learning trajectories across the school.

Fielding and Moss (2011) describe the negative impact of this 'high performance' system on pupils and teachers:

In what we term the 'high performance' model of schooling, the personal is used for the sake of the functional: students are included or excluded, valued or not, primarily on the basis of whether they contribute to the performance of the school. The pressure they and their teachers are put under to raise standards and improve performance marginalises the very educational aspirations that give schooling its justification and its purpose. (p52)

Similarly concerned with the 'justification' and 'purpose' of education, Biesta (2010) notes that in our performative system, 'good' education has become synonymous with adopting processes designed to raise standards (e.g. how schools adopt a triage system to decide where to focus resources across mathematics classrooms (Marks, 2014)), and that discussions about 'good' education no longer address the aims, ends and values of education. This is well exemplified in relation to assessment. Simplistically, there are two types of assessment carried out in primary schools: assessment for learning (AfL) which is carried out informally every day in order to inform teaching; and summative assessment which captures the attainment of a pupil at that moment in time. Both of these are part of teachers' practices but as the demonstration of performance has become a priority, so more summative assessments – often in the form of tests – are carried out. Roberts-Holmes and Bradbury (2016) describe this as 'compliance data' which is time consuming to gather and thus distracts teachers from other aspects of their work. However, generating compliance data has become central to the job.

Biesta (2010) questions the normative validity of such assessment and the resulting data:

This has to do with the question [of] whether we are indeed measuring what we value, or whether we are just measuring what we can easily measure and thus end up valuing what we (can) measure. The rise of a culture of performativity in education – a culture in which means become ends in themselves so that targets and indicators of quality become mistaken for quality itself – has been one of the main drivers of an approach to measurement in which normative validity is being replaced by technical validity. (p13)

The suggestions that we 'end up valuing what we (can) measure', and that we collect compliance data for data's sake, are symptomatic of the view of 'good' education in a performative age. No longer are teachers judged as 'good' because of their relationships with pupils or because of their deep subject knowledge; a judgement of 'good' is made upon pupil data alone.

To this end, it is unsurprising that in research into the practices of Year 6 teachers, preparing pupils for high-stakes (summative) SATs in May – and tracking progress across the year – becomes a particular focus. Researchers (Reay and Wiliam, 1999; M. Brown et al., 2003; Mansell, 2007; Wyse and Torrance, 2009) report that teachers have for many years narrowed the curriculum and changed their pedagogic practices to value only what will appear in assessments in order to prepare pupils and ensure good data in national curriculum tests, a practice which has continued since the introduction of NC2014 (Ehren et al., 2019).

While test results are important to pupils, teachers and schools, these could be considered fabrications as opposed to genuine statements about what a pupil knows. Because the detail of SATs is made clear in advance, teaching in all schools can focus on this and all that is assessed is how well this happens:

> The more specific the Government is about what it is that schools are to achieve, the more likely it is to get it, but the less likely it is to mean anything. (Reay and Wiliam, 1999:353)

2.2 Mathematics in a performative system

Mathematics has become particularly important as a vehicle for accountability. To return to the opening of Gove's statement:

> I want our curriculum changes to provide heads with a clear sense of high expectations in the essential subjects of mathematics, science and English. (Gove, 2012)

Mathematics is described here as an 'essential' subject in which it is important for pupils to succeed. Pais (2013) considers why it is that mathematics is viewed in this way. He begins by describing the characteristics of the subject that make it important such as the way in which it is related to 'the development of mental functions, the utility … for people's lives, its beauty, cultural richness, or the ideals of citizenship' (p16) which broadly mirrors the introduction to the mathematics section of NC2014 (DfE, 2013a). But Pais (2013) also suggests that there are additional reasons – beyond the nature of the subject itself – for it to be important. He claims that socio-political importance is placed on mathematics in a way which does not happen for other subjects: it serves political goals. This includes its use as a form of credit and social selection, as a means of

exclusion, as a mechanism of accountability and as a form of control. He concludes his article with a challenge to the reader:

> I challenge the reader to find a piece of research or a national curriculum where the importance of school mathematics is articulated not in terms of its direct characteristics but in terms of the value it has within the complex universe of socioeconomic relations, a document saying, for example: "mathematics is important because it allows students to accumulate school credit and achieve higher social positions"; or "mathematics is important because it gives credibility to the course"; or even "mathematics is important because it allows reproduction of social inequalities". Apparently, people know this is the case. Nonetheless, it is never stated explicitly in public discourse. "Officially," the importance of mathematics is stated in terms of knowledge and competence. (p16)

Teachers work between these official and unofficial versions of the importance of mathematics and what it is for. As well as the official reasons for studying mathematics as set out in NC2014, teachers also know that results in mathematics are part of key criterion for judgement in both primary and secondary school league tables, and are used for making international comparisons.

2.2.1 Improving standards (1): The National Numeracy Strategy

ERA88 and the introduction of a national curriculum brought clarity over what mathematics to teach, but did not 'transform classroom pedagogy or attitudes to learning mathematics' (Noyes, 2007:54). Since 1988 there have been many initiatives aimed at teachers and designed to improve standards in mathematics across all schools with the potential to impact positively on England's international competitiveness.

A Numeracy Task Force was established in the late 1990s to provide a 'diagnosis of the numeracy problem' (DfEE, 1998a: foreword). The resulting National Numeracy Strategy (NNS) aimed to increase the proportion of Year 6 pupils achieving level four or five (then considered the appropriate standard of performance) in the KS2 SATs by 21% over five years. This was to be done through 'a combination of accountability mechanisms and capacity-building strategies' (Fullan and Earl, 2002:1) involving all 19,000 primary schools. The Department for Education and Employment (DfEE) had invested £51.5 million in the programme by the end of the first year (DfEE, 1998b) for 'high quality resources and intensive training and support to teachers to develop their capacity to deliver quality

teaching in classrooms' (Earl et al., 2002:40). The National Numeracy Strategy was absorbed into the broader Primary National Strategy (PNS) in 2003 which continued to operate nationwide until 2011 (STEM Learning, 2018).

This detailed guidance, and the accompanying nationwide face-to-face training for teachers, although non-statutory, undoubtedly had an impact upon classroom pedagogy (Earl et al., 2002; Pratt, 2004; P. Williams, 2008) with teachers motivated to implement the policy because of school-level pressures to improve results (Earl et al., 2002). M. Brown et al. (2003) suggest that the biggest impact on teachers' practices happened where clear research-informed guidance was given which was different from how they had been working previously (e.g. introducing number lines). An increase in teacher confidence was also reported, but 'in almost no cases have 'deep' changes [to beliefs and practices] taken place' (p668; also Earl et al., 2002).

Standards in national curriculum tests did rise following the introduction of NNS (P. Williams, 2008) although the selection of 1998 as a baseline – a year in which results were depressed – was criticised as it significantly accentuated the actual gains (M. Brown et al., 2003: table ix). There was also a strong suggestion that results were being fabricated as 'increasingly careful test preparation was the salient factor in improvement and the NNS had an insignificant effect' (p669).

The PNS programme ended in 2011 officially so that schools could 'consolidate resources and decision-making at school-level, allowing schools to determine their own needs and to commission appropriate support' (DfE, 2011d:3). Unofficially, 2010 marked the arrival of a new government set on making budget cuts in a move towards austerity, and the PNS was one of the many services closed as part of the 'bonfire of the quangos' (Channel 4 News, 2010).

2.2.2   Improving standards (2): MaST

In 2007, while the PNS was still operational, Sir Peter Williams was commissioned to carry out a review of mathematics teaching in early years' settings and primary schools. As with the Numeracy Task Force, the review's remit was based upon a deficit model and a perceived need to identify approaches to teaching 'that are most effective in helping children to progress in their learning' (P. Williams, 2008:2). Such approaches could then

be widely adopted by the primary teachers who, despite the ongoing implementation of NNS, were positioned as still not good enough.

Recognising the challenge of providing support to all primary teachers in England, P. Williams (2008) proposed the Mathematics Specialist Teacher (MaST) programme to ensure that each primary school would have access to a mathematics specialist who would engage in masters' level study. This programme encouraged participants to evaluate the needs of their setting and develop the 'pedagogical skill … required to promote effective learning' (p7) among staff in their own schools. This was a longer-term, less prescriptive view of change and development, and empowered participants to think deeply about mathematics pedagogy and theory in relation to their setting as opposed to simply training them to implement a set of practices (Barnes et al., 2013). It was also cheaper than NNS costing just £21.2 million for two cohorts over a four year period (Walker et al., 2013).

Although the programme was popular among the Local Authority (LA) consultants supporting it and the participating teachers (Walker et al., 2013), leading such change was not always straightforward. In their research into the experiences of participants on the MaST course, Barnes et al. (2013) found that accountability pressures in schools relating to SATs results, target setting and inspections 'regulate practices and stifle opportunities for pedagogic change' (p39). MaST is described as an 'ideal' programme (p49) akin to what Watson and Geest (2005) describe as 'principled teaching for deep progress' (p209), and as such was at odds with the 'instrumental' (Skemp, 1976) approaches widely adopted in schools. This was particularly problematic when success continued to be judged according to SATs results and teachers were under pressure to demonstrate short-term gains in pupil attainment and progress as before. That said, the programme was transformational for participants and achieved the deep change in teacher beliefs and practices that the NNS did not (Walker et al., 2013).

While it is still possible to take the MaST course, the central funding for this was much reduced in 2011 and the vision for all schools to have access to a MaST teacher was never realised.

2.2.3   Improving standards (3): 'Mastery'

Current initiatives to improve the practices of primary mathematics teachers are centred on reproducing the 'mastery' practices of the high performing jurisdictions of the Far East. The programme is made up of four parts which are coordinated by the National Centre for Excellence in the Teaching of Mathematics (NCETM)[7]: a China-England exchange programme; the provision of freely available 'mastery' materials on the NCETM website (NCETM, 2017b); the training of 'mastery' specialists and the sharing of expertise through regional Maths Hubs; and the adoption of Singaporean textbooks following a 'mastery' approach. Funding is modest in comparison to NNS with £41 million pledged by the government in 2016 for the next four years (DfE, 2016; NCETM, 2016).

	Shanghai	England
Teaching approach and purposes	Whole-class interactive teaching, brisk tempo to cover multiple small steps, focus on questioning, mini-plenaries, teaching for variation, mathematical talk an instructional priority, emphasis on correct mathematical language.	Explanation through teacher transmission (quick pace) plus individual group practice (slower pace), start from objectives, plenary at end of lesson if at all.
Lesson content and purposes	Focus on specific content in a lesson including all small steps, mastery before moving on, start from mathematical content or problem, teaching for conceptual understanding and procedural fluency. Differentiation through extension/ deepening rather than acceleration, the whole class progresses together.	Maximise content covered in a lesson, differentiated learning objectives, spiral curriculum, meeting objectives to progress through levels. Differentiated learning objectives and activities, low attaining pupils progress more slowly, higher attaining pupils accelerated.
Materials, models and resources	Textbooks that are aligned with curriculum support teaching with variation, variety of mathematical models and visual images used to support teaching through variation by careful choice of examples and practice questions.	Variety of resources and materials, often worksheets, use of manipulables with younger pupils, usually one model or visual representation used per topic/concept.

Figure 1: Differences in classroom practices (taken from Boylan et al. 2016: table 4).

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[7] NCETM is funded by the Department for Education but its guidance is non-statutory. According to its website, the first stated aim of the centre is to 'raise levels of achievement in maths' (NCETM, no date).

One aspect of the 'mastery' programme, the China-England teacher exchange, is described as a 'highly innovative programme that aims to foster a radical shift in primary mathematics teaching … by learning from Shanghai mathematics education' (Boylan et al., 2016:7). The programme involves primary school teachers and Headteachers from England visiting schools in Shanghai, and then teachers from Shanghai returning to schools in England and teaching classes using 'mastery' approaches. The involvement of Headteachers is designed to ensure support for 'mastery' at school-level as those involved in the exchange are expected to adopt Shanghai-informed pedagogy and to also work across their own school and with others locally to take on the new approaches. The standard classroom practices in Shanghai and English classrooms are set out in Figure 1, illustrating the scope of the project. Notably, teachers in Shanghai aim to develop the conceptual understanding of all pupils by building understanding slowly through small steps of content, and do so in mixed-attainment classes. Boylan et al. (2016) noted that because of cultural and structural differences between England and Shanghai, most schools involved in the exchange were adapting rather than adopting the 'mastery' practices indiscriminately. In other words, the Shanghai approach was being mediated at a school level and decisions about how this would look in schools were taken by Headteachers in light of personnel, existing practices and local priorities.

Teachers involved in the exchange described the impact of adopting a 'mastery' approach in terms of pupils' knowledge and understanding of mathematics, their levels of talk and engagement in lessons, and their general attitudes and confidence in the subject. They were however less likely to claim that the new approaches had raised attainment (Boylan et al., 2017: table 29) which might account for the reported lack of uptake in Year 5 and Year 6 classes. The researchers note that especially where there was a 'track record of high pupil attainment' prior to the exchange, teachers 'were reluctant to change their approaches as they feared that attainment could dip' (Boylan et al., 2017:60). Duckworth et al. (2015) also reported that performance pressures (especially to be positioned highly in league tables) were cited as a barrier to adopting 'mastery' pedagogy:

> A school has to ensure that it paints a healthy picture of itself. This being the case, teachers may feel forced to teach in whichever way is best suited for getting results: a 'quick fix' may well over-ride a slow approach to deep learning. (Duckworth et al., 2015:35)

Equating 'mastery' pedagogy with 'a slow approach to deep learning' (see also Boylan and Townsend, 2018), the researchers are sympathetic to the predicament of Year 6 teachers and their task of 'getting results'.

2.3 Understanding the role of context in interpretations and enactments of policy

Context is sometimes treated purely as background information by organisations such as Ofsted who, for example, note the size of a school and other features such as the number of pupils with English as an additional language but do not take these factors into account when making their judgements. However, a research team including Stephen Ball and Annette Braun explored the impact of context on policy enactment in schools, describing their work as 'taking context seriously' (Braun et al., 2011:585). Focusing particularly upon the factors which cause between-school differences in enactment, the authors describe context as:

> … an 'active' force, it is not just a backdrop against which schools have to operate, it initiates dynamic policy processes and choices and is continuously constructed and developed both from within and externally in relation to policy imperatives and expectations. (p590)

Local context influences choices and opportunities, it influences enactments of policy and should therefore be taken seriously. Braun et al. (2011) constructed a framework to describe and better understand the various contexts which influenced policy enactment in the secondary schools that they studied. The four dimensions of their framework are:

> *External* contexts (e.g. degree and quality of local authority support, pressures and expectations from broader policy context, such as Ofsted ratings, league table positions, legal requirements and responsibilities).
>
> *Situated* contexts (such as locale, school histories, intakes and settings).
>
> *Material* contexts (e.g. staffing, budget, buildings, technology and infrastructure).
>
> *Professional* contexts (such as values, teacher commitments and experiences, and 'policy management' in schools). (p588)

I now look at each of these in turn and where possible, relate the contextual dimensions to enactments of mathematics policy.

2.3.1   External contexts

Braun et al. (2011) interviewed staff at four secondary schools, noting that external factors such as 'league table positions, both locally and nationally, form[ed] a constant backdrop to policy accounts within the schools' (p594). Other researchers agree that as a direct consequence of the marketised system, teachers and school leaders prioritise good results, and mediations of policy at school-level are in the context of the school's performance against 'external' measures (Lewin and Solomon, 2013; Solomon and Lewin, 2015).

Poor performance in national curriculum tests or a low rating from Ofsted triggers interventions, higher levels of external scrutiny and a short time between inspections (Perryman, 2006). On the other hand, high performance in tests and inspections leads to pressure on Headteachers to maintain standards (Keddie, 2013; Alderton and Gifford, 2018). For example, in research by Keddie (2013), the Headteacher of a secondary school ranked as 'outstanding' by Ofsted, displayed pupil data in the staff room as a constant reminder to staff of the performance levels that they were expected to achieve in order to maintain this status and keep Ofsted from the door.

The importance of performance in mathematics has an impact upon school-level approaches to the subject. Extensive research on mathematics learning highlights the importance of developing deep conceptual understanding (Skemp, 1976; Gray and Tall, 1994; Askew et al., 1997). Despite this, since the introduction of NC2014, there has been 'a shift in emphasis from conceptual knowledge towards procedural knowledge' and 'instrumental rather than relational understanding' (Ehren et al., 2019:29). Additionally, Year 6 teachers have narrowed the curriculum and made decisions to prioritise what would gain pupils more marks in the SATs:

> Given the limited instructional time to prepare pupils for the test, they seem to focus on calculations to ensure pupils pass the test, where some teachers now seem to ignore other, less frequently tested, content domains such as shape, algebra or geometry, or the most difficult types of (previously level 6) skills. (p29)

Despite teachers in England being granted freedom to choose how to teach the national curriculum, the professional work of Year 6 teachers is informed by their role in generating the data which defines their school performance (Reay and Wiliam, 1999;

Wyse and Torrance, 2009; Boaler, 2014; Marks, 2014; Alderton and Gifford, 2018). The implications of failure for schools, teachers and pupils are too awful to contemplate.

Grouping pupils for mathematics classes has become an acceptable approach to tackling the performance agenda (Hallam and Parsons, 2013). In many larger primary schools, pupils are arranged in 'sets', or as is more common in smaller primary schools, sat in 'ability groups' with each group of pupils set work at a different level. Marks (2014) coins the phrase 'educational triage' to describe this process:

> Educational triage is a process of goods distribution whereby a number of linked practices are enacted to achieve a specified aim, usually related to maximising attainment outcomes. (p38)

Marks (2014) found that the practices associated with triage included both an initial grouping of pupils by 'ability' and then a process of assigning additional resources to the group where pupils were on the cusp of achieving national expectations. Her research revealed that these practices did increase the number of pupils achieving at expected levels overall however this was at the expense of the lower attaining pupils who were effectively 'written off': these pupils received a lesser mathematical learning experience and did not progress at the same rate as their counterparts. The Deputy Headteacher of the school in Marks' research describes the school-wide adoption of triage as part of how the school plays 'the accountability game' (p50), suggesting that they have no choice but to strategically organise learning this way because school results in mathematics matter more than the experiences of individual pupils who are commodified or reduced to 'discrete units of data' (Williamson, 2014:1).

2.3.2 Situated contexts

Braun et al. (2011) make a strong case for viewing what they call a school's 'situational context' as having a substantial impact on how policies are enacted within its walls:

> Situated factors refer to those aspects of context that are historically and locationally linked to the school, such as a school's setting, its history and intake. (p588)

Other situated characteristics used in analyses of school test data (DfE, 2017c) are region of England, gender, ethnicity or birth month of pupils, and measurements of deprivation. These contexts can be cited as an excuse for a school's poor performance or a reason for its successes (Thrupp and Lupton, 2006).

Braun et al. (2011) found that 'students like ours' was a popular phrase among the secondary school teachers interviewed. For example, in the case of George Eliot school, the predominantly South Asian intake was described as influencing the school's specialism (of business and enterprise), the popularity of cricket, and an intervention to ensure that female students become more involved in lessons. Pupil groups became stereotyped – for example characterising all female Asian students as timid – and these stereotypes in turn influenced school priorities and policy enactments. The researchers conclude that 'schools can become defined by their intake, but they also define themselves by it' (p589).

For mathematics, schools may label groups of pupils as described above (Hallam and Parsons, 2013; Marks, 2014). 'Students like ours' might be described as having particular strengths or facing particular barriers to mathematical success. In addition, 'cultural beliefs have an influence on the value parents place on their children's education' (Kleanthous and Williams, 2010:130) and this, along with the attitude and engagement of 'parents like ours' more generally in their child's mathematics education has an impact on pupil outcomes (Skyrme et al., 2014). National Numeracy (2018) suggest that it has become 'culturally acceptable in the UK to be negative about maths' and this negativity towards the subject might well be an attitude shared by 'parents like ours'.

2.3.3 Material contexts

> Material context refers to the 'physical' aspects of a school: buildings and budgets, but also to levels of staffing, available technologies and surrounding infrastructure. (Braun et al., 2011:592)

Material context is closely related to the situated context as pupils eligible for 'pupil premium' funding – additional funds available where pupils meet certain criteria related to disadvantage (DfE, 2017a) – results in schools in deprived areas receiving more money per pupil than those in more affluent parts of the country. A senior leader interviewed by Braun et al. (2011) described their frustration that schools in a neighbouring authority had a higher level of income enabling them to spend differently and have different school-level priorities. In terms of mathematics, school income level may have an impact on whether a school adopts a mathematics scheme or textbooks, and on the amount of practical mathematics equipment purchased.

2.3.4   Professional contexts

Braun et al. (2011) introduce professional contexts as a broad dimension covering 'teachers' values and commitments and experiences and policy management within schools' (p591). This particular element of local context is important in considering how school-level mediations of policy are formulated to match an institution's ethos and to be palatable to a staff team.

The ideologies and beliefs of a Headteacher form an important part of school-level interpretations of policy and this can lead Headteachers to appoint teachers who share their values. This is an extension of the 'preferred teacher' (Smyth, 2001) who whilst meeting performative demands also shares the beliefs and goals of the Headteacher. Where the values of a teacher are in contrast to the agenda of a Headteacher, or where national policies do not sit comfortably with school ethos, there are 'potential dissonances' because 'there are strong interdependencies between professional values, intake, and what and how policies are pursued' (Braun et al., 2011:591). This may account for the muted dissent noted by Reay (1998) in her interviews with secondary school teachers which she claimed 'suggests a grudging rather than a ready compliance [with policies] underlain with resentments' (p187).

In their recent evaluation of the China-England exchange, Boylan et al. (2017) found that 'the most frequently mentioned barriers to implementation [of Shanghai informed pedagogy] were teachers' beliefs, weakness in subject knowledge, and/or low confidence levels' (p13). Adopting a new way of working is more successful when the ideology behind the policy is shared and teachers have the skills to implement it.

The importance of shared ideology was highlighted in research by Marks (2013). She looked at the practices in a school that moved away from grouping pupils for mathematics and instead shifted to a policy of teaching the subject in mixed-ability classes. Her close scrutiny revealed that despite the school-wide rhetoric of integration and mixed-ability, teachers and pupils continued to demonstrate high levels of 'fixed-ability' thinking and practices corresponding with the previous approach.

2.4 Understanding the role of teachers' personal contexts in their interpretations and enactments of policy

As noted above, Ball (2003) argues that teachers post-ERA88 are compromised, and that their values, commitments and experiences become irrelevant in the face of strong discourses of performativity to which they have no option but to succumb. He argues there is no space for teacher agency and appears to suggest that all teachers blindly – and identically – enact policies as directed by government or by their Headteachers. Describing teaching post-ERA88 as simulated (Page, 2017) is to suggest that teachers are without values, skills or personality; that they are without autonomy.

However, in his later work as part of the Policy Enactment project, Ball and his collaborators describe teachers as 'both an agent [sic] and a subject of policy enactments' (Braun et al., 2011:586). As the subject of policy, policies are often designed in order to change what teachers do. However, as an agent of policy, teachers are the individuals responsible for enacting the policies that are set at a national level and which are then mediated in local school-level contexts as described above. Thus, teachers determine how national policies (designed to change them) are enacted on the ground. These relationships are represented graphically in Figure 2.

national context
policy directive

local context (school-level)			
external context	situated context	material context	professional context

personal context (teacher-level)	
experiences and skills	beliefs and values
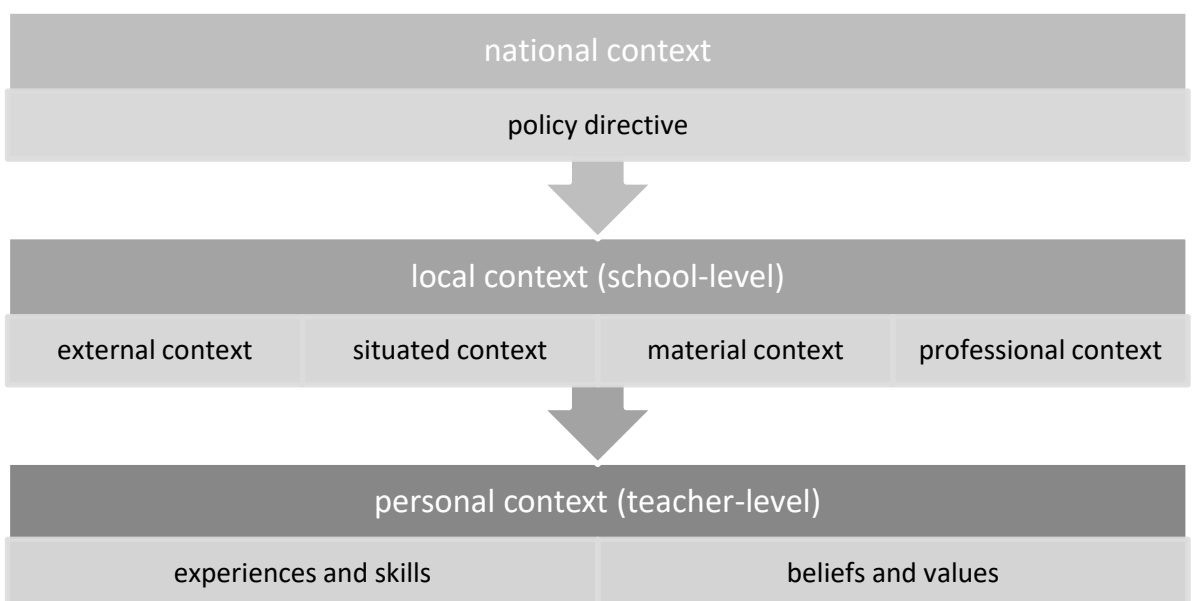
Figure 2: Three levels of context (building on Braun et al., 2011).

In their ongoing work on policy enactments in secondary schools, the same team (Maguire et al., 2015) adopted Colebatch's notion that 'where you stand depends on where you sit' (Colebatch, 2006) to explain the variations in how individual teachers enacted policy. Building on their argument that schools are complex and varied, the researchers found that teachers too are not a homogeneous group, and that individual interpretations and enactments of policy were contingent upon 'the perspectives, values and positions of different types of policy actors' (Maguire et al., 2015:487).

Other researchers too have found evidence that teachers do not blindly and uniformly adopt policy. For example, Sikes (2001) claims that a policy is 'always mediated through and by the biographies of the teachers (and pupils) it concerns' (p87). In her research into teacher narratives of policy enactment, she concludes by arguing for a better understanding of teachers' personal lives – for example, as a parent – as these impact on both their professional work and relationships, and how they are 'differently positioned' within schools (p97). She writes that:

> Teachers are people who happen to be teachers: individuals whose perceptions and experiences are influenced by who and what they are, rather than a homogeneous group. (p97)

As well as teachers' personal lives impacting on their work, work histories also have an impact. Ball and his colleagues found that teachers' individual enactments of policy *were* different because:

> They are at different points in their careers, with different amounts of accumulated experience. They have different amounts and kinds of responsibility, different aspirations and competences. (Ball et al., 2011:636)

For example, in later work they cite the case of a teacher with specialist knowledge of counselling who enacted whole-school policies on behaviour management differently from her colleagues (Maguire et al., 2015).

Day (2012) suggests that when facing contradictions between policy demands and their values, teachers are compelled to find a way to carry out their professional work and 'sustain a healthy state of wellbeing' (p17). He found 'evidence … of teachers who remain skilful, knowledgeable, committed, and resilient' (p7) despite working under surveillance and the pressures to be accountable. Alderton and Gifford (2018) more recently reported that teachers in their research located 'fault lines' (Davies, 2005) between policies and

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official discourses in which they could exercise their professional judgements and take back some of their professional freedom. Teachers can thus meet the visible demands of a performative system whilst managing to retain a degree of professional autonomy.

Teachers' experiences and skills, and their beliefs and values (where they sit) – elements making up what I term their personal contexts – are unique and have an impact on their enactments of policy (where they stand). I examine these firstly in relation to mathematics teaching and then go on to look at different interpretations of what it means to be The Good Teacher.

2.4.1   Personal context and mathematics teaching

Personal context influences both how teachers enact mathematics policy and also how they are viewed by others. As reported by Sikes (2001), certain professional 'perceptions and experiences' result in teachers being 'differently positioned because of who and what they are' (p97), and as described above, some teachers become 'preferred' over others (Smyth, 2001) because of their experiences and skills, or because they hold certain beliefs and values.

2.4.1.1   Experience and skills

How teachers enact mathematics policies may be influenced by their 'accumulated experience' (Ball et al., 2011:636) as a teacher of mathematics. For example, teachers who have taught for longer may have witnessed previous policy changes and may remember the principles and practices associated with the NNS and PNS, and the expectations of previous national curricula. They may have taught mathematics using different schemes and resources, or to classes which were mixed-age or in a setting where there was regular scrutiny by Ofsted. They may have acquired skills of working with particular apparatus or a specific programme, or of supporting children with an identified need. They may have a track record of achieving good results (Walls, 2008).

Enactments may also be informed by professional development experiences which have enhanced teachers' knowledge of mathematics teaching. For example, of the 41 China-England exchange schools surveyed by Boylan et al. (2017), 34 described 'teachers' subject and pedagogic subject knowledge' (p62, table 28) as having improved as a result of the programme. Teachers who have experienced this exchange and whose

understanding of mathematics teaching has been changed, are highly likely to approach teaching mathematics differently from others who did not have the same opportunity.

Barnes et al. (2013) adopt McNamara and Corbin's (2001) notion of 'warranting' in their research into participants' experiences of the MaST programme, which they argue provided participants with convincing language to articulate a warrant for their changed practices. In some settings, the experience of MaST appeared to grant participants permission to take individual professional judgements. For many, their MaST designation afforded them an expert status and provided them with a warrant to attempt to influence the practices of others in their school.

2.4.1.2   Beliefs and values

In researching effective numeracy teachers, Askew et al. (1997) found that teachers had orientations towards connectionist, transmissionist or discovery approaches to teaching and 'many combined several characteristics of two or more orientations' (p28) reinforcing the idea that teachers' values about teaching mathematics can be multiple and contradictory. J. Williams' (2011) research on the identities of secondary mathematics teachers confirmed that teachers' beliefs may be multiple, the research subjects described their teaching in various ways including 'old-fashioned', 'connectionist', 'kill 'em with worksheets', 'practice of tricks' and 'fun'.

Teachers' beliefs and values about how mathematics should be taught may be instilled through professional development experiences. For example, the MaST and 'mastery' programmes in different ways promote teaching so that pupils develop deep understanding of mathematics, what Skemp (1976) would characterise as a 'relational' approach. He contrasts this with what he terms 'instrumental' approaches to mathematics, writing that 'if what is wanted is a page of right answers, instrumental mathematics can provide this more quickly and easily' (p22). In order to illustrate what he means by 'instrumental mathematics', Skemp provides an example from a textbook on how to multiply fractions (which incidentally is one of the new expectations in NC2014):

> To multiply a fraction by a fraction, multiply the two numerators together to make the numerator of the product, and the two denominators to make its denominator.

> E.g. $\frac{2}{3}$ of $\frac{4}{5} = \frac{2 \times 4}{3 \times 5} = \frac{8}{15}$ $\frac{3}{5} \times \frac{10}{13} = \frac{30}{65} = \frac{6}{13}$ (Skemp, 1976:21)

An instrumental method such as this achieves a correct answer when correctly memorised and applied but studies have found that pupils frequently misapply half-learned rules and reach incorrect answers (Kerslake, 1986; Lamon, 2007).

2.4.2 Personal context and being a 'good' teacher

In this research I assume that teachers strive to do the best they can in the performative system, to endeavour to be 'good'. In order to explore this idea further, I draw on the theorising of Moore (2004) who writes about three dominant discourses of The Good Teacher which he encourages his readers to both critique and to adopt 'in concert with one another' (p8): The Good Teacher as 'charismatic subject', as 'competent craftsperson' and as 'reflective practitioner'. I look at each in turn below.

2.4.2.1 The Good Teacher as charismatic subject

Moore's 'charismatic subject' discourse supports the idea that teachers are born rather than made:

> Within the terms of this discourse the key to good teaching is conceived as having less to do with education and training, and more to do with the inherent or intrinsic qualities of character or personality of the teacher, typically coupled with a deeply 'caring' orientation aimed very specifically at 'making a difference' to pupils' lives. (Moore, 2004:4-5)

Britzman (2003) – in her critical ethnography of learning to teach – suggests that this way of theorising The Good Teacher is widely available because we each have an 'educational biography' (p27) from our experience as a pupil. She has calculated that by the time a child leaves school, they have been able to observe teachers at close quarters for up to 13,000 hours, and it is therefore 'taken for granted that we all know what a teacher is and does' (p27). Our positive personal experiences contribute to our knowledge of what The Good Teacher *is*, while our negative personal experiences help us to understand what The Good Teacher *is not*.

A further way in which we come to understand teachers as 'charismatic subjects' is through our consumption of portrayals of teachers in books and on screen. According to Dalton (1995) and Dalton and Linder (2008), films, television shows and works of fiction emphasise The Good Teacher as 'charismatic subject':

> The defining characteristics of cinema's Good Teachers are as follows:
> they are outsiders of one type or another; they become involved with

their students on a personal level; they learn important lessons from their students; they often have problems with administrators; they personalise the curriculum; and, many of them have a ready sense of humour, especially the males. (Dalton and Linder, 2008:9)

In *Matilda*, Roald Dahl's (2016) children's book (originally published in 1988 and later turned into both a film and stage musical), he presents a strong example of a binary between The Good Teacher and The Bad Teacher, where the presence of one accentuates the qualities of the other. Analysed using Dalton and Linder's criteria (2008), Miss Honey embodies the symbolic figure of The Good Teacher because she: is an outsider living a very poor and secret existence outside of school; becomes personally involved with Matilda – a gifted pupil – to the extent that Matilda is the only one to know the extent and cause of Miss Honey's poverty; is empowered by the example set by Matilda (this is nowhere more apparent than when at the end of the story she faces up to Miss Trunchbull, the school Headmistress, and embodiment of The Bad Teacher to Miss Honey's Good); personalises Matilda's curriculum; and most importantly she is kind to all of the pupils. The contrast between the sheer goodness of Miss Honey and the nastiness of Miss Trunchbull serves to emphasise the degree to which Miss Honey embodies the 'charismatic discourse' of The Good Teacher. We understand the figure through illustrations of what it *is* as well as what it *isn't*.

2.4.2.2   The Good Teacher as competent craftsperson

Moore (2004) introduces the idea of The Good Teacher as a 'competent craftsperson' who achieves good outcomes with pupils 'through the application and development of identified skills of their own' (p4). Throughout their careers, teachers are assessed against a set of Teaching Standards (DfE, 2011b) which are used to judge whether they qualify as a teacher, and later whether or not they receive a pay rise. As described above, in England's performative system, these provide a mechanism for surveillance and self-regulation. At other times, alternative 'accountability mechanisms' (Keddie, 2013) may be adopted. For example, during an Ofsted inspection, 'grade descriptors for the quality of teaching, learning and assessment' (Ofsted, 2016:47-8) are used, and these may also be adopted at other times as a form of 'simulated surveillance' (Page, 2017:11). The 'competent craftsperson' is concerned with meeting whatever criteria they are to be judged against as this is how s/he knows they are doing a good job.

While the Teaching Standards (DfE, 2011b) and Ofsted (2016) list criteria associated with being The Good Teacher, subject-specific criteria are also available from other sources. For example, the Knowledge Quartet (Rowland et al., 2005) outlines four aspects of working as a successful mathematics teacher and three of these – foundation, connection and transformation – could be used as 'identified skills' of planning and teaching mathematical concepts against which to assess a teacher's performance in the mathematics classroom.

2.4.2.3   The Good Teacher as reflective practitioner

Moore's 'reflective practitioner' discourse eschews 'the notion that teaching is reducible to discrete and finite lists of skills and practices' and focuses instead on 'the importance of informed *reflection* on what one does in the classroom' (2004:4). Moore suggests that this discourse has become marginalised by that of The Good Teacher as 'competent craftsperson'.

Teachers regularly reflect – often at the end of lessons – on their teaching and on pupil learning (as set out in the Teaching Standards) and a more advanced version of this practice is reflection *in* lessons, or reflection *in* action. Reflection in action is about thinking on one's feet in the messiness of the classroom; the in-the-moment reflections which result in a teacher making on-the-spot decisions to act in one way over another.

In relation to mathematics teaching, the fourth element of the Knowledge Quartet – contingency – encapsulates the challenge of reflection *in* lessons, especially when lessons do not go as expected. Contingency:

> …concerns classroom events that are almost impossible to plan for. In common-place language it is the ability to 'think on one's feet': it is about *contingent action*. The two constituent components of this category that arise from the data are the readiness to respond to children's ideas and a consequent preparedness, when appropriate, to deviate from an agenda set out when the lesson was prepared.
> (Rowland et al., 2005:263)

An unanticipated moment could be welcomed and skilfully incorporated into the lesson or it could be considered deviant from the expected lesson plan and ignored by the teacher. Clark-Wilson and Noss (2015) suggest that most teachers – especially novices – consider such unplanned-for moments to be 'negative … unwelcomed' (p98). Mason

(2015) describes how, unlike a novice, an expert teacher is prepared beyond writing a lesson plan because they have:

> …access to a repertoire of pedagogic strategies and didactic tactics informed by a deep appreciation and comprehension of the topic, of pedagogy, of psychology, and of sociology. (p110)

He goes on to describe the importance of this well-rehearsed (and well-informed) response repertoire in ensuring that, when unexpected events occur, the actions of the teacher are deliberate – the result of reflection *in* action – and not simply a habitual reaction:

> Preparation is done by enriching and developing a repertoire of actions or practices, embedded in personal experiences, that can help bring those actions 'to mind'. Preparation makes it possible to work at noticing opportunities to act freshly, to participate in a moment of choice, before reactions and habits kick in. (p123)

The ability to respond and not react when unexpected events occur, is at the heart of the 'reflective practitioner' discourse and distinguishes expert teachers from others. I consider this form of reflective practice – reflection *in* lessons – as beyond the novice teacher who is busy trying to meet criteria and demonstrate competence. The Good Teacher as 'reflective practitioner' might be introduced early on in a teacher's career but it might only be much later that this can be fully understood or achieved.

2.5 Research questions (1)

In this chapter, I have drawn together literature to build a better understanding of the English education system and of mathematics within it, and have also considered the role of context in teachers' enactments of policy. The local, school-level context – combining, external, situated, material and professional – has an influence on how national policies are interpreted within schools and enacted by teachers, but more influential is what I have termed their personal context. A teacher's personal context is made up of their experiences and skills, and their beliefs and values about education, which contribute to how they enact policy and how they interpret what it means to do a 'good' job in their role.

As stated above, my interest in this research is to better understand the work of Year 6 teachers as they enact new mathematics policy as part of the introduction of NC2014. As

Year 6 teachers work at the sharp end of primary school accountability, I am interested to understand how the accompanying pressures particularly impact on how they talk about themselves as doing a 'good' job. This leads to my first research question:

Research Question 1: How do Year 6 teachers narrate themselves as 'good' in the context of England's high stakes accountability system?

From this question, I am drawn to theory which provides me with a framework for understanding the stories of teachers. I seek an approach which facilitates close scrutiny of teachers' narratives and provides me with a language to describe: how their personal context (made up of their experiences and skills, and their beliefs and values) informs their work as a Year 6 teacher; and how they take up and reject discourses of what it means to be a 'good' teacher in the context of teaching Year 6 mathematics. In the next chapter, I introduce the theoretical frameworks that I have chosen to address my first research question.

3. Theory

In this chapter, I outline the theoretical frameworks which enable me to describe and interpret the stories that Year 6 teachers tell me about what it is like to work at the sharp end of England's high stakes accountability system, and provide theoretical tools to understand context.

The social theory established by Holland, Lachicotte, Skinner and Cain (1998) in *Identity and agency in cultural worlds*, describes identity as situated in cultural or 'figured' worlds. This leads me to a theorising of teacher identity which is situated in the context of their personal histories, schools and the broader performative English education system. I refer to this as *Figured Worlds* theory.

I begin by outlining the concept of figured worlds and the idea that these are populated by certain characters or figures, moving on to explore how power and status lead people to be positioned differently in such worlds. Personal context is theorised as 'history-in-person', an important element of why people act or speak as they do, and central to their 'identity in practice'. Like Holland et al., I draw on the writings of Bakhtin (1981; 1986; 1990) and his major commentators (Morris, 1994; Holquist, 2002; Renfrew, 2015), as well as on the work of researchers who apply Holland et al. and Bakhtin's work (van Enk, 2009; Matusov and von Duyke, 2010; J. Williams, 2011; Solomon, 2012; Braathe and Solomon, 2015; Hill et al., 2015; Solomon et al., 2016), to theorise self-other relations and how individuals author themselves differently, including how they address others and orchestrate discourses. Finally, Bakhtin's work on dialogism is particularly helpful for understanding the dynamics of research interviews between myself and teachers with whom I have some shared history from my work as an educational consultant.

3.1 Figured worlds, symbolic figures and standard plots

Already in this thesis, I have referred to the national and local contexts in which Year 6 teachers work. Holland et al. (1998) use the phrase 'figured world' to describe the significant values and acts of such contexts, and the characters who populate them:

By "figured world," then, we mean a socially and culturally constructed realm of interpretation in which particular characters and actors are recognised, significance is assigned to certain acts, and particular outcomes are valued over others. Each is a simplified world populated by a set of agents (in the world of romance: attractive women, boyfriends, lovers, fiancés) who engage in a limited range of meaningful acts or changes of state (flirting with, falling in love with, dumping, having sex with) as moved by a specific set of forces (attractiveness, love, lust). (p52)

From this perspective, it is clear that teachers' narratives about their work are provided in the context of: the figures that populate the world; the normalised acts that are valued over others; and the forces or discourses (voices) that are present. 'Figures' or 'a set of agents' relates to the presence of more than the actual on the ground people. These figures can also be symbolic and as such are akin to an archetype which may be in some way ideal. Holland et al.'s example of the 'symbolic' figure of 'the good woman' in Naudada – and the normalised behaviours or standard plot that she must follow – is particularly useful for illustrating this aspect of the theory. In Naudadan society, the life course of 'the good woman' was well established:

> Women in Naudada were interpreted and evaluated against this narrativised world with its ideal woman and her life course. Those who deviated from the life path of the good woman were judged to be aberrant and problematic in some way. Women who withheld their labour from domestic and agricultural tasks, who gossiped about their husbands' shortcomings, committed adultery, contradicted their mothers-in-law, did not give birth to sons, or were widowed were the subjects of gossip. Good women laboured for the benefit of their households. Good women never talked unnecessarily or wandered about to malinger, gossip, or flirt. (p217)

The narratives of women from Naudada are told in relation to this widely understood symbolic figure of 'the good woman' who follows an approved 'life course' in which she gives birth to sons and dies before her husband. In any figured world, stories are told in relation to such symbolic figures and their accompanying normalised behaviours or 'standard plots':

> "Narrativized" and "dramatized" convey the idea that many of the elements of a world relate to one another in the form of a story or drama, a "standard plot" against which narratives of unusual events are told. (p53)

The standard plot that 'the good woman' in Naudada follows across her life defines the actions that are valued in Naudadan society. Holland et al. (1998) suggest that while 'the good woman' is very much an ideal figure in Naudada, not all symbolic figures are desirable. Introducing another figured world, this time the figured world of race-relations, the authors suggest that there is no universal agreement of what is ideal, rather, in this world there are:

> … heroes and villains—Martin Luther King Jr. and Orville Faubus, Malcolm X and Lyndon Johnson, Stokely Carmichael and "Bull" Connor … But who is villain and who is hero? What is the significance of these events? The accent, tone, and value of figure and scene vary according to the positions of the persons one asks. (p314, footnote 12)

That people draw on symbolic figures in their narratives and have different perspectives on these is relevant for this research. As described in section 2.4.2, Moore (2004) theorised three versions of the symbolic figure of The Good Teacher which encapsulate different discourses about what education is for and what teachers should be and how they should act. As in the figured world of race-relations, I anticipate that different teachers will favour different versions of The Good Teacher 'according to the positions' that they occupy, and that there may also be locally established symbolic figures with which they interact in their narratives. As Holland et al. (1998:51) describe, a figured world is populated by 'figures, characters, and types who … have styles of interacting within, distinguishable perspectives on, and orientations toward it'. This is illustrated in J. Williams' (2011) research into the agency and professional identity of secondary school mathematics teachers. In the narratives of his participants, John and Sally, J. Williams found references to figures in the form of actual teachers from their past who come to symbolise ways of being as a teacher. For example, John describes his childhood mathematics tutor, recast by J. Williams as 'a figure of a motivational teacher', and a secondary school teacher who becomes a figure of 'a traditional teacher'. Thus, John and Sally 'position and self-author themselves as different kinds of teachers in relation to these symbolic others' (J. Williams, 2011:140).

Holland et al. (1998:49) suggest that 'people have the propensity to be drawn to, recruited for, and formed in these worlds'. Teachers may be drawn to work in certain schools or in certain year groups, and those already within schools or year groups may recruit teachers who they feel will fit in.

Certain 'subject positions' are available to new recruits to a figured world, and individuals adopt these differently through a process of 'improvisation':

> Improvisations are the sort of impromptu actions that occur when our past, brought to the present as *habitus,* meets with a particular combination of circumstances and conditions for which we have no set response. (pp17-18)

Improvisations are not without constraints and the idea of 'positionality' helps us to make sense of the way in which power impacts upon improvisations and interactions between people in figured worlds.

3.2   Positionality

> Positional identities have to do with the day-to-day and on-the-ground relations of power, deference and entitlement, social affiliation and distance—with the social-interactional, social-relational structures of the lived world … Positional identity, as we use the term, is a person's apprehension of her [sic] social position in a lived world: that is, depending on the others present, of her greater or lesser access to spaces, activities, genres, and, through those genres, authoritative voices, or any voice at all. (Holland et al., 1998:127-8)

Many applications of this concept are in settings where there is an entrenched hierarchy or institutional barrier to participation for certain groups (e.g. looking at the challenges of being a female mathematician in an academic department dominated by men (Solomon, 2012), or being a female surgeon when only 7% of surgical consultants are women (Hill et al., 2015)). It is also appropriate to apply this concept to education as teachers' personal biographies lead to them being 'differently positioned because of who and what they are' (Sikes, 2001:97) within their schools.

3.2.1   Position and disposition

Teachers position others and are in turn themselves positioned daily by colleagues, school leaders, pupils and parents, and also (less frequently) by 'external' bodies such as Ofsted, Government and the press. For example, positioning or labelling a teacher as 'traditional' or 'motivational' (as in J. Williams (2011), above) informs the expectations that others have of them and influences interactions. Such positioning by others can become part of how one sees oneself, and lead to changes in behaviour to live up to the positioning. In this way position can become disposition:

> It is important, in understanding positioning, to pay attention to the fact that positional identities develop heuristically over time. The Vygotskian emphasis on semiotic mediation is helpful for understanding the process by which children, or neophytes to figured worlds of any age, develop the dispositions of relational identities. (Holland et al., 1998:137)

'Neophytes' or newcomers to a figured world learn the normalised acts and language of this world and come to learn what is expected to fulfil different subject positions. It is only over time that their dispositions develop to a point that they can 'voice opinions or to silence oneself, to enter into activities or to refrain and self-censor, depending on the social situation' (p138).

In this way, 'position is not fate' (p45). Over time, and through 'heuristic development' (p46), people are able to gain control of their position:

> Persons do bring a history to the present—an important aspect of which is usually an untidy compilation of perspectives, some developed into symbolised identities. Even in the face of powerful situational determinants … these identities, especially when supported by others of like perspective, afford some self-control and agency. Nonetheless persons remain susceptible to the situational determinants of their reproduction, including the subject positions foisted upon them. The process is a composite one of slow, sometimes erratic, but continuous change. (p46)

For teachers, their personal history can – under the right circumstances – provide them with some 'self-control and agency'. Depending on the strength of the 'situational determinants of their reproduction' and whether they work with like-minded others, teachers find themselves with more or less space for agency.

Change takes time and in the case studies described by Holland et al., there are examples of neophytes entering, learning about and finally acclimatising to a particular figured world. It is only once the world is understood that an individual can in any way be liberated from it.

3.2.2   Rupture and recognition

Over time, newcomers to a figured world:

> … acquire positional dispositions and identities. At some level of apprehension, they come to know these signs as claims to categorical and relational positions, to status. More important, they learn a feel for

the game, as Bourdieu calls it, for how such claims on their part will be received. They come to have relational identities in their most rudimentary form: a set of dispositions toward themselves in relation to where they can enter, what they can say, what emotions they can have, and what they can do in a given situation. (Holland et al., 1998:142-3)

As they learn what is possible, neophytes also come to discover opportunities to deviate or take agency, what opportunities there are to improvise. 'Their participation may include reactions to the treatment they have received as occupants of the positions figured by the worlds' (p143). This is especially the case when they have engaged with 'processes of objectification' and seen themselves through the eyes of others. Such a moment of rupture and recognition 'often seemed to motivate (plans for) action, sometimes even life-changing action' (p142).

For Holland et al. (1998), identity is not fixed or finished. Rather, individuals are 'always engaged in forming identities, in producing objectifications of self-understandings that may guide subsequent behaviour' (p4). Individuals bring their personal histories, and through these, they negotiate the subject positions and discourses available to them: they improvise an identity.

3.3   Self and identity

Teachers' narratives are stories of their selves which, following Holland et al. (1998), I understand as something that is also worked on and practised, not something that is fixed or given:

> We take identity to be a central means by which selves, and the sets of actions they organise, form and re-form over personal lifetimes and in the histories of social collectivities. (p270)

In her work on the identities of trainee teachers, Britzman (2003) warns that it is tempting but unhelpful to think of teacher identity as fixed because to do so glosses over the struggles and contradictions experienced by real teachers whose identities are responsive, complex and multiple, and sometimes inconsistent. As Holquist (2002) argues, identities are developed over time:

> The present is not a static moment, but a mass of different combinations of past and present relations. To say I perceive them as a whole means that I see them surrounded by their whole lives, within the context of a complete narrative having a beginning that precedes our

encounter and an end that follows it. I see others as bathed in the light of their whole biography. (p37)

Understanding individual narratives entails recognising that identities cannot be reduced to – or understood through – a series of snapshots, that it is important to engage with a person's 'whole biography'.

Holland et al. (1998) work with personal biographies through the idea of 'history-in-person':

> One's history-in-person is the sediment from past experiences upon which one improvises, using the cultural resources available, in response to the subject positions afforded one in the present. (p18)

Our selves are shaped by our history-in-person, and this 'sediment' from experiences throughout our lives, influences how we see and how we interpret what we see: history-in-person is a lens through which we see and comprehend the world. But our history-in-person also influences how we act in the world because we bring this perspective to our current or new situations.

For teachers, this may include their own experience as learners or 'do-ers' of mathematics as well as their experience of teaching the subject to different classes of pupils or in different schools. The nature of such new situations – the particularity and situatedness of the moment – is important, as the conditions under which the self finds itself influence the identity work done.

3.3.1   Self and I

In order to theorise the becoming 'self', Holland et al. (1998) turn to the work of Bakhtin (1981; 1986; 1990):

> The meaning that we make of ourselves is, in Bakhtin's terms, "authoring the self," and the site at which this authoring occurs is a space defined by the interrelationship of differentiated "vocal" perspectives on the social world. In Bakhtin's vision, the self is to existence as the pronoun "I" is to language. Both the self and "I" designate pivotal positions in the stream of (language) activity that goes on always. In explaining what an "I" is, position, rather than content, is important. Suppose one tries to define "I" by summarising the characteristics of everybody one has heard use the term in the past week. One can imagine a prototypical tree, but can one imagine a prototypical I? In Bakhtin's system the self is somewhat analogous to "I." The self is a position from which meaning is made, a position that is

"addressed" by and "answers" others and the "world" (the physical and cultural environment). In answering (which is the stuff of existence), the self "authors" the world—including itself and others. (Holland et al., 1998:173)

For Bakhtin, the I – or the 'I-for-myself' – is synonymous with an individual subject. There are many Is in the world, many subjects who are each an I-for-myself as illustrated in Figure 3.
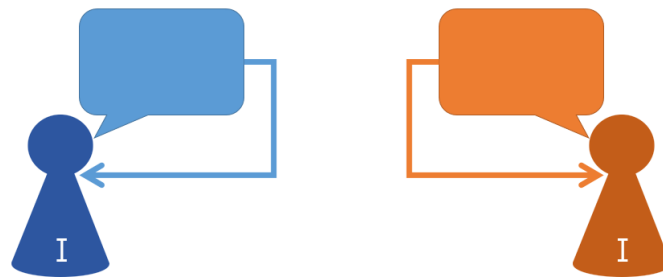
Figure 3: I-for-myself.

However, for Bakhtin, subjects are not isolated because in a social world, subjects encounter other subjects. In other words, 'other concrete, bodily and temporally located, answerable persons living their own unique and once-occurrent event of being' (Renfrew, 2015:32) and it is only through these interactions that an I can come to really know itself.

But, the I alone – as Bakhtin would say, the I-for-myself – is not seen by the self, we need others in order to see our self and then our identity work is in relation to these others:

> For in order to see ourselves, we must appropriate the vision of others. Restated in its crudest version, the Bakhtinian just-so story of subjectivity is the tale of how I get my self from the other: it is only the other's categories that will let me be an object for my own perception. I see myself as I conceive others might see it. In order to forge a self, I must do so from the *outside*. In other words, *I author myself*. (Holquist, 2002:28)

Bakhtin's theory of 'dialogism' is helpful for understanding this:

> In dialogism, the very capacity to have consciousness is based on *otherness*. This otherness is not merely a dialectical alienation on its way to a sublation that will endow it with a unifying identity in higher consciousness. On the contrary: in dialogism consciousness *is* otherness. More accurately, it is the differential relation between a centre and all that is not that centre. (Holquist, 2002:18)

'Centre' is used here to describe the self and so consciousness is an awareness of other selves with different biographies and histories-in-person. This other subject sees the I

from another time and space and through their unique history-in-person lens; they see the I in a way that it could not see itself. It is only when the I attempts to see itself through the eyes of the other, that we understand ourselves:

> Any subject requires *another* subject, located in a relation of *outsideness*, in order to acquire what Bakhtin calls 'wholeness' or 'unity'; the subject, person, individuality only becomes what he or she is – in a towering paradox – under the gaze of another. (Renfrew, 2015:33)

The language used by Bakhtin to describe seeing ourselves through the eyes of another is 'the-other-for-me' (sometimes translated as the 'not-I-in-me'). Whilst the I cannot ever actually know what the other sees and interprets through their history-in-person lens, the I can imagine this. This is represented in Figure 4. In this sense, the other is *for* the I to enable it to see itself in that moment; to achieve 'outsideness'.
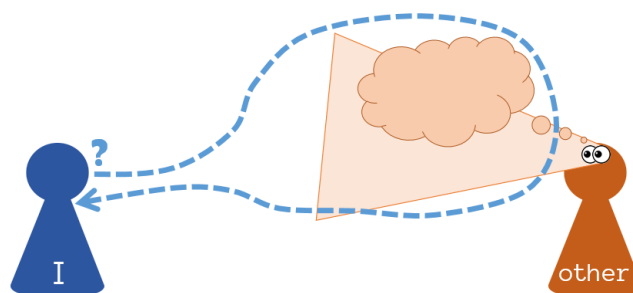
Figure 4: The-other-for-me.

So while 'Bakhtin's other is *always* the-other-for-me' (Renfrew, 2015:34), it is not a solitary or specially selected other. All others – all who are not the I – act as the-other-for-me and thus, in any moment, the I can have multiple others acting as the-other-for-me. It is the views and thoughts of these others which help the I to gain a more complex view of itself from the outside. This is represented in Figure 5.
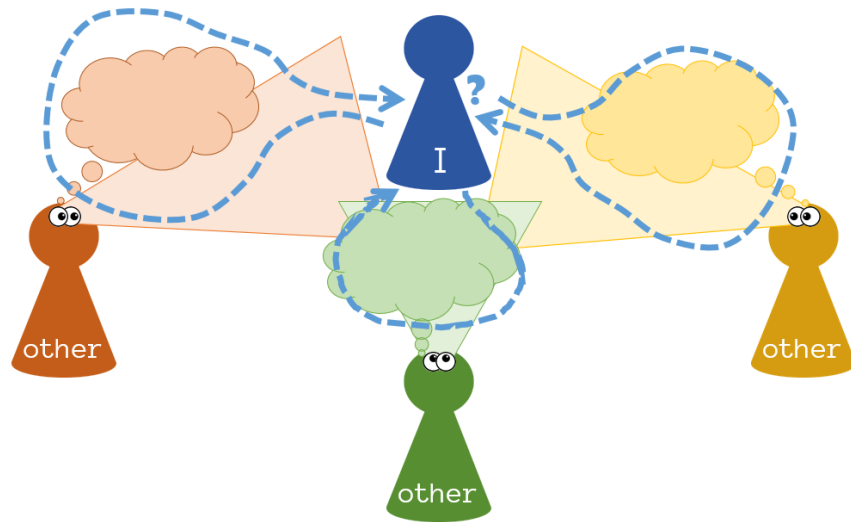
Figure 5: I can have many others, each acting as the-other-for-me.

These others may be actual people who are either materially present or absent, or they might be symbolic figures who represent different organisations or ideas.

While in the moments represented in Figure 4 and Figure 5 the other (or others) is for *me* (in the form of the blue character), in another moment, those others will act as the-other-in-me for *a different I*; they are not exclusively *my* other. Figure 6 shows how for each member of an interaction (the I has here shifted from the blue to the orange character), the others act as the-other-in-me *for them*.
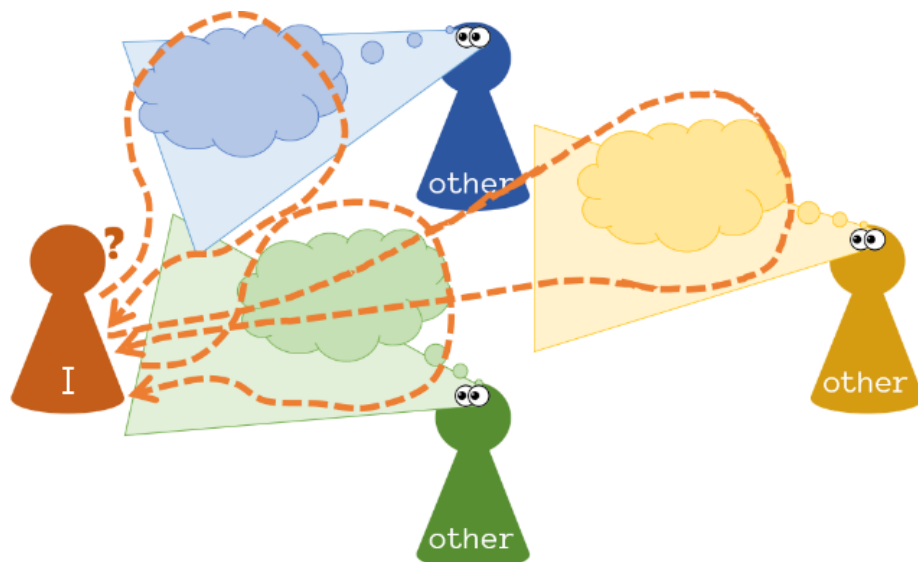
Figure 6: Being the-other-for-me for a different I.

The role of other is therefore significant in our presentations of self, our authoring. I expand on this next.

3.4　　Self-authoring

> The self authors itself, and is thus made knowable, in the words of others. If, to be perceptible by others, we cast ourselves in terms of the other, then we do that by seeing ourselves from the outside. (Holland et al., 1998:173)

In the same way in which the other is always the-other-for-me, the I is always 'I-for-the-other'. The I is always in a state of 'addressing' the others through whose eyes it sees itself as shown in Figure 7.
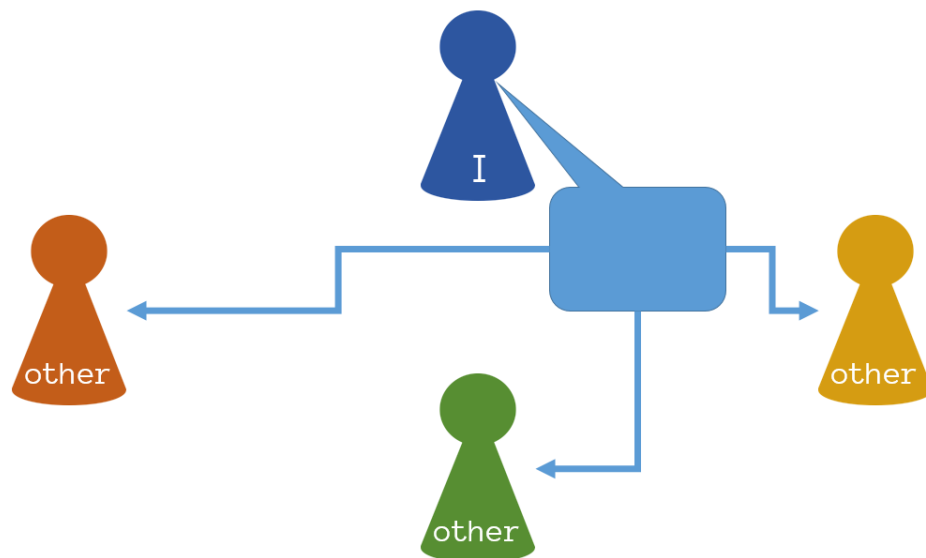
Figure 7: I-for-the-other.

'There is no word directed to no one' (Holquist, 2002:27), and this 'addressing' is central to the idea of self-authoring. As Bakhtin (1986) writes:

> An essential (constitutive) marker of the utterance is its quality of being directed to someone, its *addressivity* … the utterance has both an author … and an addressee. This addressee can be an immediate participant-interlocutor in an everyday dialogue … And it can also be an indefinite, unconcretised *other* … Both the composition and, particularly, the style of the utterance depend on those to whom the utterance is addressed, how the speaker (or writer) senses and imagines his addressees, and the force of their effect on the utterance. (p95)

When we author ourselves, our words are directed to this other; we are addressing them and what we think they represent, and potentially what we think they want to hear as shown in Figure 8.
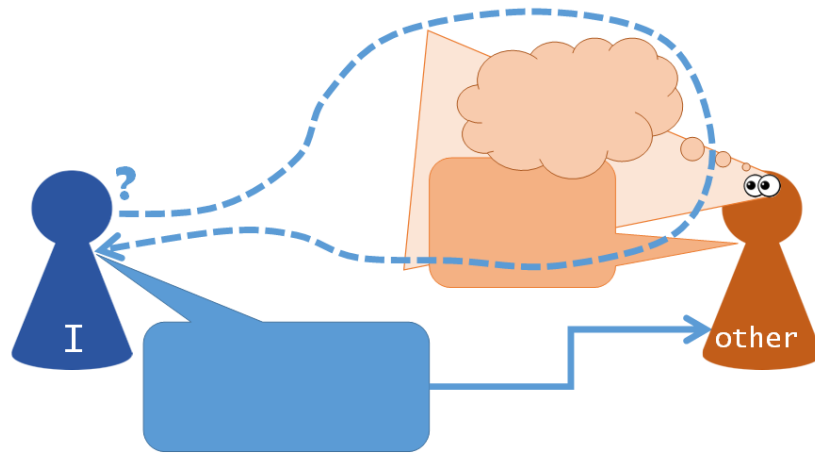
Figure 8: Addressivity.

As well being an addressee, every I is also addressed by others to whom it must respond:

> The world addresses us and we are alive and human to the degree that we are answerable, i.e. to the degree that we can respond to addressivity. We are responsible in the sense that we are *compelled* to respond, we cannot choose but give the world an answer. (Holquist, 2002:30)

Thus, we are always 'in a state of being 'addressed' and in the process of 'answering'' (Holland et al., 1998:169). This authoring or addressing takes into account what the I thinks it knows of these others – the details of their history-in-person lenses, their experiences and views – and the way in which they have seen themselves through the others' eyes. Figure 9 shows how what the I knows of the others is present in the I's authoring.
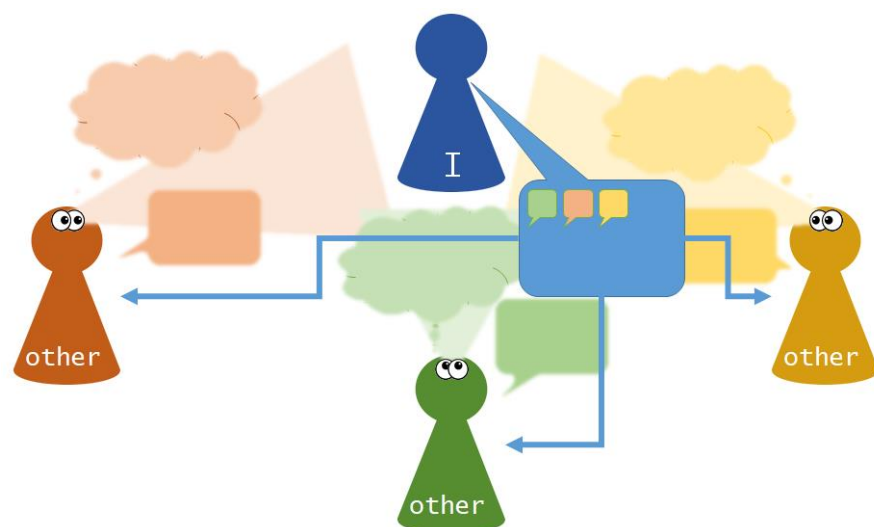
Figure 9: Dialogism.

A central aspect of dialogism is the sense that when self-authoring, the I uses the words of others and is therefore inherently 'multi-voiced':

> In the making of meaning, we "author" the world. But the "I" is by no means a freewheeling agent, authoring worlds from creative springs within. Rather, the "I" is more like Lévi-Strauss's (1966) *bricoleur,* who builds with pre-existing materials. In authoring the world, in putting words to the world that addresses her, the "I" draws upon the languages, the dialects, the words of others to which she [sic] has been exposed. One is more or less condemned, in the work of expression, to choices because "heteroglossia," the simultaneity of different languages and of their associated values and presuppositions, is the rule in social life. (p170)

'The languages, the dialects, the words of others' used by the I may not have 'logical compatibility' (p15) – they may not originate from speakers who hold similar perspectives – yet the I authors itself from this (potentially diverse) menu. Being heteroglossic is 'the rule in social life', it is normal. In the process of authoring, a speaker does not privilege each voice or discourse equally nor does s/he select voices at random. Authorship is a matter of choice and speakers choose to take on discourses as part of their identity work. However:

> … not all words for just anyone submit equally easily to this appropriation, to this seizure and transformation into private property: many words stubbornly resist, others remain alien, sound foreign in the mouth of the one who appropriated them; they cannot be assimilated into his context and fall out of it; it is as if they put themselves in quotation marks against the will of the speaker. Language is not a neutral medium that passes freely and easily into the private property of the speaker's intentions; it is populated – overpopulated – with the intentions of others. Expropriating it, forcing it to submit to one's own intentions and accents, is a difficult and complicated process. (Bakhtin, 1981:294)

This 'complicated process' is termed 'orchestration'. But orchestrating voices is not something that can happen freely, as orchestration happens in a context where restrictions, perhaps due to the positioning of the author or the nature of the addressee, impact on the way in which voices can be taken on:

> In such a diverse and contentious social world, the author, in everyday life as in artistic work, creates by orchestration, by arranging overheard elements, themes, and forms, not by some outpouring of an ineffable and central source. That is, the author works within, or at least against,

a set of constraints that are also a set of possibilities for utterance. (Holland et al., 1998:171)

And yet, 'Bakhtin resists the idea of an individual who is totally determined by social context' (Solomon, 2012:175). Orchestration – the choosing of language – is a balance of context and self, of the ways in which the word has been used before and the ways the I wants and, through positioning, is able to take on the word.

All 'utterances', as well as having an author and an addressee, have an origin:

> The word in language is half someone else's. It becomes "one's own" only when the speaker populates it with his own intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention. Prior to this moment of appropriation, the word does not exist in a neutral and impersonal language (it is not, after all, out of a dictionary that the speaker gets his words!), but rather it exists in other people's mouths, in other people's contexts, serving other people's intentions: it is from there that one must take the word, and make it one's own. (Bakhtin, 1981:293-4)

And so one's utterances reveal one's influences. As Braathe and Solomon (2015) describe, the way in which we use the words of others, 'brings tensions with it as we struggle to expropriate the others' words' (p154) and make them our own. In choosing among voices we establish an authorial stance and thereby assert some agency on the voices that surround us. For teachers of mathematics, working in a performative system which values results, these voices or discourses include those which promote different pedagogic approaches such as 'instrumental' or 'relational' teaching (Skemp, 1976) or 'mastery' approaches (NCETM, 2017a).

Two particular types of voice are taken up by an authoring self: those which are authoritative and those which are internally persuasive.

3.4.1   Authoritative and internally persuasive discourse

'Authoritative discourses' are dominant voices that are difficult to ignore and difficult to make one's own:

> The authoritative word demands that we acknowledge it, that we make it our own; it binds us, quite independent of any power it might have to persuade us internally; we encounter it with its authority already fused to it. The authoritative word is located in a distanced zone, organically

connected with a past that is felt to be hierarchically higher. It is, so to speak, the word of the fathers … It is therefore not a question of choosing it from among other possible discourses that are its equal. (Bakhtin, 1981:342)

Authoritative discourses come from 'authority as such, or the authoritativeness of tradition, of generally acknowledged truths, of the official line and other similar authorities' (p344). The words seem to demand 'quotation marks' (p343) and are 'transmitted' (p344). These are words that cannot be ignored and the term 'ventriloquation' is used by Bakhtin to describe the unthinking adoption of such discourses. This is what happens when the words of another are spoken without having been first populated 'with [a speaker's] own intention, his own accent' or having been adapted to 'his own semantic and expressive intention' (p293). But this is hard to achieve with an authoritative discourse – such as the rhetoric of standards and testing – which:

> … demands our unconditional allegiance. Therefore, authoritative discourse permits no play with the context framing it, no play with its borders, no gradual and flexible transitions, no spontaneously creative stylising variants on it. It enters our verbal consciousness as a compact and indivisible mass; one must either totally affirm it or totally reject it. It is indissolubly fused with its authority – with political power, an institution, a person – and it stands and falls together with that authority. One cannot divide it up – agree with one part, accept but not completely another part, reject utterly a third part. (p343)

Ventriloquation can only be avoided through the 'adoption of stances toward these voices' (Holland et al., 1998:185). Taking a stance is essential to the orchestration of authoritative discourses, something that Ball (2003) suggests is not possible for teachers working in a performative system where commitment to achieving results and compliance are highly valued (Reay, 1998) and conformity leads teachers to be 'preferred' (Smyth, 2001). For mathematics teachers, the authoritative discourse that producing results is of paramount importance 'demands our unconditional allegiance' and is imbued with 'political power'.

In contrast, individuals are already aligned with discourses which could be described as internally persuasive:

> Internally persuasive discourse—as opposed to one that is externally authoritative—is, as it is affirmed through assimilation, tightly interwoven with "one's own word." In the everyday rounds of our

consciousness, the internally persuasive word is half-ours and half-someone else's. (Bakhtin, 1981:345)

If internally persuasive words are 'half ours and half someone else's' then these are words that the I has taken on, approved of, perhaps combined with other discourses having read them through its history-in-person lens. These words somehow 'fit' with the I's beliefs and values. In that sense, authoritative voices can shift to become internally persuasive when they become 'half ours' 'without any imposition or violence (physical or psychological)' (Matusov and von Duyke, 2010:176). And so an authoritative discourse that has been imposed cannot ever be considered internally persuasive.

Certain discourses and words are more attractive and can be said to have a 'centripetal' pull which makes them inescapable to some. In these cases, the discourses and words tempt the I to 'unify' or 'conform' and adopt them. As Morris (1994) writes:

> … the centripetal forces of the life of language, embodied in a 'unitary language', operate in the midst of heteroglossia. At any given moment of its evolution, language is stratified not only into linguistic dialects … but also – and for us this is the essential point – into languages that are socio-ideological: languages of social groups, 'professional' and 'generic' languages, languages of generations and so forth. (p75).

Teachers have a shared professional 'unitary' language of educational bodies (e.g. Ofsted), terms (e.g. differentiation) and acronyms (e.g. SATs) which I also share, and which is used in conversations between teachers and in my research interviews. In recent years, the word and discourse 'mastery', has entered the 'unitary' language of mathematics education. Although 'mastery' has been defined by NCETM (2017a), it has remained nebulous, in part because it belongs to many different 'languages' and so while it is widely used, it is understood and adopted differently by teachers according to their previous meetings of the word and adherence to, or pressure from, other discourses (Duckworth et al., 2015; NAMA, 2015; Boylan et al., 2016; Townsend, 2016; Boylan et al., 2017; Boylan and Townsend, 2018).

3.5 Research questions (2)

Following my examination of theory, I propose three sub-questions to my first research question. These draw attention to three aspects of the theory which I anticipate will be shed light on the complexity of my participants' narratives and consequently make their stories more distinctive and the analysis more nuanced. Firstly, a focus on teachers'

personal contexts, now theorised as history-in-person, facilitates an examination of how 'the sediment from [their] past experiences' (Holland et al., 1998:18) is present in their narratives. Secondly, by paying attention to positionality, it will be possible to explore what teachers say about their status and the relationship that they have with others in their figured world. Finally, observing the presence of voice and discourse within narratives enables me to explore how teachers orchestrate authoritative and internally persuasive discourses in their accounts, and the presence of an authorial stance as a Year 6 teacher:

Research Question 1: How do Year 6 teachers narrate themselves as 'good' in the context of England's high stakes accountability system?

   a) **What is the role of 'history-in-person' in Year 6 teachers' self-authoring?**

   b) **What is the role of 'positionality' in Year 6 teachers' self-authoring?**

   c) **What are the roles of 'authoritative discourse' and 'internally persuasive discourse' in Year 6 teachers' self-authoring?**

These questions will be answered through three case studies and a subsequent cross-case analysis in chapter 8. Data for the case studies comes predominantly from research interviews with teachers which I now view as a particular example of a self-other relationship with me as a powerful addressee. I next look at how theory can further support an understanding of the interactions between an interviewer and interviewee who have a unitary language, a shared history and knowledge of each other's beliefs about mathematics teaching.

3.6   Theorising the research interview

As van Enk (2009) reported of her own experience of carrying out – and then reporting on – interviews:

> **Except in relatively token ways, I am not expected in any subsequent discussion of the interview to address my own presence and conduct; it will simply be assumed by readers of my research that I was there and behaved appropriately. Yet it is strange that this is so because my presence and conduct are key to the particular account that emerges. Interviews are interactive, and whether I "do" a distantly neutral**

interviewer or a chummy, self-disclosing one … I cannot avoid influencing the words of the interviewee. (p1266)

In the course of this research I was concerned to take account of how *who I am* impacts upon the dialogic interactions that are produced in the research interview. In order to theorise this, I view the research interview as a particular case of self-other relations. In their application of Bakhtin's dialogism, Braathe and Solomon (2015) describe the value of this theory for analysing narratives generated in a research interview:

> Frequently, interview data is analysed with a major focus on the interviewee, but Bakhtin's dialogism draws attention to the storying of self as a process of addressing and answering, in which the interview can be seen as part of an ongoing narrative in which interlocutors draw on past, present and future meanings in a heteroglossic, multivoiced space of communication. (p153)

A research participant is not an object in a research interview upon which the interviewer (as the subject) can in some way impose order; rather, both interviewee and interviewer are subjects with histories-in-person, and they are both agentic. They both act as I *and* the-other-for-me. That said, an interviewer is a powerful interlocutor because s/he sets the agenda for discussion and ask the questions. In a very literal sense, the interviewee addresses the interviewer and accounts for 'views [of the interviewer] that might be anticipated' (Solomon, 2012:177). In addition, how they address the interviewer is influenced by whether they consider them to be a 'super addressee':

> At the heart of any dialogue is the conviction that what is exchanged has meaning. Poets who feel misunderstood in their lifetimes, martyrs for lost political causes, quite ordinary people caught in lives of quiet desperation – all have been correct to hope that outside the tyranny of the present there is a possible addressee who will understand them. This version of the significant other, this 'super addressee', is conceived in different times and by different persons: as God, as the future triumph of my version of the state, as a future reader. (Holquist, 2002:38)

My existing relationship with the teachers in this research – they have knowledge of my beliefs and values about mathematics teaching and of my history-in-person, and we have a recent shared history as a result of my presence in their classrooms – raises a question about whether I am a 'super addressee', someone who knows their context and seeks to 'understand them'.

3.6.1 Speech genre

Bakhtin (1986) introduces the idea of 'speech genre' as a way of describing typical ways of speaking for different purposes. The pattern of our speech will differ according to audience and purpose – if giving a lecture, our way of talking will be dissimilar from how we will structure our speech when chatting socially with friends, or our style of writing on a postcard will differ from the writing we produce on a formal report – and Bakhtin suggests that:

> …each sphere in which language is used develops its own *relatively stable types* of these utterances. These we may call *speech genres*. (p60)

'Speech genres' are akin to text types and the particular 'speech genre' of interest to me is that of the research interview which has 'relatively stable' conventions – that there is an interviewer who asks questions and an interviewee who provides answers – and is widely understood. As van Enk (2009) describes in relation to her own experience of carrying out interviews:

> …they [interviewees] (and I) brought expectations to the interviews based on past encounters in other places – expectations about relevant content, acceptable form, and appropriate uptake of roles. (p1271)

Bakhtin (1986) claims that sooner or later, 'what is heard and actively understood will find its response in the subsequent speech or behaviour of the listener' (p69) and that responses become expected according to the rules of the genre. In an interview therefore, both interviewer and interviewee have an idea of the type of language or response that is expected of them.

In their analysis of interview data, Braathe and Solomon (2015) note the way in which the interviewer comes to the interview expecting that (or even hoping that) certain answers will arise in response to their questions. However, the force of addressivity means that the interviewee sometimes rejects and sometimes accepts the proffered positions, 'invoking multiple genres … in her self-authoring and in her assertion of agency' (p165).

Roles within an interview can be unstable. van Enk (2009) suggests that this is inevitable given the experience of other genres that we bring to an interview:

> Formal boundaries and conventions may be articulated, but more often than not interlocutors would find it difficult to spell out exactly what guides their talk beyond a felt sense of what and when and how

> something should be said ... Even as I study methodological how-to books, and even as the learners and I agree to the task as described in introductory conversations and information flyer and consent documents, there is still plenty of flux and uncertainty about what it means to tell one's educational story to a researcher in an interview. And this flux and uncertainty draws in again the processes of negotiation that take place in conversation and that are, to varying degrees, always a part of the uptake of genre. (p1273)

Bearing in mind that there is a shared biography between me and my interviewees, and that we have on many previous occasions been involved in other speech genres (informal conversations as friends; me as lecturer and them as student) it appears inevitable that the uptake of the interview genre will be messy.

As well as broad text types (such as interviews or newspaper reports), genre can describe the colour that words gain within an utterance, which is 'independent of their meaning taken individually and abstractly' (Bakhtin, 1986:87). Taking the word 'joy' as an example, Bakhtin demonstrates the many different ways in which this can be coloured by the genre of the utterance in which it is used. In different figured worlds, words are understood differently. While there is a 'unitary language' of education which all teachers broadly understand, there are also school-level variations on this. For example, 'AfL' (assessment for learning) is a well-understood concept in schools and is part of the 'unitary language' shared by teachers. However, as different schools will adopt different AfL approaches, it follows that local understandings of the term will also differ. As suggested above, in mathematics education, the same is true of 'mastery'.

3.6.2   Co-constructions

Because of its dialogical nature, the interview can be seen as a co-construction of a narrative as opposed to one provided individually and in isolation. As in the example from Braathe and Solomon (2015), the interviewee and interviewer both contribute to making sense of the story that is told. In Solomon's (2012) research into female mathematicians, she reflects on the role that she played in the interview:

> In the spirit of dialogism, it is of course necessary to recognise the fact that these interviews are not just a giving up of information by Joanne and Roz, but are joint constructions in which I played a part: my role as a researcher of mathematics education makes me a potential addressee with views that might be anticipated. I did not forefront my interest in gender, but again this might be anticipated. I shared a history of sorts with Roz, who knew that I was interested in her group. (p177)

The participants, Roz and Joanne, spoke to Solomon in the knowledge of some of her views, and in this way the interviewer influences the interviewee and the course and content of the interview itself. The interview is a specific, contained example of dialogism at work. Both interviewer and interviewee address their counterpart, they adopt or reject the utterances of the other, and they see themselves through the eyes of the other. In this sense, dialogism supports a theorisation of an interview as a co-construction of participants' stories (Braathe and Solomon, 2015).

It is hard to stay in the interview genre, and so to aid co-constructions it may actually be useful to step outside the conventions of the interview genre and to 'realign as our real selves':

> During most of the interview, the learners and I are conversing as interviewee and interviewer; in the main, I ask questions and the interviewee responds. There are also parts of the interview where we step out of this interview talk, where we "realign" as our "real" selves. We facilitate the conversation with laughter, explanations, corrections, bracketing rituals, and so on [which] … mark the interfaces between inside and outside, between meaning and mechanics. In these liminal spaces, I argue, we can find a measure of the dialogical complexity of the research interview as a genre, as a form of, and thus also a context for, narration. (van Enk, 2009:1274)

'Our real selves' might laugh, joke or be ironic. They might raise an eyebrow in response to a comment or mimic a colleague. They might make asides which reveal dilemmas about what can and can't be said. All of these deviations from the roles of interviewer and interviewee impact upon the interaction and the co-construction that emerges.

Solomon (2012) reminds us that there is no one 'true' version of an event and that with each telling, we generate a new narrative of the event which is co-constructed with that particular interlocutor:

> Roz's story as constructed with me as her interlocutor on that occasion is not fixed; indeed the act of telling becomes part of her story as it happens, and enters her past. (p182)

The narrative as co-constructed on that occasion becomes part of a shared biography for Solomon and her interviewee, and thus forms part of their future dialogical interactions (Solomon et al., 2016). But also, the experience of co-constructing *that* narrative enters the history-in-person of both the interviewer and interviewee; the co-constructed narrative can be returned to by either of them, and by others to whom the story has been

told. *That* narrative will impact on future tellings of the same event. As Bakhtin (1986) writes:

> There is neither a first nor a last word and there are no limits to the dialogic context (it extends into the boundless past and the boundless future). Even past meanings, that is, those born in the dialogue of past centuries, can never be stable (finalised, ended once and for all)—they will always change (be renewed) in the process of subsequent, future development of the dialogue. At any moment in the development of the dialogue there are immense, boundless masses of forgotten contextual meanings, but at certain moments of the dialogue's subsequent development along the way they are recalled and invigorated in renewed form (in a new context). Nothing is absolutely dead: every meaning will have its homecoming festival. (p170)

Shared biography and common reference points can impact on how a story is co-constructed as interviewer and interviewee use these to connect with each other. In the research reported in this thesis, where termly interviews are between me and a teacher already known to me, narratives were built on and referred back to as we co-constructed accounts of what it means to work as a Year 6 teacher.

3.7   Research questions (3)

Having explored dialogism, I have come to appreciate that the research interview – as my main method of generating data for use in case studies – is a particular example of self-other relations. I am the other to whom my participants address their stories and as a researcher and consultant, I am in a powerful position. In interviews, we share language and co-construct stories and so I am very much a part of the data. Because of this, I propose an additional question which draws on theory to explore the challenges of my role as an insider researcher with prior knowledge of the participating teachers, and its impact on the nature of the data and its analysis:

Research Question 2: How can dialogism support an understanding of insider research?

I now turn to matters of methodology where I will outline the methods adopted to address these questions and further explore some of the issues (including ethical issues) associated with carrying out insider research. I will also share how these theoretical ideas were operationalised in my analysis of teacher narratives.

4. Methodology

In the previous two chapters, I examined literature to better understand the context in which Year 6 teachers work, and explored theory to support my interpretations of data. At the end of these chapters, I presented my final research questions:

Research Question 1: How do Year 6 teachers narrate themselves as 'good' in the context of England's high stakes accountability system?

a) **What is the role of 'history-in-person' in Year 6 teachers' self-authoring?**

b) **What is the role of 'positionality' in Year 6 teachers' self-authoring?**

c) **What are the roles of 'authoritative discourse' and 'internally persuasive discourse' in Year 6 teachers' self-authoring?**

Research Question 2: How can dialogism support an understanding of insider research?

In this chapter, I provide a rationale for how I answer these questions. I begin by exploring what other researchers have encountered when carrying out what might be termed 'insider research'. I provide a short auto-biography by way of establishing both my history-in-person lens through which I view mathematics education, and my credentials as an insider researcher and reflect that 'expert-insider-outsider researcher' is a more appropriate description of the version of the other-for-me that I provide. I return to ethical issues that arose as a result of my status at the end of the chapter.

I go on to make the case for generating three contrasting case studies in response to the research questions. The in-depth nature of a case study provides a rich, detailed response to my first research question and recruiting teachers with different histories-in-person and from different local contexts ensures variety. I outline the process of recruitment including the different relationships that I had with participants prior to data collection in the academic year 2015-16.

I describe my methods of data collection and analysis. Spending time with participants in their schools supported my understanding of their local contexts and meant that I also

saw them in action as teachers. These lesson observations provided us with a shared history which was then used to stimulate discussion in interviews. I share how I adopted a thematic analysis to field notes and video extracts in preparation for interviews. I also prepared key questions and generated a series of bespoke questions for each participant, and explain how these were used in 'depth interviews' that were conversational and which evolved according to emerging narratives. Dialogism supports an understanding of teachers' stories being co-constructed in the flow of an interview. I explain how I analysed interview data using theoretical frameworks, especially looking at how teachers' history-in-person is present in their narratives, as well as exploring where issues of power and status are described. I also looked for moments when participants are orchestrating educational discourses including what it means to do a 'good' job when working at the sharp end of England's high-stakes assessment system.

The chapter concludes with a discussion of some of the internal ethical complexities that arose as a result of my expert-insider-outsider researcher status, and these are related back to Bakhtin's dialogism.

4.1 Issues of insiderness (and outsiderness) and my researcher lens

My professional background is significant. I trained as a primary school teacher, specialising in mathematics, and then worked in KS2 classrooms for five years. During this time I took part in action research as part of a government funded project into the use of information communication technology (ICT) in classrooms (Somekh et al., 2007), and began my master's degree. I then worked as a Local Authority e-learning adviser and subsequently as an adviser for mathematics, and finally I established myself as a freelance consultant supporting primary schools with the teaching of mathematics. Through my consultancy, I work as an Initial Teacher Education (ITE) lecturer in primary mathematics and placement link tutor at a local School Centred Initial Teacher Training provider (SCITT), and became the mathematics lead for an alliance of schools, a role which involves coordinating a network for subject leaders and running courses for teachers. I am a member of various mathematics education bodies and during the national curriculum consultation process (2011-13), chaired a primary sub-group of the two major

mathematics teaching associations in England: the Association of Teachers of Mathematics (ATM) and the Mathematical Association (MA). In this role, I wrote to ministers and coordinated the group's responses at each stage of the consultation process (ATM and MA, 2012; 2013). In short, I might be considered an 'expert' in primary mathematics teaching and policy interpretation, and this professional background is central to my interest in this project. I bring certain beliefs about mathematics teaching to my professional work, and these beliefs also inform my researcher lens.

While my professional background leads easily to me being labelled as 'expert', it is more complicated to label me 'insider'. Insider research projects are those that are:

> … undertaken by people who, before they begin to research, already have an attachment to, or involvement with, the institutions or social groups in, or on, which their investigations are based. They can, therefore, be considered to be 'insiders'. (Sikes and Potts, 2008:3)

Using this description, I can be considered an insider because I already had an 'attachment to, or involvement with' mathematics education, and I knew my teacher participants prior to the start of this study. And yet, as someone who is not a practising teacher or an employee of the schools featuring in my project, who has never been a Year 6 teacher, and has neither taught the topic of 'calculating fractions' nor planned from NC2014, I am an outsider. Although I have a friendly relationship with each of the teachers who are taking part in this project, this relationship has always been coloured by my role as outsider; formerly as a consultant, and now as a researcher.

Mercer (2007), herself an insider researcher, identified four headings (access, intrusiveness, familiarity and rapport) under which to examine the pros and cons of carrying out insider research. Adopting the same four headings, Figure 10 demonstrates some of the ways in which I am both insider and outsider. As she describes, 'the insider cannot escape his or her past' (p8), which I initially found problematic and I sought to shift from being an insider towards a solely outside role; to shift from consultant to researcher. However, following a research project in which they felt like both insiders and outsiders, Thomson and Gunter (2011) develop the idea that researchers can be both, suggesting that researcher identity is fluid depending upon the time and place. Reflecting on their experience of carrying out research at a school where they were also paid as consultants and knew some senior leaders personally, the authors describe how '… we were neither inside nor outside the school, but rather were engaged in messy,

continuously shifting relationships' (p18). They develop the notion of a 'liquid researcher', something that McGinity (2012) also notes as she reflects on her own insider-outsider status during her doctoral studies. I have also grappled with my role as a liquid researcher and have settled upon the phrase 'expert-insider-outsider researcher' to best describe my own position. In order to capture the complexity that this adds to the research, I adopted reflexive writing practices to bring issues of my shifting researcher identity and positioning to the fore (Pelias, 2011).

	Insider	Outsider
Access	I already know participants and their schools so access should be granted readily.	I am not a member of staff at the school(s) or funded by the school(s) to do this research so there may be times during the year when access is withdrawn.
Intrusiveness	I am a friendly, supportive face (my style of consultancy is not one of inspection-style observations but of sharing ideas) so my presence should not be scary. The recording equipment should be unobtrusive.	I am an external researcher sitting in lessons. With the best will in the world, this is not what is normal and it may affect how the teacher and their pupils perform. Teachers may feel that they are being judged.
Familiarity	I understand the national (political) and local contexts (including accountability pressures) and, as a former teacher, I have a good understanding of what teaching mathematics in a primary school is all about on a day-to-day basis. I hold many (widely shared) beliefs about mathematics education, which are in common with many teachers.	I am not currently a practising teacher and I am not actually dealing with the stresses of Year 6 myself (and have never done so). I have not taught from NC2014 and have never taught the topic of 'calculating with fractions'. As a researcher, I have a responsibility to have an open mind about what I am seeing and so treat things which might seem familiar as unfamiliar and new.
Rapport	At the point of recruitment, I had known the participating teachers for between one and nine years, and I have a friendly relationship with each.	I am an external (powerful) 'expert' consultant which may affect how participants talk to me. As they know my views on mathematics education there may be a desire to say things that they know will please me.

Figure 10: Using Mercer's (2007) criteria for establishing the extent to which I am an insider-outsider.

In a reflexive research diary (for an example, see Appendix 1), I have captured my awareness of my status as both insider and outsider during the period of data collection,

and especially the ways in which I acted 'as a contaminant' (p662). Through recording the dilemmas I experienced in relation to how to act and what to say in the field, and noting examples of how participants addressed me as their other-for-me, I came to better appreciate the complexities of my expert-insider-outsider status. I reached a point where I accepted that I am a 'liquid researcher' embracing both insider and outsider qualities, and that this is actually beneficial (and interesting) for the research. Reflexive writing strategies are adopted throughout the thesis in an attempt to provide a 'trustworthy and honest account' (Pelias, 2011:663) of the data collection process and the data itself, and as a form of 'self-triangulating' (Drake, 2010:98).

4.2 Capturing teachers' work in case studies

There is a precedent for looking in depth at the 'stories' of teachers to explore policy enactments (Bassey, 1999; Sikes, 2001; Pratt, 2004; Barnes et al., 2013). The stories of how three teachers endeavour to do a 'good' job in the context of working with a new national curriculum, are here told in case studies.

A case must be 'a specific, a complex, functioning thing' (Stake, 1995:2); each case in this thesis is a Year 6 teacher selected 'for both their uniqueness and commonality' (p1). I have a 'sincere interest' (p1) because whilst I am an insider with a good understanding of schools, I have never been a Year 6 teacher and so am genuinely interested to find out about them, the nature of their work and the specific circumstances in which they operate: in this sense the case studies are 'instrumental' because they assist me in 'accomplishing something other than understanding this particular teacher' (p3). Furthermore, because I wish to study these cases within the same project, it may be beneficial to think of this as being a 'collective case study' (p4).

Yin (2003) suggests that researchers might want to adopt a case study approach if they 'deliberately want to cover contextual conditions – believing that they might be highly pertinent to your phenomenon of study' (p13). As will become clear in the next section, I recruited Year 6 teachers who have different local and individual contexts in order to explore the influence of these on their practices. As they were all working in the same national context of changes to the national curriculum and Year 6 SATs, this also allowed for some interesting comparisons.

Case study research does not specify what methods to use to gather data, and so I have selected a suite of methods in order to build strong cases. Bassey (1999) warns that case study research is not easy as it is 'essentially interpretive' (p44). As I set out below, data collection was inevitably limited. I made decisions based upon relevance for the topic, my capacity to gather and interpret the data, and also I ultimately selected methods that I believed would not interfere with 'normal' life in the classroom.

4.2.1   Recruiting and selecting Year 6 teachers

In writing about case selection, Stake (1995) outlines some of the dilemmas faced by the researcher, for example typical versus unusual cases. He goes on to suggest collective case study research enables selection of cases 'with more concern for representation' (p5) but warns against claiming generalisations from a small number.

I recruited participants through three routes. Firstly, I spoke to 80 subject leaders from region one[8] about my research during termly network meetings. I asked whether they, or a colleague, might be interested in taking part. Secondly, I emailed three cohorts of former SCITT trainees (approximately 100 teachers who trained in region two) extending an invitation to participate to those teaching in Year 6. Thirdly, I advertised in the termly e-newsletter of my consultancy business which was sent to 300 subscribers nationwide. I recruited three teachers, Anna, Bernard and Claire, one from each of these networks and so my expert-insider-outsider relationship was different with each. What I knew of Anna, Bernard[9] and Claire prior to the research is set out in Figure 11 and in three short pen portraits below.

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[8] Participants all come from two of the nine regions of England (https://www.ons.gov.uk/methodology/geography/ukgeographies/eurostat). For ease, and anonymity, I have named these 'region one' and 'region two'.

[9] Bernard, a female teacher chose her own male pseudonym. She described herself as a fan of the British pseudohistorical sitcom, *Blackadder II*, and chose the name Bernard in a homage to a female character, Nursie (the nursemaid to Queen Elizabeth I), who (hilariously) has this name. I have struggled to know which pronouns to use in relation to this teacher however have decided that it is central to her individual context that she is female, and so Bernard is a woman.

Pen portrait of Anna

Anna is in her 20s. She is in her second year of teaching and has taught in Year 6 for both of these at the same school. She was 'appointed' rather than 'promoted' to the role.

Anna teaches in a 1.5-form-entry primary school in an affluent village in region 1. The school has a significantly lower proportion of pupils in receipt of free school meals than is the average nationally. The school has a new Headteacher who has joined from a large junior school locally where he has commissioned me in the past to work with staff; this is his first Headship.

I know Anna from mathematics subject leader network meetings which she started to attend in her NQT year alongside her Deputy Headteacher during a handover period. In meetings she was confident, gregarious and ambitious and it was difficult to imagine that she was so new to post. Anna has an A-level in mathematics and enjoys the subject. I have never observed Anna teaching and of the three participating teachers, I knew her the least.

Pen portrait of Bernard

Bernard is in her 40s but is new to teaching. Like Anna she is an NQT+1 and also like Anna was appointed to the role of Year 6 teacher as an NQT in her current school. She has a long history with her school because prior to her teacher training, she worked for 20 years as a Teaching Assistant (TA) and Higher Level TA (HLTA) with responsibility for 'nurture' across the school.

Bernard's school is on the outskirts of a city in region 2 and she characterises the population as 'working poor'. She lives locally and her children went to the school. The school is two-form entry and Bernard works alongside a more experienced Year 6 teacher.

I met Bernard at the local SCITT where I was her mathematics tutor. She was one of the older trainees and already possessed a lot of knowledge about mathematics teaching although was shy and anxious to downplay these skills. Although I never observed her teaching, she was highly rated by all of the tutors.

Pen portrait of Claire

Claire is in her 40s and has been teaching for more than 15 years. She has taught in all primary year groups including reception (when pupils are age 4 and 5) and in different schools. Although she is not the mathematics subject leader at her current school, she has fulfilled this role previously and is deferred to as an expert by her colleagues. She has influenced the school's approach to mathematics teaching. Claire completed the MaST course and has participated in Teacher Research Groups (TRGs) as part of the 'mastery' programme. She describes herself as a 'maths nerd' and has an established interest in mathematics pedagogy.

Claire moved to her current school (a junior school) at the start of 2014 as maternity cover in Year 6 and was asked to stay beyond her initial appointment. The school is four-form entry and is located on the edge of a large town in region 1

I first met Claire when I was working for a Local Authority (LA). In the same way that my role shifted from supporting schools with Information Communication Technology (ICT) to mathematics, her subject leadership roles made a similar shift over the same period and our paths crossed multiple times. Claire has commissioned in-school support and attended courses led by me – particularly on problem solving – and is a subscriber to my consultancy e-newsletter. When I first became a freelance consultant she was very supportive and offered her school as a venue for events. We are both members of ATM and are part of the association's 'outer circle'. I have never observed Claire teach.

In selecting Year 6 teachers to be part of this research, I was conscious of having some 'concern for representation' in meeting my ambition to present contrasting cases. As shown in Figure 11, I was able to compile information about teachers' history-in-person which related to their gender and age, their length of service as a teacher and experience of teaching different year groups, and their expertise in teaching mathematics and responsibility for the subject. I also knew something of their schools – their local contexts – and so sought variety in relation to situated context (school size, type and location), material context (the percentage of pupils qualifying for free school meals which results in additional funding, this also relates to the situated context as it is an indicator of the

nature of the intake[10]), and external context (SATs results from the previous year and latest Ofsted grading). However, I did not have a completely free choice over who to recruit as I was limited by the teachers who actually volunteered to be part of my study. Anna, Bernard and Claire were selected from a pool of seven.

			Anna	Bernard	Claire
history-in-person	personal	gender	female	female	female
		age (guess)	20s	40s	40s
	teaching experience	length of service	1 year	1 year	> 10 years
		year groups taught	Year 6 only	Year 6 only	Reception and Years 1,2,3,4,5,6
	mathematics	subject leader	✓		✓
		MaST degree			✓
insider	how recruited / known to me		subject leader network	ex-trainee	consultancy e-newsletter
	how long we have known each other		< 1 year	2 years	> 5 years
local context	situated context	region	1	2	1
		school type	primary	primary	junior
		classes per year group	1.5	2	4
	situated / material context	% of pupils in receipt of free school meals (in relation to national average)	-20%	-5%	+5%
	external context	Ofsted rating	Good Oct-11	Good Feb-13	Requires Improvement Mar-14
		SATs results 2015 % of pupils achieving level 4 or above (national average is 87%)	85%	85%	95%

Figure 11: What I knew of participants at the point of recruitment[11].

Even at this early stage of the project, I was aware of pressure to make ethical decisions, especially in relation to the responsibility I felt towards potential participants. For example, I decided not to invite two of the volunteers because they were newly qualified teachers (NQTs with a length of service of 0 years).

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[10] This later became reimagined as 'pupil premium' (DfE, 2017a).

[11] All percentages are rounded to the nearest 5%.

My insiderness proved exceptionally useful for recruiting teachers, although it also meant that this existing relationship carried with it certain expectations and assumptions on my part, and on reflection I recognise that I hoped to see that I had an impact on teachers' practices. I also anticipated that Anna, Bernard and Claire – and their Headteachers – had certain expectations about me as a researcher. These expectations formed part of my ongoing reflections on my expert-insider-outsider researcher status and relationships, and on considerations of ethics.

4.3   Field work

Participants were recruited during the summer of 2015, and methods were also piloted during this period. I produced participant information sheets[12] which I circulated to interested parties, and held negotiation meetings with Anna, Bernard and Claire. These meetings also included a senior member of staff as I felt it was important for them to have the opportunity to ask questions and be clear about my project; especially as I would be entering a Year 6 classroom.
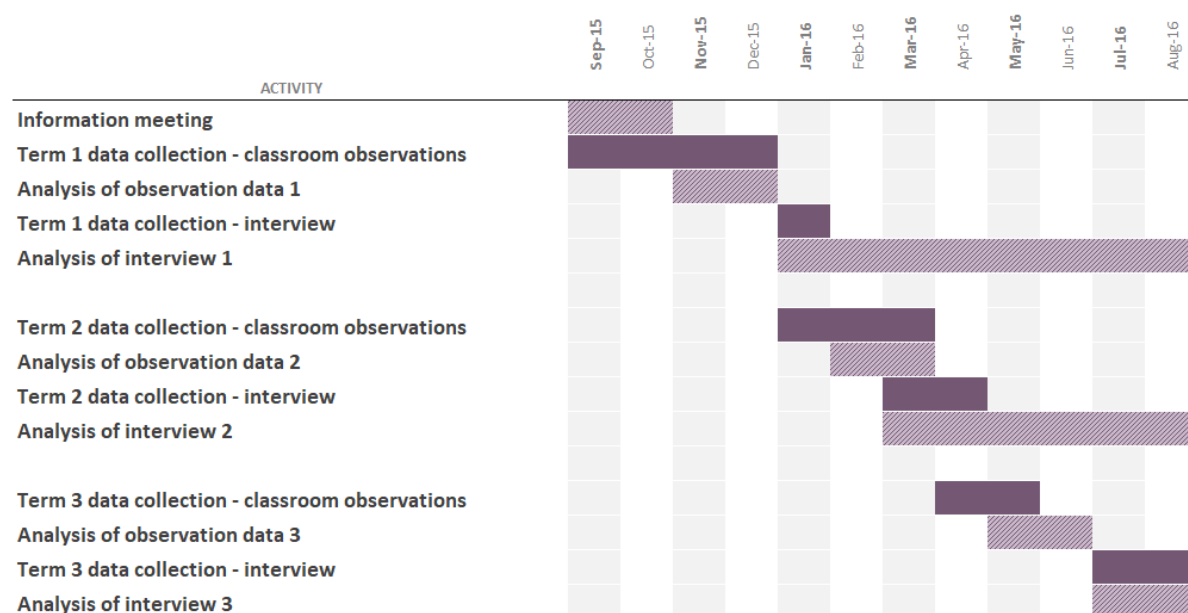
Figure 12: Gantt chart showing the timing of data collection.

I collected data in the autumn, spring and summer terms of the academic year 2015-16 – when teachers would be working from NC2014 for the first time and pupils would sit revised national curriculum tests in May – with some communication continuing into the autumn term of the next school year. When choosing methods, I had to balance my

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[12] Participant information sheets and consent forms had been provided in advance. See Appendix 2.

curiosity and desire to capture everything possible against a realistic analysis of what I reasonably had the capacity to gather, and later to analyse, so that the outcome would be something 'meaningful' and 'coherent' (Bassey, 1999:44). In brief, I video recorded and observed mathematics lessons on 'fractions' in each term and then interviewed teachers at the end of each term using video extracts of their own teaching to stimulate discussion. Through this approach, I hoped to capture the work of Year 6 teachers across a year as they worked towards SATs in May and the publication of results in July. The timetable for these activities is shown in the Gantt chart in Figure 12.

For each case study, I could thus draw on approximately 10 hours of video footage of teaching, a book of field notes, approximately four hours of audio recordings of interviews (later transcribed), and a pen portrait written by the teacher[13]. Figure 13 provides an overview of the data sets.

	Autumn term 2015	**Spring term 2016**	**Summer term 2016**
Anna	**4 observed lessons** (4 hours of video) (4 sets of field notes) **1 interview** (1 hour of audio) **Research diary notes**	**2 observed lessons** (2 hours of video) (2 sets of field notes) **1 interview** (1.1 hours of audio) **Research diary notes**	**1 observed lesson** (1 hour of video) (1 set of field notes) **1 interview** (1.1 hours of audio) **Research diary notes**
Bernard	**4 observed lessons** (4 hours of video) (4 sets of field notes) **1 interview** (1 hour of audio) **Research diary notes**	**3 observed lessons** (3 hours of video) (3 sets of field notes) **1 interview** (0.7 hours of audio) **Research diary notes**	**2 observed lessons** (2 hours of video) (2 sets of field notes) **1 interview** (1.2 hours of audio) **Research diary notes** **Pen portrait**
Claire	**3 observed lessons** (3 hours of video) (3 sets of field notes) (copies of children's work) **1 interview** (0.7 hours of audio) **Research diary notes**	**5 observed lessons** (5 hours of video) (5 sets of field notes) **1 interview** (1.3 hours of audio) **Research diary notes**	**2 observed lessons** (2 hours of video) (2 sets of field notes) **1 interview** (1.4 hours of audio) **Research diary notes** **Pen portrait**

Figure 13: An overview of the data sets.

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[13] This was not provided by Anna.

4.3.1   Lesson observations

Each participant allowed me into their classroom to observe them teach the aspects of fractions that were new in NC2014. These lessons were video recorded for stimulated recall in interviews scheduled for the end of each term. Haw and Hadfield (2011) describe this use of video as the 'reflective mode' which is often used for teacher professional development. The authors adopt the metaphor of looking into a mirror and I was keen that my use of video would be an opportunity for participants to look back at themselves teaching – as though in a mirror – and to provide a commentary on this. This method invited Anna, Bernard and Claire to see themselves from the outside and thus instigate a process of objectification. This, I hoped, would provoke discussion and subsequently enable me to better understand the teachers' work.

In each term I observed a sequence of lessons from each teacher with the first lesson observation happening in September 2015, and the last in April 2016 (see Figure 13). In lessons, the video camera was set up at the back of the room and I ensured that this was always trained on the teacher, rotating the camera and zooming in and out as appropriate in order to best capture their work. The teachers agreed to wear a microphone so that I could capture what they were saying no matter how far from the camera they were. The microphone also picked up pupils' voices when they were close to the teacher, and on a few occasions, I overheard conversations between the teacher and a teaching assistant (TA).

4.3.2   Field notes

Mindful of my professional background as an expert, I was keen to explore strategies for shifting my observational gaze and field notes from that of a consultant to that of a researcher. In pilot observations, I adopted an observation schedule (see Appendix 3) based upon the Knowledge Quartet (Rowland et al., 2005) because I hypothesised that this approach would help me to shift from evaluative to descriptive observations of mathematics teaching. As reported in Townsend (2015), I was unsuccessful and continued to be critical. In the end, instead of an observation framework, I adopted blank notebooks and responded to whatever caught my attention, capturing my thinking in the form of words or (often) pictures (for an example of this see Appendix 4). These ended up being a record of what caught my attention and my responses to what I observed (Lofland, 2004).

4.3.3 Informal chats

Often, either side of observations, I would have interesting conversations with the class teachers about aspects of the lesson and the TAs would sometimes join in too. As soon as possible after those informal chats (in which I felt like an insider, a co-witness of the lesson), I would attempt to write up the conversation in my field notes. In these situations, both the teacher and the TA were aware of who I was and what I was interested in, and although I did not have written consent from the TA regarding participation in the research they were not tricked into talking with me and they could choose to not chat at any point. Swain (2018) describes how he dealt with a similar situation where someone giving him a lift – and therefore not an official participant (and who had not completed a consent form) – asked about his research and then willingly entered into an unexpected and extraordinarily informative conversation. Like Swain (2018), I took similar opportunities, and these really helped me to feel like an insider and to better understand the local context in which the teachers worked. Nothing said 'off the record' is explicitly used in this thesis.

4.3.4 Analysis of data collected in the field

Once I had completed my observations in the autumn term, I refamiliarised myself with the data as recommended by Nowell et al. (2017). I read through my field notes and reflexive research diary entries for the three teachers in turn and applied codes, sometimes simultaneously (see Appendix 5):

> A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data. (Saldaña, 2009:3)

The codes used were partly generated from the data, and partly already known to me as I had been immersed in the data for the whole term. This was an 'interpretive act' (p4) and for each teacher, the codes were slightly different. In order to gain an overall perspective of the data, I brought the codes together into 'categories or "families" because they share some characteristic' (p8). This is demonstrated in Figure 14.

Codes applied to ABC (repeats removed)	My 'external' influences	The resulting category
Insider/outsider		**Researcher insider issues**
Accountability SATs, data Test preparation Setting because of tests		**SATs and accountability**
Mastery? Pattern spotting ≠ mastery	Mastery – interpretations of the term	**Mastery**
Choice of examples Choice of questions	Mastery – variation (one of the '5 big ideas' of mastery) KQ – transformation (pedagogy employed)	**Choice of questions/ examples**
Teacher insight Pupil insight	KQ – foundation (teachers' knowledge, beliefs and understanding) KQ – contingency (dealing with unexpected events)	**Teacher insight/ subject knowledge**
Ability Mixed ability Partner/ group work Class v set, differentiation Pupil attitudes Pupil confidence Speed valued? Pupil ownership Pupil ownership of learning	Mastery – belief that all can achieve (attainment v ability) KQ – foundation (teachers' knowledge, beliefs and understanding) NC2014 purpose of study – confidence and resilience NC2014 purpose of study – valuing depth (over speed?)	**Classroom culture and organisation**
Teacher modelling Models and images Language Manipulatives Use of technology (visuals) Connections in teaching Real life, images, 'of', common sense Methods Modelling – rules v understanding Making generalisations Understanding the maths?	Mastery – emphasis on conceptual understanding NC2014 aim of developing conceptual understanding NC2014 aim of reasoning – including making generalisations KQ – transformation (pedagogy employed) KQ – connection (coherence of the teaching) Skemp – instrumental v relational teaching Bruner/ Haylock – language, concrete resources, pictures and symbols	**Teacher modelling**

Figure 14: Codes applied to field notes and reflexive research diary entries, my 'external' influences, and the resulting categories.

The codes and resulting categories were very much influenced by my own interests as a result of reading research literature, engaging with national mathematics policies,

reflecting on educational issues, and spending time with teachers. Two large categories emerged from this process which I have labelled 'classroom culture and organisation' and 'teacher modelling'. These represent the two main areas that dominated my attention when observing: the experience of the pupils, and the performance of the teacher. As the thesis is an examination of teacher identity, predominantly informed by interviews, the categories employed at this stage served merely to draw my attention to what *I* was noticing as the observer and brought to light the struggles I had of shifting from consultant to researcher. Had the thesis been a close examination of any of the codes making up these categories (e.g. relating to the teaching methods employed, or of pupils' experience of ability labels) then the categories would almost certainly have been more focused.

The next task was to select video extracts associated with these code categories so that in the interviews, I could view these with the teachers who would then be invited to talk about how their work can be described as 'good' in this high-stakes context.

4.4 Termly interviews

As indicated in the earlier Gantt chart in Figure 12, termly interviews happened at the end of a teaching sequence. Interviews lasted approximately an hour and provided an opportunity to discuss general themes and the video extracts from the teacher's lessons. These were audio recorded and later transcribed.

Because my intention was to look in detail at three teachers already known to me, I was drawn to the idea of 'depth interviewing' as described by S. Jones (2004). Even the title felt instinctively as though the approach would be suitable for contributing to case studies where the aim is to create a rich – deep – picture of the case. As an approach, the depth interview is particularly useful for understanding the reasons people give for their actions. S. Jones (2004) distances depth interviewing from the use of a prescriptive list of questions which force the discussion of certain themes and leave the interviewer without time (and without permission) to pursue other unanticipated topics which arise and appear interesting. That said, she stresses that depth interviews are not totally open and unstructured, they are not 'presuppositionless' (p258):

> The process of interviewing is one in which researchers are continually making choices, based on their research interests and prior theories,

about which data they want to pick up and explore further with respondents and those which they do not. The making of these choices is the imposition of some structure. (p258)

I imposed a structure in relation to the code categories that came from observations and field notes, and from the video extracts selected and key questions identified for each interview. Of course these in turn reflect my interests as a researcher and my understanding as an expert and insider. By imposing this structure, I led teachers to recall events and tell stories which were relevant to the research as opposed to allowing for inappropriate diversions.

While the depth interview is recognisable as a form of the interview speech genre – with the interviewer asking questions and the interviewee responding – in other interview-types, speakers' roles may appear blurred. L. Brown (2013) has adopted the idea of conducting what she terms 'narrative interviews' with mathematics teachers in order to capture their stories:

> … for me, narrative interviewing involves a co-construction of the interviewee and myself the interviewer. The interviewee is the narrator of their experience, in 'flow' in Bruner's sense, so the interview has a focus … We seek meaning together in relation to this 'flow' … My roles as interviewer are to ask questions when I know that I do not understand; tell stories from my own experience to say what I think is meant; and ask always for more detail from their experience. (p2-3)

The importance of hearing and telling stories about practice is central to this interview style and is very close to the way in which I conducted interviews with my participant teachers. As interviewer, I asked questions, of course, but I also contributed with 'stories from my own experience' and in this way I think I challenged participants' ideas of what an interview should be like, and they perhaps relaxed a little. This way of interviewing was difficult for me though, not because it was hard to share stories, but because I had to resist the urge to also share ideas or make suggestions for improvement. Furthermore, whilst I had prepared video extracts and key questions in advance, I learned I had to be 'alert to the flow of conversation' (Barbour and Schostak, 2011:65) and register when a topic had been covered without my prompting.

I was mindful that 'the interview is a social, interpersonal encounter, not merely a data collection exercise' (Cohen et al., 2011:421). Anxious to ensure that this 'interpersonal encounter' was non-threatening, I was mindful of how I presented myself to participants:

I was conscious of being an I-for-the-other. For example, I considered where I would sit in relation to the interviewee as well as where I would position the laptop so that we could both see the screen clearly. Whilst considering the approach to take, I came across Thomson and Hall's (2008) paper outlining their experience of encouraging children to talk about their paintings. Initially the children were reluctant and interviews were stilted, and then three things changed which altered the dynamics of the situation and elicited more talk from the child interviewee: a shift to focusing on the painting, creating an informal context and positioning the child as the expert.

I related this to my own situation and my position of power as a researcher and as a consultant; interviews had the potential to result in a formal scenario like a teacher being interviewed by an Ofsted inspector. Drawing on the experience of Thomson and Hall (2008), I positioned the audio recorder so that it was out of the teacher's view, and I sat alongside them with the computer in front of us as the focus for us both (see Figure 15). I then proceeded to take the role of one who – despite having been present when the clip was recorded – needs to have the video extract explained in order to learn what was happening from the teacher's point of view.
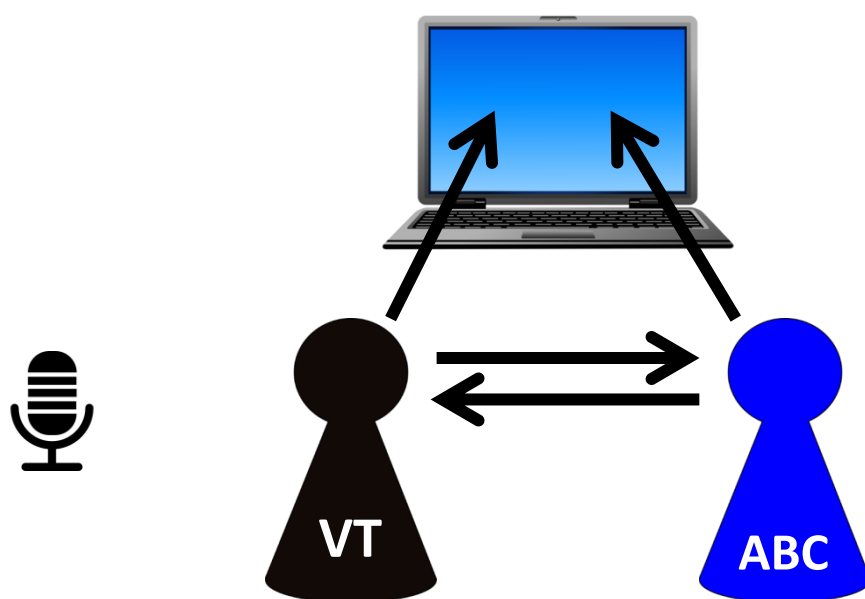
Figure 15: Setting up the space for an interview with Anna, Bernard or Claire.

4.4.1   Selecting video clips in advance

Derry et al. (2010) suggest that because the 'selection [of video extracts] determines which events are brought into focus for deeper analysis' (p7), reflecting on and communicating how and why video extracts are chosen is an essential exercise for the

researcher (see also de Freitas (2016)). Derry et al. (2010) suggest two motivations for selecting clips: that they support the researcher to identify 'patterns within and across events'; and that they are used to 'support an evolving narrative' (pp14-15). In this project, I select clips for both of these purposes and view my identification of video extracts as one of the ways in which I co-constructed the narratives of Anna, Bernard and Claire.

My expert and insider knowledge ensured that I approached the task of identifying events relating to code categories as a 'trained observer' (p7), and was thus able to identify moments of interest in relation to these. Rather than trying to flee from being an expert, I used my knowledge to my advantage. I re-watched lessons, used my notes and drew on my memory of being present in order to identify relevant extracts. It is worth noting that, as can be seen in Figure 16, not all code categories had video clips associated with them and some clips were associated with multiple categories.

	Autumn term 2015	Spring term 2016	Summer term 2016
Researcher insider issues	0	0	0
SATs and accountability	2	3	6
Mastery	3	0	0
Choice of questions/ examples	0	3	0
Teacher insight/ subject knowledge	2	11	6
Classroom culture and organisation	31	7	13
Teacher modelling	39	29	18
Actual number of clips[14]	**51**	**33**	**29**

Figure 16: Video extracts selected in each term, mapped against observation themes.

Clips were extracted because in some way I had found that part of the lesson 'interesting'. I recognise that sometimes a clip was 'interesting' to me because it matched my own beliefs about teaching. Sometimes a clip was 'interesting' for the opposite reason; I found the teaching problematic or disappointing because it was not what I had hoped to see. Sometimes a clip was 'interesting' because I genuinely wanted to

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[14] Clips could be tagged to more than one theme and so the actual number of clips is not equal to the sum of figures in that column.

understand more about what the teacher was doing, for example when an event occurred which was unanticipated.

Whatever the reason for them being identified, I believed the extracts would initiate rich conversations about the teachers' practices and thinking. I did not try to ensure that each participant had the same amount or type of clips collated because the extracts were chosen to inform individual interviews and co-construct stories, not for purposes of direct comparison. As Derry et al. (2010) describe, I was selecting clips 'in accordance with a narrative structure that [was] emerging' (p11) and as my understanding of and interest in the teachers' stories grew, I increasingly selected clips to build their cases.

In my notebook, I made a note of the different code categories that had arisen for that teacher and colour coded the video extracts to show which category(ies) they corresponded with. This helped me with selecting clips during the interview. I also occasionally made a * next to a clip which I really wanted to ensure that we watched together (see an example in Appendix 6).

4.4.2   Preparing key questions

Across the year, external influences had a large impact upon my thinking about mathematics education and social theory and consequently these influences are reflected in the key questions that I used with all three teachers. In addition, I annotated these questions with personal notes in advance of each interview. As I got to know each teacher and their class across the course of the year, I became genuinely interested in them, and so there were specific individual topics from that term that I wanted to explore or follow up on. Often these built on things we had discussed in a previous interview or informally after a lesson observation and I focused on 'the features of the case which gradually appear [sic] to be most significant' (Mabry, 2008:217).

In term one, I was particularly engaged with the national conversation about 'mastery', and so the key questions for the first interview (conducted in early January) were designed to discover the extent to which participants were also engaged with discourses of 'mastery' and how this was influenced by their local contexts and histories-in-person. The key questions and any additional questions and notes for Anna, Bernard and Claire are included in Appendix 7.

In term two, the proximity of the SATs dominated teaching and so in interviews held in March/April, questions were asked about the pressures that the teachers and pupils were under at this time. In addition, I began to engage with theory (especially the idea that there might be such a thing as a figured world of the primary school and a symbolic figure of the Year 6 teacher). I also wanted to explore what the participants really thought teaching should be like, in order to understand their beliefs as teachers and the extent to which working in Year 6 is perceived or experienced as a compromise; I wanted to give them some space to talk more generally about themselves as teachers – in order to understand the interplay between their histories-in-person and the local context – without asking too much specifically about mathematics. Key questions and additional questions and notes for the second interview are noted in Appendix 8.

By term three, I had got to know the teachers well and I had begun to be extremely sympathetic to their role, and really interested in their contexts and how they influenced practice. Because of the proximity of the SATs, term three observations largely concerned revision with interviews carried out in July/August after results were published so that these could be discussed. Throughout the year I had gained a deep understanding of the accountability pressures on the Year 6 teachers and so in the final interview, I aimed to explore these with them in more depth. As well as my interest in the national curriculum tests, the questions reflected my on-going analysis of interviews and my increasing interest in theory and literature. The three key areas covered were: accountability; teachers' pedagogical decisions; and the role and status of 'the' Year 6 teacher. As in earlier terms, I also added questions for individuals that were particularly pertinent for that teacher. Both these and the key questions are listed in Appendix 9.

4.4.3   Sharing and discussing video extracts

I was anxious that the experience of watching and discussing video extracts be different from increasingly common forms of professional development where an individual or group of teachers is invited to talk about the practice shown in the video extract (perhaps their own) alongside an expert who coaches them to improve (Jaworski, 1990; Star and Strickland, 2008; Coles, 2016). This was challenging for me.

In this research project, I had already witnessed the lessons under discussion, and the teacher had of course also been present, so for us, the video extracts provided a useful reminder of an earlier 'shared teaching-learning event … as a starting point for the

discussion' (Jaworski, 1990:63). By using video, I was able to place the teacher (not always comfortably) in the position of observer so we could both look at the event from the outside and then draw on our memories of how it felt at the time from our different perspectives. In this sense we would be co-constructing the story of what happened in the lesson.

In the same way that I used key questions flexibly, so I made choices in the moment about which video clips to view and I deliberately selected more clips than we could watch so that I had a good range of options available to me. Video clips were chosen to fit with the flow of conversation: to show an event that the teacher had recalled; to exemplify something we had been speaking about; to introduce a new topic which would get us talking again if there was a lull in conversation. Although I occasionally marked a clip with an * to indicate that it must be shown, in reality I didn't always do so if in the moment it felt counter to our discussions.

I always introduced the video extracts before sharing them despite the original lesson providing a bond between me and the teacher in the form of a shared history. As interviews often took place some weeks after the observed lessons, I set the context of when this particular event took place, what had been the focus of the lesson, who is in the clip and where this extract fitted within the lesson as a whole. This was helpful for both of us and often resulted in us recalling and talking about other aspects of the lesson before the clip was shown.

In their research with preservice teachers, Star and Strickland (2008) note that classrooms are complex and a teacher 'cannot reason about classroom events if he [sic] does not even attend to, or notice these events' (p111). Although teachers in my research are experienced, without guidance when viewing video of their rich and complex classroom, they may have been drawn to details of the lesson which were of interest to them, but not to me. When introducing the context of the extract, I drew the teacher's attention to a particular feature of the clip in an attempt to direct their gaze, to impose some structure onto the conversation. I sometimes justified why I was interested in the events and why it would be good to talk about the clip. I also recognise that sometimes, depending on the teacher's disposition at that moment, I attempted to convey a subtle message within my introduction. For example, this might be to flatter or reassure in an attempt to boost the teacher's confidence or to convey my approval of their teaching.

I regularly interjected in a jovial way and conversations often contained laughter. I had 'a self-conscious awareness' (S. Jones, 2004:259) of being relaxed and wanting to ensure that discussions were informal and non-threatening; that they were between two insiders who had lived through the same lessons and were now reminiscing like old friends about what had happened. van Enk (2009) describes this as the interviewer and interviewee realigning 'as our "real" selves' (p1274), a process which aids the dialogic co-construction of a narrative.

On the whole, from a technical perspective, the experience of watching video extracts together went smoothly. Only occasionally was the sound quality poor, but in these moments we could manage without because we were present first time around and could together make up what we were unable to hear in the replay.

4.4.4   Analysis of interview data

My experience of analysing data was similar to that of Colley (2010):

> We talk about data generation and analysis as separate tasks, yet in reality I was making spider diagrams of each interview after I had carried it out, listening to the tapes, jotting notes and partial transcripts of what seemed to be significant passages, continuing to read the literature and make connections to that, cross-referencing different interviews with margin notes in the full transcripts, and so on. At the same time, issues I had expected to explore were becoming redundant, whereas unexpected themes emerged. (pp186-7)

Here, I set out my own equally messy experience of working with interview data. Interviews had been audio recorded and were transcribed verbatim and word by word by me (Kvale, 2007) but with little punctuation. They looked akin to a play script. This lengthy process provided ample opportunity for me to become familiar with the text (Nowell et al., 2017). At this stage, I also added a few commentary notes to indicate laughter or a change in tone, volume or pitch of voice, and captured moments when we interrupted each other. I also added commentary on what I could remember us doing in the interview (for example, looking at a child's book).

As modelled by Saldaña (2009), the interview text was printed to fill half of a page allowing space for initial codes to be added alongside. As I read through the interview, I used this space to add comments, questions and words to summarise sections of text (see Appendix 10). These effectively formed my initial codes.

On a second reading of each interview, I looked out for the ways in which participants and I had used language. I highlighted any interesting uses of voice and any unusual or significant phrases, especially where these were repeatedly used for effect. I also noted aspects of dialogism such as when we took up or rejected each other's words or topics.

My third reading was concerned with identifying aspects of Holland et al.'s theory (1998). I noted moments of positioning, including by me, and also identified moments when teachers appeared to be describing having agency or choice in how they go about their work[15]. My comments on positioning also included mention of insider issues and anything that made reference to my previous relationship with interviewees. As I noticed reappearing topics, stories and characters, or if anything reminded me of something in the literature, I commented on these (see Appendix 11).

With each reading came increased familiarity with Anna, Bernard and Claire's overall narratives as well as their individual stories and reappearing characters. For each teacher, I completed a sociogram – a web of the people in their stories (for an example, see Appendix 12) – and also attempted to map power relationships between the teacher, myself and other central characters (see Appendix 13) (Cohen et al., 2011:448-9; Borgatti et al., 2013). In addition, I created a topic map for each interview (see Appendix 14) and took the recurring topics to be what was of importance for each teacher.

I then added post-it notes to the transcript to identify significant stories (see Appendix 15 for an example) and labelled these with a theme:

> A theme is an outcome of coding, categorisation, and analytic reflection, not something that is, in itself, coded … As an example, SECURITY can be a code, but A FALSE SENSE OF SECURITY can be a theme. (Saldaña, 2009:13)

By the time I was working with the third set of interview data, I had completed this process twice for each teacher and was very familiar with Anna, Bernard and Claire's interests, and with the themes that I had allocated to some of their stories. I became more aware of how topics and characters were reappearing within individual narratives and also gained a sense of what were points of similarity and difference across the three

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[15] Originally, I had a research question related to teacher agency but I found that this was not frequently discussed. I concluded that I was more interested in understanding position and status, and how teachers orchestrate discourse – which were abundantly present in narratives – and that addressing these would provide a better picture of to what extent Year 6 teachers are able to experience freedom.

teachers. Before I had finished interpreting all of the data, I began to collate my observations in anticipation of the cross-case analysis required for the discussion chapter. Miles and Huberman (1984) – like Colley (2010) above – suggest that it is normal to have layers of analysis happening simultaneously in the flow of research (see Figure 17).

Figure 17: Components of data analysis: flow model (taken from Miles and Huberman, 1984).

Once all data were collected and interesting stories for each teacher were identified, these were transferred to post-it notes and grouped by theme (which was often an aspect of theory). This provided a visual representation of teachers' narratives from across three interviews (and their pen portraits) which could then be transferred into the individual case studies (Appendix 16). This exercise provided the structure for initial drafts of each case.

As I began to write each case, I also continued to discover things about Anna, Bernard and Claire. As I brought stories together, I noticed nuances in the data that my earlier readings had missed. I continued to work on the data right until the last minute, always conscious of my responsibility to present an honest retelling of their narrative.

In presenting my data, I have removed the ''mh'-s and the like' (Kvale, 2007:95) and have tidied up the transcription, adding punctuation and the occasional word in square brackets to aid readability. I have also adopted and adapted some of the transcription symbols recommended by Speer (2008). These are shown in Figure 18.

Symbols	Meaning
word/	Cut off mid-flow
(words)	A guess at what might have been said if unclear
[words]	Words inserted to aid readability
…	Words have been omitted
((both laugh))	Comments on tone or actions or laughter
°words°	Words between the degree signs are spoken in a whisper
↑word↑	Words between the arrows are spoken in a high pitched voice
<u>words</u>	Words are emphasised by the speaker

Figure 18: Transcription symbols adapted from Speer (2008).

4.5   Internal ethical engagement

I was granted ethical approval by Manchester Metropolitan University (see Appendix 17) but this did not guarantee – due to my expert-insider-outsider status and the dialogic nature of an interview – that the research would be void of ethical complication. Floyd and Arthur (2012) describe the official process of seeking approval as 'external ethical engagement' and coin the term 'internal ethical engagement' to describe the kind of low-level day-to-day ethical mess that I encountered:

> … internal ethical engagement relates to the deeper level ethical and moral dilemmas that insider researchers have to deal with once 'in the field': the below-surface, murky issues that arise during and after the research process linked to ongoing personal and professional relationships with participants, insider knowledge, conflicting professional and researcher roles, and anonymity. (p172)

The authors suggest that insider researchers be particularly attentive to 'murky issues'. This is certainly true for me and therefore I now draw attention to some of the particular situations that arose in *this* research with *these* participants addressing *this* researcher. While I made considerable attempts to minimise the impact of the researcher being me, I simply cannot know to what extent I was successful.

In order to examine some of these 'murky issues', I draw on five commonly recognised ethical principles – minimising harm, respecting autonomy, protecting privacy, offering reciprocity, and treating people equitably (Hammersley and Taianou, 2012) – some of which I have already referred to, and each of which will feature in the discussion that follows.

4.5.1 The challenge of saying 'please' and 'thank you' as an expert-insider-outsider

Although my contact was initially with teachers, the research was negotiated in a meeting with them and a senior leader from their school. I was keen that I 'show respect for people in the sense of allowing them to make decisions for themselves, notably about whether or not to participate' (Hammersley and Taianou, 2012); these meetings provided opportunity for participants and the school gatekeepers to make an informed decision about whether to take part. I was in a powerful position as researcher and consultant and although I offered the opportunity to withdraw, I cannot know how that offer was experienced. There is a possibility that participation was seen as a way of paying me back in some way for something I had done for them in the past (BERA, 2018).

As I embarked upon the research with schools and teachers who had previously been my clients, I consciously reassured them that 'non-participation is acceptable' (BERA, 2018:14). I was also very clear during the recruitment process that participation was not a continuing professional development (CPD) opportunity as such; I would not be 'training' anyone to teach fractions the 'right' way. I encouraged participants to think about being part of the research as the opportunity to contribute to research knowledge, and to consider working with me as a useful chance to reflect on practice, and in that sense, as an opportunity to develop.

From my reflections it is clear that I struggled with my role and identity throughout the research process, and I wonder how teachers and Headteachers perceived me. I cannot know whether as teachers addressed me, they felt that they were working *with* me or performing *for* me. I also cannot know what motivated the gatekeepers to allow my research to go ahead and whether they got what they hoped from the experience (Hammersley and Taianou, 2012).

At the start of the data collection process, I informed teachers that they could have a copy of any interview transcripts upon request, and none of them contacted me for these. At the end of the academic year, I was keen to acknowledge and say thank you for the effort involved and disruption caused. I did this by providing each teacher with the complete unedited videos of their teaching, and offered to spend half a day with them or their colleagues looking at teaching fractions.

4.5.2 The struggle to treat self-selected cases equitably

An unexpected consequence of teachers offering themselves as participants in this research is that I knew little in advance of *how* they would approach teaching NC2014. As it happened, I did have a good idea of the principles that Claire had been exposed to through the MaST programme and as a member of ATM, and as I had been Bernard's ITE tutor, I knew the principles that I had shared with her. I was also aware of what had been shared with Anna at subject leader network meetings (which included input on pedagogy). However for all three, I had no idea to what extent different discourses of mathematics teaching had become part of their actual practices. This situation resulted in the unexpected consequence that when I sat in classrooms to observe lessons, I viewed teaching through my history-in-person lens and with certain hopes and expectations of what I would see.

A dilemma that I especially encountered after my early observations was the teacher coming to me after the lesson asking "How was it?" I felt them wanting my approval and struggled to know how to respond, especially when they had not taught in the way I would have hoped. On the whole, I responded with something bland along the lines of "It was really interesting, thank you". In these moments, because I have done such deep thinking about pedagogy, I found myself actively resisting my disposition as a consultant to suggest ways in which their teaching could be improved. On the whole I chose to be the researcher and to say nothing.

At the end of the autumn term, I reflected on my field notes and experienced a rupture and recognition that I had been very critical of the teachers. My field notes were littered with examples of what Mason (2002) describes as 'accounting-for' what I see: the detail of what happened is supplemented 'with judgements, with explanations and theorising, with value judgements and emotively evaluative terms' (p40) (for an example, see Appendix 4).

As Lofland (2004) suggests, 'field notes are not only for recording the setting; they are for 'recording' the observer as well' (p234). Through my field notes, I became aware of how I was seeing the teachers, favouring those whose practices most closely reflected my own views about teaching, and articulating surprise or disappointment at what I saw as missed opportunities. I found this troublesome because I had a commitment to treating the

teachers equitably and to avoiding causing them professional harm. Hammersley and Taianou (2012) draw attention to the ways in which studies can also have an impact upon the reputation of groups, and so it became important to me that I find a way to shift the research away from being critical of both individual Year 6 teachers and Year 6 teachers more generally. Following this rupture and recognition, I refined my research agenda to take a more sympathetic view of Anna, Bernard and Claire by focusing on how *they* describe themselves as doing a 'good' job of teaching mathematics in Year 6 in their local contexts.

I concluded that an 'account-of' video data would only be included in the thesis if it was essential to understanding a passage of interview text in which the extract was discussed. There are a small number of lesson extracts and subsequent discussions presented in the cases of Anna, Bernard and Claire.

4.5.3   The realisation that I cannot avoid causing harm

I entered the research with a commitment to causing no harm to participants and was distressed to find myself casting judgement. I became extremely concerned to avoid the research becoming about comparing and contrasting *their* practice against *my* beliefs about mathematics teaching. It was important for the research to be focused upon understanding what Year 6 teachers say about *why* they teach mathematics as they do in the context of preparing pupils for high-stakes national curriculum tests. Hence the need for 'taking context seriously' (Braun et al., 2011:585).

In the information sheets for participants, I set out how I intended to protect privacy through changing names of people and of the school. However, this is not straight forward. Deciding what to make public was particularly pertinent as the specific details – the individual and local context – are central to understanding each case. In terms of the local context, school data such as SATs results and the percentage of pupils in receipt of free school meals have been rounded so that the sense of the local context can be conveyed without the actual institution being identifiable. Location, school name and the names of staff and pupils have been anonymised and no direct quotes are given from either the schools' websites or from Ofsted reports. A summary of this information was shared in Figure 11.

In order to convey individual context, at the end of the year, I invited participants to write a pen portrait so that I had some biographical details beyond what is outlined in Figure 11 and in my early pen portraits, and what had been shared in different formats across the year. This has resulted in cases that are so distinct that it is possible, even after names have been changed, that someone knowing the teachers will be able to identify them, and certainly participants will be able to identify themselves in the research. Stansfield (2014), in a paper on the issues of guaranteeing anonymity when describing in detail a small number of cases, claimed that 'it would be difficult to disguise the facts without losing the strength of the story' (p5), and I feel similarly. Gender, qualifications, how we know each other, all contribute to our co-constructions of participants' distinctive narratives and so it is important, if challenging, that these features be retained.

I did not share my analysis of either classroom teaching or interview data with Anna, Bernard or Claire during the course of the research, and they did not ask to see this at any point. As the thesis neared completion, I contemplated how best to communicate its contents with participants. I reflected on the guidance from BERA (2018):

> Researchers have a responsibility to consider what the most relevant and useful ways are of informing participants about the outcomes of the research in which they were or are involved. (BERA, 2018:6)

For this project, the change of focus – from mathematics pedagogy to identity – provided me with pause for thought about how best to communicate the research findings so that they be 'relevant and useful', and cause as little harm as possible.

Mathematics pedagogy continued to be at the heart of conversations in classrooms, was present in my observation notes, and was discussed in interviews. In other words, when I was with the participants, I was interested in what they were doing in their mathematics lessons, and so from their perspective, they had no reason to doubt that this was still my focus. Had I adopted The Knowledge Quartet (or similar) as my tool of analysis to capture the intricacies of mathematics pedagogy, I anticipate that I would have produced an evaluative commentary of Anna's, Bernard's and Claire's practices, leading to recommendations on how best to teach fractions in Year 6. In some respects, the shift of focus towards issues of identity came about because I was concerned that close scrutiny of the teachers' mathematics teaching might cause them harm, especially if I was critical of what they were doing. However, I suspect that such a critique was expected by Anna,

Bernard and Claire who – as teachers in a performative system – were familiar with their teaching being dissected. As someone working as a mathematics consultant, and accustomed to supporting new and experienced teachers, I could have provided feedback sensitively and offered to work with them and their colleagues beyond the period of data collection – using the findings of the research in a constructive way – to improve their practices. In this case, feedback would have been 'relevant and useful' (BERA, 2018:6) to participants but would have further complicated my status as expert-insider-outsider researcher.

The change in focus may not have been apparent to participants but was central to my analysis of interview data, and the subsequent writing of individual cases and cross-case discussion. Without an understanding of the theories adopted, and how these build up a narrative account it would have been difficult for Anna, Bernard or Claire to provide feedback on my analysis of their cases, and so I did not seek their 'approval' prior to submission. In addition, I was concerned that although they had freely recounted stories of their work as teachers and told me a little of their personal histories, they would be shocked to find these at the heart of my analysis. Also they might find it difficult to see how the research could be 'relevant and useful' (BERA, 2018:6) to them. The individual cases studies are not the anticipated critique of mathematics teaching practices, rather they are my commentary on teachers' identities and beliefs, and as such are far more likely to cause upset to participants if not understood in the context of the whole thesis.

Bloor (1997) writes that:

> Just as a member's commonsense thinking about the social world has only that degree of clarity and specificity required for the member's current purpose at hand, so the degree of elaborateness of the researcher's analysis will depend on the researcher's current purpose at hand. (pp49-50)

As a doctoral researcher, I have immersed myself in the literature described in Chapter 2 and theoretical texts as described in Chapter 3; another researcher might have chosen a different approach and consequently come to different conclusions. However it is through *these* dual lenses that *I* have undertaken a complex analysis of data; this was *my* 'purpose at hand'. This was a purpose that was not shared by my participants who remained experts in their own 'purpose at hand': that of teaching Year 6 pupils. This was never a joint piece of work and as such, I cannot assume that Anna, Bernard or Claire

would share *my* analysis because they were not familiar with the approaches *I* had taken. For this reason, I did not feel it was appropriate to check with them that my analysis of their case was 'right'. This respects our expertise and our 'purpose at hand'.

The purpose of sharing the complete thesis is to say thank you to Anna, Bernard and Claire. Sharing at this stage provides participants with the opportunity to read their case in the context of the whole thesis including overviews of literature and theory, and alongside the other two cases.

Another way in which I interpreted 'harm' was to think about it as synonymous with disruption to learning. I deliberately selected methods which I believed would have the smallest impact upon the teachers' practices because I wanted to observe naturalistic teaching. My focus at all times was on the teachers however pupils were also present and also affected by my presence in lessons[16]. I was sensitive to the impact that the video camera had on pupils and relocated within the classroom so as to be unobtrusive.

On reflection, I have come to appreciate that the teaching I observed would always be *for* me, that lessons may have been taught differently because I was present as an other-for-me. There was also always a chance that – despite having volunteered to be part of the research – my presence could feel akin to being observed as part of high-stakes accountability measures (e.g. by an Ofsted inspector) and that the process of observation itself was stressful for the teachers, possibly exacerbated by the use of a camera. I saw myself as a friendly familiar face with a genuine interest in teaching, but remembering that my roles as researcher and consultant are both imbued with power, I wonder how I was seen from the other side.

I chose to be a 'fly on the wall' in lesson observations – as opposed to becoming involved as a TA – because I wanted to interfere in the lessons as little as possible; I wanted to minimise what Robson (1993:208) calls 'observer effects'. At the start of each sequence of lessons, I was introduced to the classes, and despite being initially very excited by my presence, on the whole the majority of pupils ignored me. In one of the lessons in the first term, I was aware that I was causing a distraction to some pupils and so, as

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[16] Schools took responsibility for seeking permission from parents if they considered my use of video to fall outside of their existing permissions. Pupils were seen as non-participants and so were not asked to sign or agree to my presence. I was introduced to the class by the teacher who explained that I was focusing on the teacher and not the pupils.

suggested by Robson (1993), I learned to be 'small': I attempted to physically take up less space by sitting side-on to the lesson and hunching over my notebook, and rather than sitting separate from the camera, I began seeing the teacher through the camera lens and hearing the lesson through an earpiece. This had the additional advantage of making me look undisturbable. As pupils also became habituated to my presence, I felt that I was having increasingly little impact on the lessons.

There was only one occasion when I felt that I might have to abandon this principle of being 'small', and this was when Anna was unexpectedly called away from the class leaving me alone in the room with 30 children. I felt myself instantly worry about my position in the classroom but sat tight in the hope that no incidents would occur and that the teacher would return quickly.

My strategy of staying 'small' also had a positive impact on the teachers who I believe became less conscious of my gaze. In early observations, I had been concerned that my presence in lessons might feel intimidating and so, keen to not come across as scary or critical, I found myself smiling at the teacher and nodding along with things they were saying to the class. However, I became aware that this behaviour was catching their eye and so as well as being aware of my encouraging smiles, they were also aware of when I was not smiling, and especially of moments when I went to write something down in my notebook; I sensed them questioning what it was that they'd done to catch my attention. By looking at them through the camera lens, and checking that I was not in their direct line of sight, I drew attention away from the fact that I was observing them at all, as it might almost have appeared that I was looking at something else altogether.

The teachers did sometimes make direct contact with me in lessons even once I had adopted a 'small' presence. These interactions were to draw me into their teaching in order to seek clarification of a term or to ask for my approval of a statement, and confirmed my suspicion that they saw me as an expert. However, the only time that I instigated contact with them was to address a technical issue related to the microphone; an unexpected advantage of my wearing the earpiece was that I registered immediately if there were issues with the recording of sound.

As I left each lesson with notes and a video recording of them in action, I was able to continue to observe the teacher beyond the lesson, and this may also have increased

pressure on them to perform well. The teacher may have been concerned that I took away with me (and showed other people) a version of them 'at their best' despite my reassurances that the clip would only be seen by me and my supervisors. It is therefore entirely possible that what I considered to be unobtrusive research was actually deeply disturbing.

4.5.4   The experience of a personal rupture, and the recognition that sometimes my motives were questionable

As mentioned above, it has been hard to shift away from casting judgement on teachers and it is important for me to acknowledge that my motives during this project may not always have been as set out in the participant information sheets. At times, I have sought to improve Anna, Bernard and Claire.

At the time, I think I was subconsciously aware that as I selected video extracts which I found 'interesting' in advance of interviews, I did so with an ulterior motive; I chose extracts in which something was not quite right, and hoped that our discussions might lead to changes in practice. Keen to explore the extent to which this happened, I reviewed the clips I had chosen – in a process of objectification – concluding that I did share many clips of this nature. I came to recognise that when I introduced a video extract, I always tried to present the event selected as 'something interesting' and in doing so I thought that I was being neutral however because of my history as an expert, I wonder whether participants believed me. I wonder whether they assumed that I was making judgements and that anything shown was in some way faulty; that 'interesting' was synonymous with 'wrong'.

I became conscious of how teachers responded to observing themselves in action. J. Brown (2017), a doctoral researcher who is also sharing video extracts with teachers, found that their first co-viewing was 'coloured … by the newness of watching themselves on video and hearing their interactions' (p11). Despite the widespread use of video in teacher development, I noticed my teachers also becoming uncomfortable with watching themselves and seeing themselves from the outside; they made comments about what they were wearing or the sound of their voice. I also noticed them assuming that what I was showing was 'wrong'. For these two reasons, I showed fewer clips in terms two and

three because I sought to protect Anna, Bernard and Claire. In doing so, I denied them the opportunity to view and reflect on as many aspects of their practices as in term one, and I also denied me the opportunity to hear about these. I saw it as my responsibility to protect them.

4.6 Closing remarks

In this chapter I have outlined how I planned to answer my research questions and conduct research into three teachers who are all working at the sharp end of England's performative primary school system (Ball, 2003) but in very different contexts (Braun et al., 2011). I have raised ethical concerns related to my position as expert-insider-outsider researcher and demonstrated the degree to which I have been self-aware while working as a researcher.

I have explained how Holland et al.'s theory (1998) was used in the construction of key questions and later in the analysis of interviews and how teachers' histories-in-person, their references to position and status, and their orchestrations of educational discourses all aid an understanding of their narratives of doing a 'good' job in their work as Year 6 teachers.

I cannot escape from my history-in-person and so Bakhtin's work (1981; 1986; 1990), especially on dialogism, supports an exploration of interviews in which teachers are addressing me as an expert-insider-outsider researcher. Through what I say and in my choices of topic and video extracts, I co-construct teachers' narratives as three very different Year 6 teachers.

In the next three chapters, I present the cases of Anna, Bernard and Claire. Each case begins with some methodological detail about the nature of my relationship with the teacher and any particular concerns or first impressions that I had about conducting research with them. The cases then include stories of positioning and identity followed by stories about the performative pressures of working in Year 6. The cases of Anna and Bernard conclude with stories about how they orchestrate pedagogical discourses about mathematics however because being a mathematics pedagogue is central to Claire's identity, her stories about mathematics are embedded in the first two sections. The case

chapters are followed by a discussion chapter in which the three cases are brought together in a cross-case analysis focusing on each research question in turn.

5. Anna: the 'young whippersnapper'

Anna is an engaging raconteur who spoke enthusiastically and at length in each interview. Her stories are animated by changes in pitch and volume and a great deal of direct speech. She uses irony and speaks conspiratorially, injecting humour into her anecdotes. She presented herself as confident and ambitious, and described herself as 'an absolute achiever':

> (A)   I'm putting a lot of pressure on [the children] … I don't know whether that's from my own personal striving to be an absolute achiever from a competitive schooling environment or what. (A-int2)[17]

Of the three teachers, I knew Anna the least and I entered her classroom with less anxiety about how our existing relationship would impact on data collection. That said, I was initially shocked by Anna's single-minded focus on achieving good test results and I am aware that at times I made ill-concealed attempts to influence her thinking about mathematics pedagogy.

I present Anna's case with her identity work first alongside her use of positioning – of herself and others – in order to justify her appointment to the role of Year 6 teacher. Results are of great importance to Anna and in the second part of the case, I set out how she gives voice to competing discourses: that the results are hers, and that the results are the pupils'. Finally, I draw attention to how Anna orchestrates different pedagogical discourses including the authoritative discourse that she must adopt a 'skills-base' approach to teaching mathematics in order to ensure that pupils achieve in tests.

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[17] Extracts from interviews are always presented with the first initial of the speaker's name in brackets (). This extract comes from my second interview with Anna (hence A-int2).

5.1 Stories of positioning and identity

Anna's narrative is dominated by her positioning as Year 6 teacher and an accompanying need to prove that this positioning was justified. She considers her deployment to teach in Year 6 (at the beginning of the previous academic year) as flattering because as a newly qualified teacher (NQT) she did not have the experience that most incumbents to the role possess. When I asked her about this, she recalled her response:

> (A)   I was sat in Costa when I got the phone call to say, "You're in Year 6!" And I was like, "Are you kidding me? Really?" ((both laugh)) … it's a huge vote of confidence … ᵒYeh it's quite nice, nice to know they sort of trust me with some stuff. It's quite nice.ᵒ I wouldn't trust me, but ((laughs)) fair enough! ((both laugh)) (A-int3)

Anna self-authors as having been delighted and flattered to be positioned in this way. This positioning was and continues to be 'a huge vote of confidence' and a source of status: by deploying Anna to the role of Year 6 teacher, the Headteacher has very publically stated that Anna is a good teacher and, despite being new to the profession, can be 'trusted' with the important 'stuff' of Year 6 SATs. When Anna jokes that 'I wouldn't trust me', she acknowledges her inexperience and laughs about it, which in itself suggests that she is confident and maybe even unsurprised by this positioning.

5.1.1 *'"Really? You're only twenty-three, you're only little!"'*

Anna does talk about being aware of how she is different from most Year 6 teachers. Throughout her narrative and in many of her anecdotes, she reveals that she is sensitive to how others perceive her and uses these indicators to story herself, she sees herself through the eyes of others:

> (A)   A friend of mine came for an interview earlier this morning and she didn't even know I worked here and she said, "Oh where do you work?" And I said, "Up in Year 6." "Oh as an LSA[18]?" "No as the teacher!" She kind of looked at me as if to say, "Really, you're only twenty-three, you're only little!" (A-int3)

Anna tells this story that whilst she is young and 'little' – a reference to her diminutive stature – she is good enough to have been positioned as Year 6 teacher and is secure in

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[18] Learning support assistant, an alternative term for teaching assistant (TA).

her ability to do this high status work. Elsewhere she describes herself as part of a small group of 'young whippersnappers' (A-int3) working in Year 6, a group she contrasts with the 'really old sticklers' (A-int3) who are both older and have been doing the job for a long time. In this example and in the story about her friend, Anna creates a separation between herself and others which serves to make herself more special.

5.1.2   'They were like, "Uh! This child who doesn't know what she's doing."'

Particularly prominent in her stories are the parents of the children in her class. She describes parents as knowing more about education than she does and sees them as judging her:

> (A)   I think I am guilty of putting a lot of pressure on the kids but a lot of them are teachers' children or very educated children, parents are on the ball, they'll be reading the education section of the BBC more frequently than I will. They talk about it a lot at home. [A pupil] came in … he'd had a conversation with his dad about [grammar] at the breakfast table. (A-int2)

Elsewhere, Anna describes such well-informed parents as 'lawyer parents' (A-int1) and thus evokes an image of professional, articulate, middle class parents who argue for their child's rights and push for accurate information about their child's progress. She worries about what they think of her.

Significantly, Anna positions the parents as knowing her predecessor, Brian, and of comparing her with him. This comparison is a source of great tension for Anna and she talks about not having been accepted by the parents as Brian's replacement:

> (A)   … children instantly have a natural affinity to male teachers it would seem. They always want to be with male teachers so when it was announced that he was leaving, and then I was taking his place there were some parents/ You could almost feel when they handed their child across at the gate they were like, "Uh! ((pulls a face, both laugh)) This child who doesn't know what she's doing. ↑The future of my children!"↑ (A-int3)

In this extract, Anna returns to her self-authoring as being young and little, seeing herself through the eyes of the parents. She positions the parents as considering the figure of Brian, an older male, to be more akin to 'a good Year 6 teacher' and as having the appropriate attributes for such a responsible role. As a young female, Anna cannot

address this because these are attributes that she cannot possibly acquire. She feels negatively judged both by parents and by pupils who she feels have a 'natural affinity' with male teachers.

5.1.3 'I do look at other classes … and just think, "You don't know how hard I've got it!"'

Anna is aware that I am another potential judge of her suitability for working in Year 6. She knows that I bring professional knowledge about what it means to be successful in Year 6 and so in interviews, Anna provides me with examples of how she is also good at this work. In our first interview, she shows me a spreadsheet of class data which we gush over together:

> (V)   Oh gosh, I love a spreadsheet, look at that.
>
> (A)   … That's how we're looking at it at the moment, in terms of progress, so if they're making more than expected progress [they are in blue]. Are they making more than expected progress in this area? Are they reaching mastery in that area? Sort of putting it across with their data. ((opens a second sheet))
>
> (V)   Ah, an A3 spreadsheet!
>
> (A)   Oh yes, and when you're feeling really organised and you do that. ((opens it out))
>
> (V)   Ah, that's very satisfying.
>
> (A)   I know, it's lovely. (A-int1)

Encouraged by me, Anna shares how she is organised and is managing data successfully in her work. Building on this, in the second interview she tells me, 'I'm really proud of this' (A-int2) as she shares her spreadsheets again and describes how she found a complicated mathematical solution to using data from NC2000 and NC2014 in order to generate predicted scores for her pupils.

Being good at mathematics is central to Anna's identity. As well as choosing to share how she has used her mathematics skills in her management of pupil data, Anna also authors herself as better at mathematics than her colleagues. In this extract, Anna volunteers a story in which she positions herself as having superior subject matter knowledge to the Year 3 teacher who is her contemporary:

(A)   A point from my NQT time last year when I was with the Year 3 NQT and she was trying to explain fractions to her class, and they're just saying the line between the two numbers. And I said, "Do they know what the line means? Do they know it's a dividing by?" And she said, "Oh, I don't think they do." And it was like, "Well how can you teach them that three quarters is <u>not</u> three divided by four?" (A-int1)

Anna went on to say that, 'I wouldn't feel confident teaching [a topic] if I didn't know about it' (A-int1) which by implication suggests that she *does* know about Year 6-level mathematics and so she feels confident teaching it. By sharing this story, Anna is telling me that she is personally good at mathematics, and because of this is both good enough to teach it in Year 6 and better placed to do so than her colleagues. She justifies her position.

In much of Anna's narrative, she positions herself in opposition to others in order to emphasise difference. In this next extract, Anna tells me that working in Year 6 is really hard. She again contrasts herself with her Year 3 colleague, this time described as her 'really close friend' which softens the blow of what she is about to say:

(A)   My really close friend is the Year 3 teacher and she just sounds like every day is a barrel of laughs. She gets the chance to enjoy the children a lot more because they've had their SATs [in Year 2] … So I do look at other classes with the green eyes sometimes and just think, "You don't know how hard I've got it, you don't know how good you've got it!" ((both laugh)) (A-int2)

Year 6, according to Anna, is the toughest place to work and this appears to be a source of pride for her because she has been singled out as good enough to work in this high-pressure environment. Later in the year, she concedes that working in Year 6 is 'not completely manageable for the rest of my life' (A-int2), especially if she starts a family, however for the time being she authors as relishing the challenge of the high-stakes role.

5.1.4   'No one wants [to teach in Year] 6. It wasn't even up for debate I don't think.'

At the end of the year of data collection, Anna describes how she is staying in Year 6 for another year (her third):

(A)   I'm the only stubborn one who's not moving [classes] ... No one wants [to teach in Year] 6. It wasn't even up for debate I don't think. It's an interesting cohort next year as well … it's a really interesting year group next year, they're going to be really hard work. (A-int3)

She says that the role wasn't 'up for debate' because her results were good enough and yet she also authors as having been determined to stay in Year 6 no matter what. That none of her colleagues wanted to take on the challenge of Year 6 teaching merely adds to the role's appeal, and that the incoming pupils are potentially 'really hard work' also increases the toughness of the task. She authors as gaining status from having been positioned as good enough for this role (again) and as someone who takes both pleasure and pride in coping with the accompanying pressures.

5.1.5 'I'd watched James Kennedy teach … I think it's something that's always stuck.'

In interview one, following our co-watching of an extract of one of Anna's lessons in which pupils came up to the board to explain how they had completed a calculation, I asked Anna about the use of mathematical language and she authored as having adopted a strategy of someone she regarded as an expert Year 6 teacher:

> (A)   Who was it? I'd been at Hilltop Juniors and I'd watched James Kennedy teach … and just the language he'd used and he's a friend of mine outside of work and he'd asked me for a bit of feedback on what I would use in my own practice which I thought was really intimidating. ((laughs)) But no, he'd said that the best feedback he'd ever had was the fact that in his maths lessons he'd been expecting that high level of vocabulary with the children, the fact that they could explain it, I don't know. I think it's something that's always stuck that if they understand the vocabulary then they're going to be more likely to use it. (A-int1)

In this story, Anna describes herself as a novice teacher – an unusual piece of self-positioning for her – who is observing an expert teacher as a professional development activity. She authors as being somewhat in awe of James, describing his request for feedback as 'really intimidating'. This is in stark contrast to the story Anna recounted in which she told her Year 3 colleague, '"Well how can you teach them that three quarters is <u>not</u> three divided by four?"' (A-int1).

However, in telling me that what she observed in James' classroom has 'always stuck' with her, she authors as having taken on the practices of this expert Year 6 teacher figure, and this in turn increases her credibility. Anna also positions James as 'a friend … outside of work' which tells me that he is a contemporary of hers, a fellow 'young whippersnapper'. In choosing to tell me this, Anna deliberately aligns herself with James socially and thus strengthens her connection with this expert teacher figure.

Another influential teacher figure is that of Anna's secondary school teacher, Mr. Jones. As with James Kennedy, Anna introduces the figure of Mr. Jones in order to provide a legitimation for her teaching, in particular her use of the phrase 'fractions are our friends and they're here to help us' (A-int3). In authoring herself as having adopted the teaching approach of a secondary school mathematics teacher, Anna ascribes higher status and legitimacy to her own practices.

5.1.6　'I'd love to teach Year 7.'

Anna describes Mr. Jones as older but 'exuberant' unlike the 'really old sticklers' she has met teaching in Year 6, and she credits him for inspiring her love of mathematics and personal expertise in the subject. As when Anna talks about James Kennedy, she shares personal details and memories of Mr. Jones, self-positioning as having an added level of connection with him. She suggests that, like Mr. Jones, she'd 'love' to teach at secondary school:

> (A)　I'd love to teach Year 7 because they're little fish in a big pond.
> They need that nurture but also they're actually becoming small adults.
> (A-int2)

When Anna describes how she'd 'love to teach Year 7', she self-positions as an expert teacher with the appropriate subject matter knowledge and beliefs about teaching to work in a secondary school. In mentioning that Year 7 pupils 'need that nurture', she harks back to her reminiscences about Mr. Jones and I wonder if she is authoring as capable of being like Mr. Jones, and of being to Year 7 pupils what he was to her.

Anna authors as struggling to be accepted in the role of Year 6 teacher because pupils have a 'natural affinity to male teachers' (A-int3). It is difficult to know whether James's maleness is important to Anna but being a man certainly positions him as closer to being like Brian and to an archetypal good Year 6 teacher. Anna can't become a man but if she can teach like James Kennedy and Mr. Jones, then maybe she can increase her credibility as a Year 6 teacher.

5.2　Performative pressures in Year 6

Results in the national curriculum tests (SATs) provide the benchmark for being a good Year 6 teacher, and Anna's desire for good results as a validation of her work is present in the majority of her stories. If her results are not good enough, she will not be asked to

continue in the role. At the end of the year, I asked Anna whether the results are somehow a reflection on her:

> (A)   I felt so exposed when we sat there and went through the results … It does feel very personal. I've spoken to a friend over the weekend and she was talking about roughly how her school had done and I was like, "Yeh well, I got this." And it's like, "No I didn't, it's their hard work, they've done it". But it feels like it reflects on me … you just feel really exposed. (A-int3)

In this extract, Anna orchestrates two competing discourses about results. Firstly, she describes how the results are hers – 'I got this' – and so any successes are down to her good teaching and hard work, and so she can take credit. On the other hand, the contrasting voice – 'they've done it' – suggests that pupils also make a contribution to results. That results are not solely in the hands of the teacher heightens the pressure of teaching in Year 6.

5.2.1   'If we don't get the grades, I'm accountable … it's just constant pressure, isn't it?'

With regards to the first of these discourses – that results are down to the teacher – Anna authors as doing what *she* can to maximise results because this is what a good Year 6 teacher does. In this extract from an interview one month before the test date, she describes the decisions that she has made about how long to spend on different mathematics topics:

> (A)   In the grand scheme of things, just from a selfish point of view, if they don't know translation, they lose three marks. If they don't know how to multiply, they lose a lot more. So selfishly, I've prioritised number.
>
> (V)   Yeh. I think strategically you might say, actually, mightn't you? You've gone through and done that kind of analysis?
>
> (A)   Yeh, you've/ I just feel a little bit torn because obviously you feel like you should cover absolutely everything in the same amount of depth but there's much more weighting on number and obviously fractions, decimals, percentages. All that. The four [operations[19]]. (A-int2)

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[19] The four operations are addition, subtraction, multiplication and division.

Here again, Anna describes herself as 'a little bit torn' as she orchestrates competing voices. Driven to achieve good results, she has 'selfishly' – my offer of 'strategically' is not taken up – decided to spend more time on the topics that will elicit more marks. In what she says, she acknowledges that there is an alternative way of teaching which values all aspects of the subject equally and which she has 'selfishly' ignored because achieving results is too important to her as Year 6 teacher. Anna uses the importance of results to justify the way in which she teaches, but her use of 'selfishly' suggests that she understands that she is compromised. In another extract from the same interview, Anna describes her teaching approach as 'skills-base' [sic] in order to ensure that pupils perform well in tests:

> (A)　I'm guilty of just using skills-base because I need them to get the skills to get through because at the end of the day, if we don't get the grades, I'm accountable, it flags up Ofsted, it's just constant pressure, isn't it? (A-int2)

Labelling herself as 'guilty' is entirely consistent with her reference to being 'selfish'. She is aware that there are other ways to teach, but for Anna, 'skills-base' is a necessary compromise, like prioritising number over other topics, and is chosen in order to 'get the grades'. The 'constant pressure' described by Anna suggests that she is trapped and has no choice but to do what she can to achieve good results.

5.2.2　'I wish they'd look at my class … because then I'd get a bit more credit.'

Once the results are known, Anna authors as wanting recognition for her hard work and sacrifice:

> (A)　So [the school's results are] three percent above the national average. Selfishly, I looked at my own percentages for my class. It was annoyingly higher.
>
> (V)　But you'd expect though wouldn't you [because you had the strongest six mathematicians in your class]?
>
> (A)　°Yes.° I did expect it, you know when [school leaders] only look at the percentage of the whole year group and I wish they'd look at my class rather than the cohort because then I'd get a bit more credit.
>
> (V)　So what was your class? Let's get that figure out.

> (A)   So let's have a look, I think it was eighty percent. So seven percent
> down across the cohort [on my mark]. But no. I was at eighty percent
> for maths which is a bit frustrating. (A-int3)

When I suggested that Anna should have expected her results to be higher than that of Julie, the teacher in the mixed age Year 5/6 class, I did so in the knowledge that the strongest six mathematicians in Year 6 were in Anna's class. I cannot know whether that is how Anna interpreted my comment. Her statement about wanting a 'bit more credit' suggests that she believes it is she and not the pupils that made the difference, and that perhaps that is what she thinks I alluded to as well. Her somewhat conspiratorial whispered 'yes' also suggests that this is the case. The results showed that she is not only good enough to teach in Year 6 but 'selfishly' she has also worked out that she has performed better than her colleague; she is a better Year 6 teacher than Julie but seems to recognise that it's not an acceptable thing to say.

In our third and final interview, after the results were published, Anna positioned politicians and test writers as deliberately trying to make things difficult for her, resulting in her experiencing a lack of trust in the system and consequently a sense of not feeling in control. Firstly, she authors as frustrated with politicians that the test was simply pass/fail and there wasn't an official 'higher pass' mark which would have been another source for her gaining 'a bit more credit' and strengthening her position as a good Year 6 teacher. Secondly, she identifies places in the tests where she feels that the test writers – 'cheeky toe rags' (A-int3) – have been 'downright sneaky' (A-int3). For example, she comments on how the answer boxes were located inconsistently in the arithmetic paper, catching out some of the pupils. Positioning the authorities as untrustworthy or 'sneaky', she goes on to describe how she thinks they will try to catch her out in the future by asking questions which go beyond the content of NC2014 because 'I just think that's what they're going to do' (A-int3).

5.2.3   'I don't think I'm going to be resting on any laurels.'

I suggest to her that that having now had the experience of working towards tests of NC2014, then the following year will be easier because she will have learned from this first year, and her answer surprises me:

(V)   So knowing things like [the way in which scaled scores were calculated] for next year … will that make things different for you next year? Having done it once already?

(A)   … No, I don't think I'm going to be resting on any laurels. Having learned from this year, no, no it's going to keep me on my feet I think. (A-int3)

Elsewhere Anna has authored as confident in her own ability to be a good Year 6 teacher, and yet here she positions herself as uncertain and nervous. She won't be 'resting on any laurels' because as the Year 6 teacher you are only as good as your last set of results and so she must continue to work hard and do what she can to ensure success with a new cohort of pupils. Her distrust in the system keeps her 'on my feet', alert to any potential tricks or changes in policy designed to catch her out and perhaps reveal her as unsuitable for the role.

5.2.4   'When we come back to it, it'll be a real nightmare.'

In Anna's teaching, she regularly used comments like 'we're nearly there' or 'this is how we set things out' when she spoke to the whole class. In our first interview, she similarly told me that 'it's concerning how much there is to touch before we get there [the test date]. But we can do it!' (A-int1). In these ways, she positions herself and the pupils (we) as working together on this SATs project, and that this is a joint effort. The tests are of both the pupils and of her, and thus the results are both theirs and hers.

At the start of the year, Anna taught the thirty highest attaining Year 6 pupils from across the two classes but after one term, David, the Headteacher announced that mathematics would be taught in mixed-attainment class groups. This rupture resulted in Anna teaching mathematics to some Year 6 pupils who at the start of the year were judged to be less good at the subject, and for the autumn term were taught by Julie alongside higher attaining Year 5 pupils. At the start of the spring term, I ask Anna for clarification of this:

(A)   That's been post-Christmas so that's going to be a real spanner in the works. My poor little one who came in and said, "Why are you using a letter when we use numbers in maths?" And yes that made algebra interesting. God knows where they'll be for fractions … When we come back to it, it'll be a real nightmare. (A-int1)

Anna sounds exasperated as she tells me that this change will be 'a real spanner in the works'. In how she positions the 'poor little one' from Julie's set, Anna comes across as

unsympathetic to pupils who struggle with mathematics and as simply not having capacity to deal with their needs, using a sarcastic tone in her description of the algebra lessons as having been 'interesting'. As a good Year 6 teacher, she has already planned the things that she needed to do to ensure that her original mathematics group would achieve highly in tests, and this change disrupts her plan for the year. Importantly, these incoming pupils potentially impact upon her results as she will not be working solely with the high performers, and as the incoming pupils will have been taught fractions by Julie and not Anna, she anticipates that it will be a 'real nightmare' when she revisits the topic because they've not had her (expert) input first time around.

Anna explained that David's rationale for rearranging classes was that teaching in mixed-attainment classes has been shown to benefit the lower attaining pupils, a particular focus for the school. Despite this change not fitting with Anna's agenda as Year 6 teacher, it was with a sense of great relief a term later, that she told me about the success she's been having with Charlie, a Year 6 child who had previously been taught by Julie:

> As we walked through the school, she told me about Charlie, who I'd not met before yesterday. She described him as having made great progress since the shift to class maths. He is one of the 'low group' who she didn't previously teach. She described how David is looking at the data and is pleased with how the pupil premium children are performing since the shift. This is a relief for Anna and makes her feel that this change has been worthwhile and hasn't just been a "box ticking exercise". (A-RRD-obs6)[20]

By telling me about Charlie, who she has only taught mathematics to since the change, she self-authors as a good teacher because her teaching has helped him to make 'great progress' despite his history of low attainment. She also chooses to tell me that David is pleased with the outcomes for Charlie and other 'pupil premium' children, and in doing so authors as having gained recognition which adds to her credibility as the Year 6 teacher. This is another way in which she knows that she's doing a good job. Anna authors as feeling different about the change now that there has been a positive effect in the data: she no longer needs to worry that her results will suffer.

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[20] Extracts from my reflexive research diary are presented in a box to indicate that these are not Anna's words. This particular entry relates to my observation of Anna's sixth observed lesson (hence A-RRD-obs6).

5.2.5 'When it comes to … presenting data to Governors, that may have to be played.'

Anna describes having done whatever *she* can during the year to ensure that the results are good, and she is pleased that her hard work and good teaching have had an impact on Charlie and others who were taught by Julie at the start of the year. Once results are known however, it becomes clear that while she has kept her side of the bargain, some of the pupils have not kept theirs. She tells me about Damian:

> (A)   Damian should be [at the national standard]. I've teacher assessed him as being there. But he is an exam technique kind of guy, just he won't do it if he can get away with it. He's even written on the front of three of his exam papers that I've checked, that his middle name's Dennis, he was born on a Sunday. All those things that you talk to the children about and they take deadly serious because it could disqualify your paper and you really build it up. You can just tell from his front page, he doesn't give two hoots. At all. (A-int3)

She is exasperated and let down by him. She 'teacher assessed' him as performing at the appropriate level and in doing so positions herself as having done a good job because she ensured that he was working at the expect standard to achieve a pass mark. Damian's failure is not her fault because he is 'an exam technique kind of guy' who 'doesn't give two hoots'. She is equally exasperated by another child, Lily:

> (A)   Lily is frustrating … I mean in her writing we got her to 'working at' [the national standard], in her reading we got her to 'working at' [the national standard]. It felt like she was on the cusp [of doing the same for mathematics]. But then exam-wise she didn't do very well at all. I mean on [mathematics] paper two she got four [marks]. She's just that, "It's not cool to like school". She has had a couple of years of education in [another country]. I don't know what influence that may or may not have had but when it comes to reasoning and presenting data to Governors, that may have to be played. (A-int3)

Again, Anna says that she worked really hard to get Lily working at the expected standard but then in the mathematics test, Lily didn't try hard. Anna has to justify these discrepancies between her teacher assessment data and ultimate pupil performance in SATs, and with Lily, Anna suggests that the fact that she spent two years being educated overseas 'may have to be played' when she meets with Governors to explain the scores. Anna is unsure about whether this excuse is legitimate but providing it allows her to present herself to the Governors as not responsible for this underperformance. After all,

her teaching worked for low attaining pupils like Charlie so she knows that she is doing a good job.

5.3 Orchestrating pedagogical discourses about mathematics

Anna is 'selfishly' focused on achieving test results and views interruptions to this as an inconvenience. For example, she reluctantly complies with whole-school initiatives such as at the start of the year when the Headteacher asked for Assessment for Learning (AfL) approaches to be introduced:

> (A)   Well we brought it in probably – oh when were we observed? – third week back after the summer holidays. The first thing David said was, "I want you to put AfL in the classroom." So I was like, "Oh bugger, how can I do something quickly to keep him happy?" So we did the bronze, silver, gold [trays]. (A-int1)

She claims to have introduced something 'quickly' which will 'keep him happy', suggesting that she did enough to meet the word if not the spirit of David's request. She also describes recruiting the children in her attempt to please the Headteacher and Governors. In one lesson, Anna told the class what to do 'if someone with a snooping eye comes in' (A-obs7)[21] and asks them about their targets, reminding them that these are now stuck in their mathematics books.

It seems that Anna is worked by authoritative discourses to such an extent that she does not have time to do anything other than 'quickly' so as to interrupt her teaching as little as possible.

5.3.1   'I'm guilty of just using skills-base.'

As part of her self-authoring as a competent Year 6 teacher, Anna describes having made the appropriate or necessary pedagogical decisions; for example as a good Year 6 teacher, she adopts a 'skills-base' (A-int2) pedagogy which she perceives will guarantee results. Anna articulates that her choice of 'skills-base' was not made freely and that it was what she felt she had to do; it was a 'selfish' choice to maximise results and something that she

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[21] This is something said by Anna in my seventh lesson observation of her teaching (hence, A-obs7).

feels 'guilty' about. For Year 6 teachers, 'skills-base' is the authoritative pedagogical discourse.

As well as being driven to meet an accountability agenda, Anna also authors as working to a secondary-readiness agenda. She says that in Year 6, 'we've got to expect more because we've got to take them further' (A-int1) citing the ways in which pupils will be expected to 'apply fractions in a numerical sense as opposed to a visual sense' (A-int1) as another justification for the way in which she teaches. 'Skills-base' focuses very much on building pupils' 'numerical sense' of fractions and Anna positions herself as teaching as secondary school teachers do, focusing on what she sees as more challenging. The testing and secondary-readiness agendas are cited by Anna as reasons for adopting 'skills-base' in Year 6 and also as reasons to not adopt alternative approaches.

5.3.2 'It sort of puts a cast of doubt in your mind … "Oh, Brian never taught it like that!"'

Although I do not know and have never met Brian – I only know of him what Anna has chosen to tell me – Anna regularly refers to him in our discussions and he is an important figure for her. Despite Anna being in post for a year before this research project began, the ghost of Brian remains ever present through the voice and gaze of Zoe, the Year 6 TA, who worked with Brian previously. Anna appears to tell me that she feels constantly judged by Zoe who she describes as comparing her with Brian:

> (A)   Zoe is fantastic. She is a very experienced Year 6 TA and the teacher who sort of was in here before me °everyone sings his praises° and it sort of puts a cast of doubt in your mind. And it was sort of a conversation we'd had, "Oh, Brian never taught it like that!" And sometimes when you see something so clearly it's really difficult to see how someone can't see it that way. And that's where I found myself thinking, I found myself thinking, "Well I get it. Have I made it really hard so they don't get it?" And yeh, I completely panicked! (A-int1)

Zoe appears in this story as a constant witness to Anna's teaching and Anna seems to worry that Zoe judges her to be not as good as Brian. Anna opens this story with a confirmation that Zoe is 'fantastic' and 'very experienced': she is a suitable judge of character and worth listening to. In this extract, having seen herself through the eyes of Zoe, Anna reveals a rare doubt in her own ability to do the job. Whilst she consistently authors as being good at mathematics – she sees the mathematics 'so clearly' – the implication here is that she is less good at explaining the mathematics to those who

'don't get it'. Brian on the other hand, is positioned as teaching in a different way which did not confuse the pupils, a way which Zoe knows and which provides the yardstick for her judgments of Anna.

Anna aligns herself with James Kennedy and Mr. Jones, positions them as good pedagogues and adopts their approaches. While Brian features in Anna's narrative about pedagogy, she appears to not know how to align herself with him. This story reveals that Anna is aware that there are better ways of explaining mathematical concepts and that she is worried about a comparison with Brian. Nowhere in our interactions does Anna articulate the pedagogical approach adopted by Brian – or incidentally how her results compare with his – however through the voice and gaze of Zoe, the ghost of Brian lives on.

5.3.3   'Give them the resources … but that won't get us through our SATs will it?'

As part of a lengthy interchange about the use of concrete materials and pictures in the teaching of fractions, Anna authored as able to force such pedagogy upon colleagues teaching lower down the school in order to give children a 'solid knowledge' of the topic and prepare pupils for later 'skills-base' teaching:

> (A)   … children should come into upper KS2 with a secure understanding of fractions – and that is putting a lot of pressure on three four [Year 3 and Year 4] and one two [Year 1 and Year 2] – that they introduce them and children have that solid knowledge. (A-int1)

Anna understands that achieving this 'secure understanding' of fractions across Year 1 to Year 4 is a tough task for her colleagues – who after all have weaker subject knowledge than her – but it is an important platform upon which Year 6 teachers can build.

I go on to ask Anna whether there is a place for the use of concrete resources such as fraction pieces in Year 6:

> (A)   I need to stop being so rigid and you know, give them the resources and say, "Get on with it and try and work it out that way!" And let them explore. In a perfect world they'd be able to play with them for a bit and make Pack Man out of them. "OK so there's Pack Man, lay him on a whole. What does he make up? What does he look like?" ((laughs)) That would be great! But that won't get us through our SATs will it? … That would be wonderful but there's always that thought on your shoulder of, ↑"Three weeks 'til SATs."↑ (A-int2)

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Anna's self-deprecation that she is 'so rigid' in relation to the use of concrete materials suggests that she recognises that her approach is out of step with what might happen 'in a perfect world', away from the pressures she experiences daily as Year 6 teacher. It 'would be wonderful' for pupils to 'play with them for a bit', and in doing so reveals that in her view, resources are merely for play, not building mathematical understanding. Her suggestion that the pupils could 'explore' and try to work things out for themselves suggests that Anna sees resources as something that pupils work with independently prior to her teaching fractions in a 'numerical sense', as opposed to an approach that could be integrated into her teaching as an essential part of pupils' development of understanding.

Understanding that Anna views the use of resources as an additional stage to incorporate into her already packed schedule, serves to explain her comments about having little time for this approach. She also returns to her narrative of being forced to teach a certain way which will 'get us through our SATs', and as concrete materials cannot be used in tests, these are a pedagogic luxury which she cannot afford to accommodate. Here Anna also draws on irony in her rhetoric – 'But that won't get us through our SATs will it?' – and in her use of 'us' and 'our' reminds me that the tests are something that both she and the pupils must endure and be successful in. Again, Anna authors as compromised.

I also try to encourage Anna to reflect on when or how images might be helpful in Year 6 teaching:

> (A)   I'm trying to think of a nice context when they'd be helpful, I was
> just talking to Julie over a cup of tea and we were just talking about this
> question on their homework and she was saying how she's used images
> to represent the final question with her children. (A-int1)

In responding in this way, Anna says that she was unable to think of a 'nice context' of her own. Her use of 'nice' is akin to her earlier use of 'wonderful' in relation to using concrete materials and again suggests a lack of understanding of this pedagogy which has also been dismissed as unsuitable for Year 6. By describing Julie as using images, Anna positions her as more aligned with teachers from lower down the school who would be expected to do this than with her in Year 6. And in self-authoring as unable to think of an example herself, she positions herself as someone more focused on SATs and results, as more of a Year 6 teacher than Julie.

As in many of her other stories, Anna includes a personal flourish: in this case, her discussion with Julie happens 'over a cup of tea'. She describes herself as someone collegiate and kind, and as engaging in cosy chats about pedagogy with her colleagues.

5.3.4 '[It] sounds like a wonderful morning … but in the build up to SATs is not my priority.'

In our second interview which took place a month before the tests, I notice that Anna is wearing a lanyard with lots of cards attached to it which she informs me are associated with Webb's Depth of Knowledge (DOK, illustrated in Figure 19), a programme bought in by David. Webb's DOK is designed to be used in all classrooms across all subjects as it incorporates four levels of generic task-types or questioning techniques (Figure 19). Anna tells me that DOK1 is being used in mathematics lessons across the school as it mirrors the nature of NC2014, an authoritative discourse for all teachers. It also fits easily with her 'skills-base' teaching, and she similarly suggests that DOK2 is useful to her.

However, when thinking of how to integrate DOK3 Anna says, 'I mean personally it stumps me' (A-int2) which is a surprising admission for someone who authors themselves as good at mathematics, and DOK4 'sounds like a wonderful morning of maths but in the build up to SATs is not my priority' (A-int2). As with the use of resources and pictures, it appears that Anna views these pedagogies as an irrelevance as opposed to an opportunity to enhance her teaching and improve pupils' learning.

Anna suggests that she will have capacity to engage with DOK4 once SATs are over, and also suggests – in response to a discussion about incorporating 'awe and wonder' into lessons – that '[the pupils] can 'awe and wonder' all they like in summer two[22]!' (A-int2). As elsewhere, she guiltily prioritises what she must because of the tests, viewing DOK4 as another 'wonderful', fun, unnecessary pedagogy that – along with 'awe and wonder' – can wait until after the tests when she has more time.

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[22] Summer two refers to the second half of the summer term. It is the final half term of the year and falls entirely after SATs tests. I did not observe any lessons post-SATs.

Webb's Depth of Knowledge

DOK Level 1
(Recall)

Verbs: arrange, calculate, define, draw, identify, list, label, illustrate, match, memorize, recognize, tell, ...

Focus: on specific facts, definitions, details, or procedures

Note: there's one correct answer, and a combination of Level 1s does not make it a Level 2

DOK Level 2
(Skill / Concept)

Verbs: categorize, cause/effect, classify, compare, distinguish, estimate, graph, interpret, modify, predict, relate, show, summarize, ...

Focus: on applying skills and concepts ⬤ explaining how or why

Note: there's one correct answer

DOK Level 3
(Strategic Thinking)

Verbs: assess, cite evidence, compare, conclude, construct, critique, develop logical argument, differentiate, formulate, hypothesize, investigate, revise, ...

Focus: on reasoning and planning in order to respond ⬤ complex and abstract thinking required ⬤ defending reasoning or conclusions

Note: multiple answers or approaches

DOK Level 4
(Extended Thinking)

Verbs: apply concepts, analyze, connect, create, critique, design, prove, ...

Focus: on complex reasoning, planning, and thinking ⬤ make real-world applications in new situations

Note: has multiple answers or approaches ⬤ often requires extended periods of time with multiple steps

Figure 19: Webb's DOK taken from https://courses.lumenlearning.com/educationx92x1/chapter/webbs-depth-of-knowledge/

Anna's Headteacher and Governors monitor the adoption of Webb's DOK shortly before the test date and Anna adapts her practices accordingly:

> (A)   We've got link Governors all walking round on Monday and Tuesday. You've got to perform to the camera so there will be problem solving galore going on! But I mean, in terms of [test] preparation and getting them [ready], in my eyes and in my head and in my LSA[23]'s head, that's two lessons we could spend hammering multiplication and division for those who apparently don't have it at the moment. And

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[23] See footnote 18.

> getting our level sixes more exposure to the [level] six problems. It just feels like you're trying to hold sand in a sand timer really, it's just not happening. It's very frustrating, very frustrating. (A-int2)

Anna is frustrated by needing to put on a special performance – 'problem solving galore' – for Governors so close to the test date. She says that she is too busy to incorporate problem solving into her lessons and would prefer to spend the time 'hammering multiplication and division' so that pupils can be successful at this in tests. Zoe, as the embodiment of Brian's beliefs and ways of working, is positioned as having been in agreement with Anna and this serves to reinforce Anna's stance. If Zoe (and by association, Brian) agrees with her then she must be right.

5.4 Anna, the good results-focused teacher

Anna works in the shadow of Brian, who she positions as her popular and presumably successful predecessor. Anna authors as aware that as a young, female NQT she is an unusual choice for Year 6 teacher however she authors as doing a good job in the role. Results are important to Anna as they confirm that she is good enough and improve her status with the 'lawyer parents' who remember Brian. Anna adopts a 'skills-base' pedagogy because she feels that she has no other choice as despite being aware that there are other pedagogies available, she lacks the time to branch out. Brian's ghostly gaze is ever-present through Zoe, the Year 6 TA and Anna feels constantly judged; she would teach like Brian if only she knew how.

6. Bernard: the best teacher for 'these pupils'

Bernard's narrative is distinctive because of her clear authorial stance as a nurturing teacher. She provides me with lots of detail about her personal history by way of explaining the origins of her values about education which are played out in her practices. It is important to Bernard's story that she now works in and for the community in which she grew up because her knowledge of this place and these people, alongside her educational values, results in her authoring as best placed to be a good teacher for the pupils in her class.

Our relationship as tutor-trainee impacts on us both, and Bernard appears nervous in our interactions. I quickly became aware that she had a deep discomfort with viewing herself on video. After viewing the first clip in our first interview, she commented on her voice and how she needed to relax more. Then after the fifth extract – in which Bernard is wearing a pink dress with a geometric print – she speaks first and says, 'I'm never wearing that dress again' (B-int1). In our second interview, I suggest that we watch a clip and Bernard's response leads me to only show one video clip in the whole interview:

> (B)   Oh god, do we have to?
>
> (V)   ((laughs)) There's no pink dress this time. OK? There's no pink dress.
>
> (B)   Oh, there'll be something else. (B-int2)

Likewise, in interview 3, which took place in Bernard's home, I suggested that we look at one of the extracts I'd selected and Bernard replied, 'No let's not look' (B-int3) before starting to rearrange the furniture and changing the subject.

Bernard also appears uncertain about the quality of her mathematics teaching, and in interviews I steer away from showing her video extracts with a focus on mathematics pedagogy which I fear will lead to difficult conversations. In our final interview she suggested that she did want to video herself as a professional development tool but that it was important that 'senior managers, nobody else can watch it' (B-int3). Bernard's discomfort had a significant impact on how I co-constructed her story.

I begin Bernard's case with a look at her personal history and suggest that this shapes her identity as a caring teacher. She understands the community and the children and positions herself as the best person to teach the pupils in her class. In the second part of her case, I present her stories about working with the pressures of Year 6, and I close the case with Bernard's narrative of being a mathematics teacher.

6.1   Stories of positioning and identity

In response to my request for a pen portrait at the end of the year, Bernard wrote 700 words entitled 'Bernard: an abridged autobiography!' This document was a very personal account of her life and work history which I initially felt went far beyond my interest in her as a teacher of mathematics. In her accompanying email, she wrote:

```
I hope that this is what you wanted. I've put off
doing it (I'm sorry) but thinking about my past
is always a double edged sword. On one hand I
feel embarrassed by it, and on the other, I want
people to realise how hard I've had to work to
get to where I am (not that that's anywhere in
reality!).

If I've misunderstood this task, don't hesitate
to ask me to do it again. (B-email-19.10.16)[24]
```

After some deliberation, I did ask Bernard to add in some of the detail outlined in my initial request about being a learner and teacher of mathematics. This resulted in her writing an additional 1100 words.

I have had reservations about using this data because it is so significantly different from what I received from my other participants. On reflection however, I decided that Bernard's personal story and her work as a teacher are intertwined and the detail of her 'abridged autobiography!' has become a valuable source for understanding Bernard's history-in-person. I am of the opinion that Bernard took the opportunity to write the story that she needed to tell and wanted me – and the wider audience for this research – to know. It begins:

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[24] Data presented in this 'courier' font, is from an email. In this example, the text is from an email sent to me by Bernard on 19th October 2016 (hence, B-email-19.10.16).

I am a year six teacher in an inner city primary school, just beginning my third year as a teacher. My journey to this point is perhaps however, an unconventional one! (B-biog)[25]

In hindsight, it seems to me that through interviews and observations, I had not given her the opportunity to tell her 'unconventional' tale and to convey the things that are central to who she is, that inform her values about teaching and provide the motivation for her actions. All of Bernard's stories about teaching are set to this backdrop.

6.1.1 'I had always wanted to achieve something; to test myself and my [academic] abilities.'

Bernard begins her 'abridged autobiography!' by describing her challenging childhood:

My childhood was a confusion of infidelity and tragedy, which left my family, formative years and education broken. By the age of fourteen I was living alone in a bedsit, supporting myself (or attempting to) by undertaking a range of menial jobs, including waitressing in cafes and bingo halls. (B-biog)

Bernard's story is one of having experienced neglect at the hands of her family, the education system and the community more widely. That the community she grew up in – in which she was 'broken' – is the community in which she still lives and works, is important for Bernard's story.

In Bernard's 'abridged autobiography!', she described how she left school with only four O-levels 'despite always having been in the top sets' (B-biog) and entered the world of work. She attended college for a while but 'paying my way once again became a priority' (B-biog) and so she was forced to leave. Later, she volunteered and eventually became a teaching assistant at North Street Primary School (where she still works) and describes how a cancer scare in her 30s 'left me considering my life' (B-biog). Bernard reflected that 'I had always wanted to achieve something; to test myself and my [academic] abilities' (B-biog) – something that she had not had the opportunity to do earlier in her life – and so she enrolled in a degree course. Going to university provided Bernard with external validation of her worth and she graduated with a first class degree.

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[25] Data presented in this 'arial rounded' font, is from the autobiographical text provided by Bernard (hence, B-biog).

Bernard has chosen to tell me this story about her academic achievements and therefore I conclude that it is an important part of her personal history, that despite her challenges and struggles, she has achieved beyond what was expected of her. It seems that her Headteacher appreciates this as Bernard describes herself as having been 'rewarded' (B-biog) with her current job. Her story is one of 'local girl done good', and in her practices as a teacher, she demonstrates this same desire for her pupils.

On one occasion when I arrived to set up the video equipment, Bernard was in conversation with a group of pupils at break time. They were talking about the Year 6 tests and I overheard her telling them about a friend of hers with a mathematics degree whose 'first job was on £100K!' (B-RRD-obs8). In light of her own history of being forced to choose paid work over studying, Bernard appears to want something different for these pupils who have the same background as her. Part of her role as teacher is to provide them with the education and qualifications that can lead to mobility, something that her school teachers failed to do for her.

6.1.2 'We really struggle as a community.'

Bernard describes how she understands the challenges of achieving good results at this school because of the locality and intake:

> (B) We really struggle as a community because there's lots of working poor families so lots of single parent families. They're non-benefit receiving so they don't count for pupil premium money, but they might have very low paid jobs and live in quite poor conditions. You know, we've got massive amounts of children that have school dinners but don't pay for their school dinners. [They] Just run up a massive debt; that's because their parents can't afford to send them with a packed lunch and can't afford to pay for their school dinners. So we've got quite a lot of poor people, quite a lot of – I come from an uneducated family so that's not what I'm saying – but quite a lot of uneducated families … They'll go out all the time but they won't put any value into education. (B-int3)

Through her opening use of 'we', Bernard authors as being part of this community of 'poor' and 'uneducated' families where money is tight and children rely on the charity of the school; in many respects, this is a community that has not changed much since her own childhood. When she says, 'that's not what I'm saying', she appears to be aware that her words might be interpreted as a criticism of the community. While she distances

herself from those 'uneducated families' who 'won't put any value into education', she is able to comment on them because she understands them.

Throughout the speech, Bernard also uses 'we' to demonstrate her membership of the school community. Her repeated use of 'we've got' locates her as a part of the school team who must work with this challenging community and she authors as ideally placed to teach these children because she relates to them.

Bernard writes about her own experience of school and teachers:

> **Maintaining a secondary education whilst scraping enough money together to keep the gas and electricity meters fed with fifty-pence-pieces was obviously an impossible task. As this difficult period in my life fell in line with a difficult period in Education (during the teachers' strikes of the 1980s) my circumstances went wholly unnoticed. (B-biog)**

Bernard doesn't blame the teachers for being too preoccupied by politics to notice her circumstances, rather she authors as accepting of – or resigned to – the way things were during a particular period of history through which they worked and she lived. She relates to them and understands their circumstances.

These experiences appear to inform Bernard's sense of the kind of teacher she wants to be for the children in this community, as shown to me in her teaching and in the interviews. She describes how, through her own negative experiences, she has come to understand the kind of teacher that children in this community need – the kind of teacher that she needed – and being of this place means that she is best placed to take on that role.

6.1.3 'They … will make stupid mistakes because they're human beings.'

Bernard talks at length about the children and I realise how much more I know about the pupils in this case than in the classrooms of my other participants. For example, Bernard tells the story of Aimee who she positions as – like her – having a tragic childhood:

> (B)   This girl, Aimee, in my class this year … both her parents are kind
> of terminally ill, she has quite a hard life … she's very needy … At least
> she's very loved … she's got a whole community around. She is very
> loved and very cared for … (B-int3)

Unlike when Bernard was a child, the 'whole community' now rallies around to support Aimee so that she feels 'very loved and very cared for'. Having positioned herself as part of the community, Bernard here authors as contributing to something positive. She tells me that despite education not being valued, this is a good place where people (including her) care for each other.

Consequently, Bernard authors as understanding the issues faced by children in her class. After my third visit to Bernard's classroom, I noted our post-lesson discussion in my reflexive research diary:

> Bernard … is anxious that some of 'these pupils' are working at Y4 level and have lots of other issues (e.g. ADHD, autism, dyslexia) which means that being in school and completing a day of work is an achievement. (B-RRD-obs3)

Bernard is very aware of the complex social needs of 'these pupils' (her phrase) from this community, and this sense of understanding pupils' needs leads her to be critical of her Year 6 colleague who worked with her class for five weeks on refining one piece of writing:

> (B)   I can't do that … I can't do a piece of writing for five weeks. I think I'd want to jump off the fire escape! I can't do a piece of writing that ends up being about one and a half sides [of paper in length] for five weeks. I can't do that. (B-int3)

Bernard's forceful repetition of 'I can't do that' is noteworthy because she appears to be labelling what her colleague did as wrong and as something that she couldn't do. She goes on:

> (B)   There's rewriting and there's editing and there's redrafting and then there's the fact that we accept that these are children and we accept that they can't write like professional writers who are adults. (B-int3)

In her eyes, her colleague is not accepting the children for who they are whereas Bernard positions herself as knowing these children and understanding their limitations. It would be wrong to push them to be what they cannot be. Again, Bernard insists that her colleague's teaching approach is something that she 'can't do':

> (B)   I can't do that. And [the writing of the children in the other Year 6 class] do, they look amazing, but I can't do that … And they're fine,

they're fine. They look like children's writing. They contain mistakes but they're fine. They definitely meet the [assessment] criteria. I can't do a piece of writing for five weeks. (B-int3)

Bernard appreciates her pupils' work despite its inevitable flaws, they are simply children. In relation to pupils performing in tests, she says, 'they can't know everything and they will make stupid mistakes because they're human beings' (B-int3). She authors here as a teacher who understands the nature of the children in her class and who recognises that they are flawed but loves them anyway. And as her biography also tells us, she understands what they need because they are like her.

Bernard is honest about pupils' talents and limitations, it's part of her overall love of them whatever their faults. In a humorous exchange, she recalls the pupils' performances in the post-SATs Year 6 play:

> (B)   Oh god they can't act! They were terrible. Last year the play was the best play we've ever done, it was amazing. But this year – they're sweet very lovely children, I could keep them for the next ten years if I could – but they can't act … they couldn't dance either … I decided that their parents would know that you couldn't polish a turd as well as we know that, and they love them anyway. (B-int3)
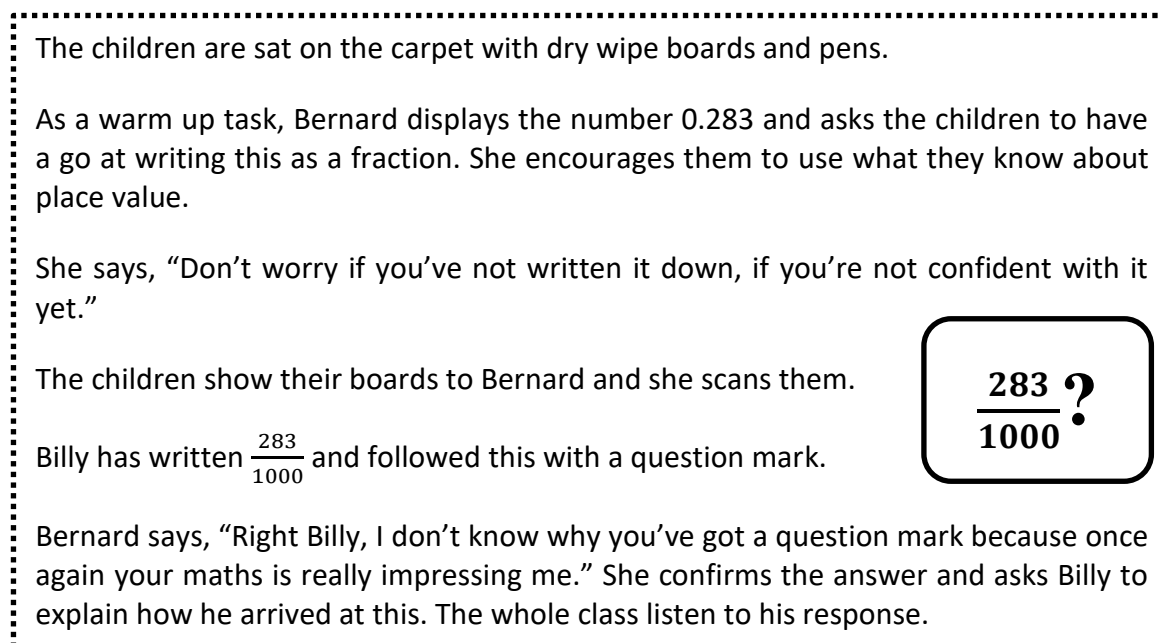
Like the pupils' parents, she knows that these children are 'lovely children' but 'terrible' at acting and dancing. Like a parent, she will 'love them anyway', warts and all.

6.1.4   *'I like Billy, I feel sorry for him.'*

I am conscious that I have directed conversations with Bernard towards what I considered to be distinctive about her practice, namely that she is a nurturing teacher who cares for the children. I selected video extracts to illustrate this and used these to prompt Bernard's reflections. One such extract – described in Figure 20[26] – features Billy, a child whose name came up often in lessons.

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[26] Video extracts are always presented in a box and are my 'account-of' (Mason, 2002) what happened in the extract that we viewed together.

The children are sat on the carpet with dry wipe boards and pens.

As a warm up task, Bernard displays the number 0.283 and asks the children to have a go at writing this as a fraction. She encourages them to use what they know about place value.

She says, "Don't worry if you've not written it down, if you're not confident with it yet."

The children show their boards to Bernard and she scans them.

$$\frac{283}{1000} \ ?$$

Billy has written $\frac{283}{1000}$ and followed this with a question mark.

Bernard says, "Right Billy, I don't know why you've got a question mark because once again your maths is really impressing me." She confirms the answer and asks Billy to explain how he arrived at this. The whole class listen to his response.

Figure 1: My account-of Bernard's lesson (B-video-obs1) – building Billy's confidence.

As I introduced the extract, Bernard said, 'I love Billy' (B-int1) and after we viewed this clip, she went on:

> (B)   He's an odd case though because he's got ADHD, and nobody turned up for parents evening, and he does his homework in school because nobody's interested, and he asks if he can take it home because he's really proud of it so he can show his dad – who's his step-dad – and yeh I don't know. I like Billy, I feel sorry for him … some people find him really difficult. The person who sort of was his teacher last year [couldn't cope with him]. But if he gets to know you and trust you then he works really hard. He's made loads of progress this year … (B-int1)

Here, Bernard authors as a caring teacher who likes Billy, and in telling me that 'he's made loads of progress' since having her as a teacher, she positions herself as being a good teacher for Billy, in contrast to others who found him too challenging. She positions herself as a caring teaching who wants the best for all of the pupils and understands their needs, as the best teacher for these children, even the challenging ones.

Bernard's account of her care extends to wanting to protect the children, even once they leave the school and head home. She tells me that she tries to ensure that pupils' home lives are as easy as possible, for example when she talks about how she's 'not a fan of homework [because] it causes lots of family division' (B-int3). In this story about Sylwia – who did not achieve the national standard (a scaled score of 100) in any of the Year 6 tests – Bernard describes how she is anxious to protect her from the disappointment of her parents:

> (B)   Sylwia missed out on them all and she was kind of [a scaled score of] ninety seven on them all … she came speaking no English so she's done a phenomenal job. But still her parents wanted her to pass and it was really hard on her … Her mum's a hospital cleaner who works hours and hours and hours; she never sees her mum. Her dad lives in [a town 100 miles away] so she never sees her dad. And she's a really lovely girl who works really hard … I thought that was heart breaking. (B-int3)

Bernard eventually manages to contact Sylwia's mother on email and is reassured that she has been able to explain that Sylwia should not be told off for missing out on the national standard. That Bernard tells me so much about the home life of Sylwia, suggests that that the home lives of the children in her care are as important to Bernard as their academic achievements, compounding the story that she has already told of understanding and caring for the children, but also loving them as though she was a parent.

6.1.5   'Apparently I'm not allowed to call their child a bully when they're a bully.'

Bernard's story is full of examples where she authors as knowing the community, the parents and the children. Her story might be viewed as one of a desire for reparation as she authors as knowing what is best for the community, the parents and the children, and of wanting for them what she did not have herself.

One particular story stands out because in it Bernard reveals that there is tension between her role as teacher and her identity as a member of the community and as like the children. She recalls this episode in our second interview which takes place at the end of the spring term and which follows on directly from a lesson that I have observed. Following a discussion about the lesson, Bernard suggests that a 'bullying incident' the previous day had an impact on classroom dynamics:

> (B)   Some parents objected. Apparently I'm not allowed to call their child a bully when they're a bully. This very self-same parent had absolutely no thought whatsoever for the child who had been laughed at and humiliated by ten other children, and was sobbing and distraught. So some of my class [are] not particularly engaged today because they don't think I should have called them a bully when they were. (B-int2)

Bernard describes having stood up for the underdog and is surprised that 'some parents objected' to how she handled the situation. Bernard positions the parents as questioning

her judgement and the incident serves as a reminder that she is not just a member of this community but she is a teacher, and rather than ignoring incidents as her own teachers did, she must take action.

6.1.6 'The ones that are quite nervous … don't mind working with me.'

As we have already seen, Bernard is keen to value what pupils can do. On one occasion, I asked Bernard to comment on a video extract from a revision lesson on fractions in which children were working through practice questions in pairs. This is described in Figure 21.

> The children are sitting on the carpet. Bernard introduces a booklet of questions which are all about fractions. She explains that the children did something similar yesterday with 'time'.
>
> Bernard leads a discussion about how partners should work. Taking ideas from the class, she formulates two reasons for working as a pair:
>
> Firstly – paraphrasing the contributions from the children – Bernard says, "Two brains are better than one. So if one person is struggling, you might be able to help your partner. And that's a useful thing to you, isn't it? To explain it."
>
> The second reason she takes from the class is for where neither child is struggling, and both are confident. In this case, pupils are encouraged to share methods because, "Your partner might just have a more efficient way of working this out."

Figure 2: My account-of Bernard's lesson (B-video-obs7) – paired working.

After viewing the extract together, I ask Bernard:

> (V)   Has that paid off do you think? All of those conversations between the kids.
>
> (B)   … I do I think that they got quite a lot out of helping each other …
>
> (V)   I guess is there something about the need to explain it to somebody else?
>
> (B)   It's very Vygotskyist, isn't it? You can't really understand something until you can explain it. I think I've understood things better by explaining it. I'll be honest, I do think that it works with kids. They speak the same language and we don't. You know, there are little words and phrases that they'll use or they'll say. (B-int3)

Bernard authors as having taken on the ideas of educational theorist, Lev Vygotsky, and as having incorporated them into her own beliefs about education and practices as a caring teacher. By telling me that her practices are 'Vygotskyist', Bernard tells me that she

is engaged with theory and that her beliefs about the importance of relationships in the classroom are not just borne from her own experiences but have a theoretical underpinning. As a teacher she is well-informed and this translates to her practices.

Bernard provides me with a further example of how nurturing is incorporated into her teaching when she works with her weekly 'assertive mentoring' class in which pupils are tested and then practice mathematics from across the curriculum. Hers is a large group made up of the children working at the expected level for Year 6 from across the year group:

> (B)   I do that in a really peer-working way … the scores are split into green, amber and red so anybody that gets green – which means literally they got one or two answers wrong on the whole test – they work with somebody who got amber and then I'll work with anybody who got red. So there's lots of peer work going on because I do think that works really well … the ones that are green love it … because I let them choose who they work with so they generally pick friends to work with and they do it really sensibly. The red ones are the ones that are quite nervous and feel they need support anyway so they don't mind working with me. (B-int1)

Bernard authors as caring and nurturing, and as an especially good teacher for the 'red' children who she positions as lower attaining, lacking confidence and needing her support.

6.1.7   'We're not animals, not just feral, not just going to start fighting.'

At the start of the year, Bernard had told me that she planned to move away from sitting pupils in ability groups and begin having mixed attainment learning partners, a strategy credited to the educational consultant, Shirley Clarke. In our first interview, I ask her to reflect on this strategy:

> (V)   One of the things that we might look at was how those mixed groups, mixed pairs were working within the lesson and how do you decide who is going to work with who then?
>
> (B)   You see, I don't. Other people manipulate it but I do it the proper way. (B-int1)

Bernard goes on to describe how each Friday, a pair of children randomly select the pairs for the following week and decide where they will sit. She tells me that this way of

organising pairings is 'the proper way'. That pupils are responsible for allocating the random pairings for the following week ensures that there is no way she can cheat the system unlike her colleagues who 'manipulate' the pairings so that they can avoid certain clashes or ensure certain combinations.

According to Bernard, the value of allocating pairings 'the proper way' is relational: pupils 'have made really good new friendships' (B-int1) as a consequence of this strategy and have learned to work with a variety of other people, a useful life skill. Bernard explains that sometimes the pairings are challenging for her to manage but because she is committed to the benefits of this system, she has no choice but to work with whatever names are drawn. At the end of the year, in our third interview, I ask her to comment on how this approach will work with her new class:

> (B)   I've been told I've got some really challenging kids this year but yeh, what comes out comes out. The class do it, I don't pick them because I do genuinely believe that it works. And I think, how can you say that people can't work together? Cos they fall out on the playground? … I think it's undermining, I think it's not giving them credit. We can all work together if we have to. We're not animals, not just feral, not just going to start fighting. (B-int3)

Bernard positions her colleagues as being less committed to this approach and therefore as less committed to developing the relational skills of the pupils. She treats the pupils equally and sees the good in them all. Her approach helps them to show her that they are good, she offers them that opportunity, that clean slate.

6.2   Performative pressures in Year 6

Bernard's personal history has informed her moral values about education which are present in her authorial stance as a good teacher (for these pupils). Because she works in Year 6, Bernard's work includes preparing pupils for national curriculum tests (SATs) and securing them good results so that they can confidently go on to study at secondary school and gain qualifications which enable them to make something of their lives and escape this community.

6.2.1 Year 6 has a 'well-defined bottom line in the form of end of year assessments.'

Bernard describes teaching in Year 6 as having a 'well-defined bottom line in the form of end of year assessments' (B-biog) and goes on to set out the achievements of her classes from her two years of working as a Year 6 teacher:

> **Pupils in my class have made excellent progress in mathematics. Over both years, despite the fundamental change in the assessment system, my classes have received similar results, with approximately 90% of pupils passing their maths assessment. In terms of pupils, this would mean twenty seven passing with three children not meeting age related expectations. Despite not having met this national benchmark, the pupils had made at least (and in most cases more than) expected progress from the end of year five. The most disadvantaged students have also made good progress, with those in receipt of pupil premium achieving at the same or higher level than their peers. (B-biog)**

Bernard tells me here that pupils do well in her Year 6 class; they all make 'expected progress' – even those who are 'disadvantaged' or 'pupil premium' – and almost all achieve the national standard for mathematics. She authors as a good teacher who is doing a good job for all of the children in this community.

As well as these results being important for the children, they are also important for Bernard as she is judged and financially rewarded according to pupils' test performance:

> (B)   All of ours [staff performance management targets] were to have you know like a really high percentage of our classes working at age related expectations [that] the government set, and I think it was something like ninety five percent, you know, to get a pay rise. And I just thought if I was in another year group one of my children would all of a sudden [go up a grade] because it's you who's in control of that. (B-int3)

Bernard positions her colleagues working outside of Year 6 as able to play the system. Because the performance of children in other year groups is established internally, Bernard suggests that colleagues manipulate pupil scores in order to further their careers. Bernard self-authors here as honest and as working for the children, and she positions her colleagues as dishonest and working for themselves.

6.2.2 'I don't know if she appreciated that actually the job is different.'

Few of Bernard's colleagues get a mention in her stories, in fact I only learn the name of her year group colleague in our final interview. Nameless Year 5 teachers are most often mentioned and come in for much criticism, for example:

> (B)   One of my best friends at school is in Year 5, but they drive me mad [because] everything's done to the minimum standard. (B-int3)

Implicit in Bernard's statement is her self-positioning as someone who does much more than the minimum standard because her work in Year 6 demands it, whereas Year 5 teachers can be both lazy and dishonest. Indeed, she tells me that working in Year 6 demands things to be done properly because the children are tested independently:

> (B)   I think Year 6 polarises things because actually you know you've got to be a hundred percent certain in what you say [in your teaching] because what you say is going to be tested. Not tested by you, not in a test that you've seen and you've kind of trained them to answer those sorts of questions ... that's the weird thing about Year 6, you have to make sure that not only do they know it in the lesson, but they know it afterwards. (B-int3)

Unlike her colleagues, she cannot cheat the system and so in order to do a good job in Year 6, Bernard is authoring as teaching properly so that 'they know it' beyond the point of teaching and can reproduce the learning in tests. Again, she positions her colleagues as being less thorough than her. The interview continues with Bernard telling me about a colleague who moved to another school to take up a position as Year 6 teacher. I surmise that she tells me this anecdote in order to further author herself as a good Year 6 teacher:

> (B)   I've got a colleague and she left from Year 5 and she is a friend … she'd gone into Year 6 and she never appreciated how much hard work Year 6 was … [the week before the results were published] she went, "Yeh we did alright with SATs." Me and my colleague Vicky go, "What do you mean, you did alright with SATs? You don't know yet! You don't know yet!" Cos we're still in that paranoia of, "We don't know what the results are! ((laughs)) We're not sleeping between now and next week!" And she was like, "Yeh, yeh, they're fine. Yeh, yeh, low eighties [percent]." And I'm like, "Oh that's what we hope. That's what our teacher assessments say they are [but we don't know yet]." Well, they were thirties to forties [percent in the actual tests]. (B-int3)

Bernard positions her former Year 5 colleague as not as good as her at either predicting or achieving results, both key skills for a Year 6 teacher. Although she is a friend, Bernard

thinks she is unsuitable for the difficult job of teaching in Year 6 because she has wildly misjudged her pupils' performance, predicting 80% but achieving only 30-40%, unlike Bernard whose figures 'match almost exactly' (B-int3). Later on in the interview, Bernard returns to this story:

> (B)　My friend that was really arrogant and thinking she could do things, you know she went there, she'd never been in Year 6 before … and they wanted an experienced Year 6 teacher and they gave the job to a Year 5 teacher. And she is very charismatic and she's very funny but … I don't know if she appreciated that actually the job is different. (B-int3)

Bernard again authors as someone who can do the job of Year 6 teaching well, unlike her Year 5 colleague who was 'arrogant' to think that she could just walk into a Year 6 role without experience and be successful when 'actually the job is different'. The behaviour of this school and this friend do not fit with Bernard's moral values about education in which schools and teachers have a duty to do the best they can for pupils and families. Being a good Year 6 teacher involves much more than being 'charismatic' and 'funny'.

6.2.3　'They worked really hard for it and they made my job easier … they earned it'.

Above, Bernard described herself as paranoid and as losing sleep while waiting for the test results to be published. However, she also sees the children as being under pressure:

> (B)　… the first test was the reading test and two children cried in my class and that was horrendous. It affected all of us, me included, and I didn't deal with it very well … It was just awful … I thought, "What if it's just my class?" … nobody cried in [the other Year 6 class] but [the other Year 6 teacher] said, "Oh it was horrendous!" and then [a colleague whose husband works in Year 6 at another school] said, "Oh god, Philip's just texted me, he said it was awful!" And so actually there was that kind of/
>
> (V)　You knew you weren't alone.
>
> (B)　Yeh so that made it a bit better. (B-int3)

Bernard speaks with intensity about the emotional strain of SATs week. All of the teachers were appalled by the impact on the children but Bernard seems especially concerned that if only her class cried then maybe she had not prepared them well enough. It is important to her that this is not the case.

Results matter to the teacher, and to the pupils and their families. At the end of the year, I ask Bernard about the results:

> (V)   So to what extent do you see the results as your results? As the Year 6 teacher are they very personal? Are they very like, "These are my results!" almost like you were sitting the test yourself?
>
> (B)   Do you know what, to a certain extent they are … [but the children] were like nice little puppies. They worked really hard and if you asked them to do something then they did it. And so I think they worked really hard for it and they made my job easier by doing that … they did work hard and they weren't difficult and they weren't horrible, so it's not mine at all really it's theirs cos they worked hard and they earned it. (B-int3)

Bernard takes some credit for the results but she positions the pupils as having been compliant like 'nice little puppies' and making her work easier. She repeatedly says that the pupils 'worked hard' and that results really belong to the pupils. She is annoyed that test outcomes are reported as simply 'pass' or 'fail':

> (B)   I think it's quite sad for those children that really strive to get a higher level in something and then they don't manage to achieve it because it doesn't exist. One hundred and nineteen [points] you're the same as one hundred[27] and there's a huge gap in the scores from those two. (B-int3)

She wants the pupils that 'really strive' to be rewarded with a higher grade as she was for her degree. As elsewhere, she wants academic achievement and effort to be rewarded because they provide a route out of the community, she wants pupils to achieve and have choices.

6.3   Orchestrating pedagogical discourses about mathematics

Bernard has shown me and told me about how she follows certain moral values in her work as a Year 6 teacher, and of how she does things properly, unlike her colleagues. It is only when we discuss mathematics teaching specifically that a doubting voice appears in Bernard's narrative.

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[27] Both are reported as a 'pass'.

Bernard always knew that my research would involve looking at mathematics teaching and her initial response – that she 'would be happy to help in any way I can' (B-email-04.06.15a) – came only six hours after my email requesting participants. Once she read through the participant information forms, she emailed again:

> ```
> … you might want someone more experienced than me
> for observations. I have considered going on to
> do my PhD in history, but appreciate the amount
> of work involved, and the research required so
> would   always   help   where   possible.   (B-email-
> 04.06.15c)
> ```

Our existing relationship of tutor-trainee provided me with access to Bernard and contributes to this reciprocity but this also colours all of our discussions about mathematics teaching, as my beliefs about mathematics education are well known to Bernard. During lessons she appeared nervous and at the end of lessons, would ask me 'for affirmation that all was OK' (B-RRD-obs2). I became aware that Bernard may be positioning me as an expert in mathematics teaching and seeing herself through my eyes. Was I the source of her doubt?

6.3.1   'I'm sorry it can't be more impressive.'

The second interview comes immediately after a lesson observation and approximately a month before the SATs test date. As was typical, I began by thanking Bernard for being part of the research:

> (V)   I'm sort of constantly humbled that I'm invited in. That I'm allowed to come and watch. It really is a privilege.
>
> (B)   I'm sorry it can't be more impressive … I did my classic thing of over complicating it as well, which I'm really cross with myself about. By telling them they need to convert mixed numbers into improper fractions, I made that task harder. I'm really annoyed with myself cos I didn't look at the question properly and break it down first of all which I should have done … I noticed Terry was struggling with that question and Terry's good. And so if he wasn't understanding then that's because I've over complicated it. (B-int2)

Earlier in the year, she had explained to me that she had liked 'how we did things last year' (B-int1) before the implementation of NC2014 and the introduction of a scheme and would have preferred me to have seen this. Perhaps she thought that her teaching was 'more impressive' the previous year. Bernard uses the phrase 'over complicated' five times in our second interview, and 'complicated' on a further seven occasions. Describing

'over complicating' lessons as her 'classic thing', she suggests a lack of confidence in her teaching, despite her strong account of her nurturing approach. In these episodes, she addresses me as an expert who might judge her.

We go on to discuss the pupils' results in a recent practice test. On the whole, Bernard says she is pleased with the results, but she raises her class's poor performance with the question 17 x 1 ½ and in doing so admits that she is uncertain that what she does is the right thing:

> (B)   I think this year, I've tried to stick very much to the planning. Part of that is my lack of confidence and I think by sticking to the planning, what I've ended up doing is at times over complicating things. So for example, they got stuck by the question seventeen times by one and a half because they converted one and a half into a mixed number and then they did it as fractions when actually it was a really easy calculation to do. (B-int2)

Bernard partly blames her adherence to the school's mathematics scheme on her lack of confidence, leading to her 'over complicating things' for the pupils. Like her, the pupils are positioned as having blindly followed the procedure taught as per the scheme when actually 'it was a really easy calculation' which could have been completed a simpler way. We return to the topic of how pupils select strategies later in the interview:

> (V)   There's something about common sense as well isn't there I sometimes think. Like you were saying earlier on, about that multiplying by one and a half, something about not getting confused by the numbers and the words and just actually kind of stepping back/

> (B)   I was going to say, the other Year 6 class, far more children got that right than got it right in my class, so it's one of those things where I don't know if I've over complicated it and I've said, "If you're multiplying by a fraction then you need to do this this and this," and actually they've just been very good very diligent children [and have done what I told them]. But my other Year 6 colleague is a very experienced [teacher] and so is that something that she already naturally did? Just you know, "Check it, do you need to do this?" "Do you not need to do this?" Whereas I've stuck very much to the [scheme].

> (V)   As you said before, that sense of, "Could I do this mentally? Is there another way I could do this? What are my options? Which one is going to be least complicated?" Almost, isn't it?

> (B)   Yeh it is. Path of least resistance. (B-int2)

That pupils in the other Year 6 class performed better at 17 x 1 ½, worries Bernard, and she is concerned that she is letting her children down. Bernard positons Vicky as both 'very experienced' and as 'naturally' knowing how to be a good mathematics teacher, both things that Bernard says she lacks. Bernard's phrase, 'path of least resistance' suggests something of a holy grail, a route that she seeks through the curriculum which is not in any way complicated or likely to confuse the pupils, something that focuses on failsafe approaches and results in correct answers.

Aware that our previous relationship of tutor-trainee coloured discussions about mathematics, and that Bernard assumed that I was judging her, I predominantly stuck to asking about other aspects of her practice. Bernard confidently spoke about how she developed pupils' social skills but appeared nervous, defensive and often doubtful that she was doing the right thing when we spoke about mathematics.

6.3.2 'Actually in Year 6 I just feel that it's got to be more abstract.'

In our first interview, Bernard tells me about a course on mathematics pedagogy that her Headteacher has attended and the subsequent investment he's made in concrete resources for across the school:

> (B)   It's brilliant to have lots of manipulatives and our Headteacher wants the kids to be really comfortable with equipment and you know to be using lots of things to support their maths and having some real concrete learning. But actually at the end of the year, they're going to be tested in a very abstract way and actually in Year 6 I just feel that it's got to be more abstract and I think the less things that distract from that the better. (B-int1)

Here she says she is enthusiastic about the discourse that her Headteacher ascribes to (and that she knows I ascribe to as well) but also authors as being forced, by virtue of being the Year 6 teacher, to prioritise alternative, opposing discourses. Bernard's orchestration of discourses is informed by the 'abstract way' in which pupils are tested and her view that resources will 'distract' pupils from doing their best in the tests and achieving their potential.

I enquire about the concrete materials bought for Year 6 that the children have told me they have used once and are now stored on the top of the cupboard out of sight:

(B)   So they were a new acquisition. So I've not really had the chance to use them again since … they were finding equivalent fractions … so it's just about them seeing the relationship between the sections.

(V)   And would – I really don't know – would they be helpful with/ Because I haven't seen those in the lessons that I've been to. Is that because the children used them and were confident with them and were able to build on that in a more symbolic way?

(B)   Yeh. I think they asked quite quickly when we did use them if they could [move on] and they were like, "But I can get it without that!" So they liked playing with them to start off with but then they wanted to move on and do it without. They were like, "It's easier to do it in my head!" And I don't want to turn round and say, "Don't do it in your head." Cos when they do the calculation test they're going to have to do a lot in their head and they're going to have to do it quickly. (B-int1)

Bernard appears unconvinced by the value of using the concrete resources, describing the pupils as 'playing' with the resources as opposed to doing anything constructive. She is quick to agree to the children's request to work without them, giving priority to the discourse of test readiness which involves pupils quickly working out answers 'in their head' and without manipulatives, an approach that she believes they'll need if they are to be successful in the tests.

There is a striking difference between the confidence Bernard exudes when talking about how she takes ownership of the 'Vygotskyist' approaches to build pupils' social skills and her passive approach to mathematics teaching. Bernard appears to lack conviction in her teaching and allows the scheme, the children and the tests to make decisions for her.

6.3.3   'You can't narrow [the curriculum] can you?'

Bernard's priority is to prepare pupils to perform well in tests and at the end of the year, she describes her frustration that some aspects of NC2014 did not appear in the tests:

(B)   Oh we could have not bothered doing Roman numerals a hundred bloody times last year … What is the point? … There wasn't really any ratio and things like that, things that my kids really liked … and they really began to understand it and lots of things that weren't in there that I'm just thinking, "Oh don't have all those things in the curriculum if you're not going to test them!" … Miles and kilometres. Miles to kilometres. They could all do that. I was convinced [it would come up].

(V)   So then does that make you then change like what you do next year? Do you then think, "Well"/

(B)   No cos you can't narrow [the curriculum] can you?

(V)   Cos you daredn't?

(B)   Because you don't know [what will be included in the test]. (B-int3)

Bernard is annoyed on behalf of the children, who 'really liked' and 'really began to understand' topics which were then not tested and is worried that she's wasted their time. Even when a topic does come up in the tests, there is no guarantee that pupils will get full marks on it, especially if it has a high cognitive challenge and demands more than simply filling in a missing number. During our discussion about test content and preparation, Bernard drew my attention to a question from one of the reasoning papers which was worth two points (Figure 22):

> (B)   We've done prime numbers a billion times and there was a two point question and loads of kids just got one point on it … it was so stupid … a number wrong and [they] only got one point! It's just so stupid! … if you ask them to write down all the prime numbers, they'd sit down and they'd work them all out and they'd be able to do it all the way up to a hundred [but] give it in a slightly different way [and they can't do it] … That question annoyed me a lot. (B-int3)

Her tone is really angry as she repeatedly describes how 'stupid' this question was. It caught the children out because while the content was familiar, the cognitive challenge was high and many of them got confused by the Venn diagram.

Figure 22: SATs question – prime number sort (taken from Standards and Testing Agency, 2016).

Bernard understands that pupils 'can't know everything and they will make stupid mistakes because they're human beings' (B-int3) but wants the tests to provide the children with the best chance of being successful. 'Stupid' questions like this appear to be set to catch children out rather than to help them to demonstrate all that they've learned.

6.4 Bernard, the good welfare-focused teacher

Bernard authors as a caring teacher who knows and likes the children, and puts their welfare first. Her personal history provides her with knowledge and motivation to do the best for the children in her care and she wants them to be successful in SATs so they can continue to thrive at secondary school and beyond. Bernard speaks with great authority about the social needs of the children and how she meets these but speaks about her mathematics teaching with much less confidence. She seeks a 'path of least resistance' which will guarantee results in tests even when the questions are 'stupid'.

7. Claire: the maths 'nerd'

Claire's story is told in the context of our having known each other since 2006 when I worked as a Local Authority mathematics adviser and Claire was a subject leader in a school. We are both interested in the same 'sort of maths' (C-int1) and position each other as aligned with the same organisations and beliefs about mathematics teaching. In our first interview, I reminded Claire that she had described herself as a 'maths … nerd' (C-int1) and we shared our mutual enjoyment of mathematics puzzles, establishing our shared enthusiasm for the subject.

Similarly, in our brief post-lesson conversations, we talk at length and with enthusiasm about Claire's teaching and pedagogical decisions. After my first visit to her classroom, I commented on the nature of these discussions in my research diary, noting that our discussion 'was between two experts' and that 'Claire was not looking to me to make judgements of her or to approve what she was doing' (C-RRD-obs1).

Claire appeared confident in her practice and did not need my approval of what she did because she knew it was good. This influenced the data I collected on Claire because I felt that discussions about pedagogy were safe to have, that she didn't feel threatened or assume that I was being critical if I asked about an aspect of her teaching. At the end of the year, we finish our final interview with our agreeing that it has been 'really nice to just talk maths with somebody who's on the same wavelength' (C-int3). Claire positions me as an equal and I reciprocate. This has been an important feature of our relationship over many years.

Claire's case is in two parts. In the first of these, I present her stories about being an expert mathematics teacher with a 'teaching methodology'. These stories include an explanation of how she came to have this expertise, how it sets her apart from her colleagues and how she is positioned by others as an expert. In the second part of the case, I set out her narrative of working in Year 6 and orchestrating the competing discourses of the 'school perspective' of getting results and her own beliefs about teaching mathematics. Because mathematics is central to Claire's narrative, there is not an additional section devoted to this.

7.1 Stories of positioning and identity

I recruited Claire through my consultancy e-newsletter. This included news, events and resource recommendations. These emails would not demand a response but Claire did reply occasionally, and on one occasion wrote, 'I really enjoy reading your newsletters, even though you don't hear much from me' (C-email-02.03.13). She authors as in dialogue with me through these e-newsletters and when I announced that I was embarking on this research, she was quick to reply that she was both envious and happy to help.

7.1.1 'Providing me with an insight into her decision-making process.'

Since being recruited, it appears to me that Claire has acted consciously to help me in my role as researcher. For example, she wrote her pen portrait in the third person which would make it easy for me to include in this thesis without editing, and the content of this directly matches my request for information about her history as a teacher of mathematics.

During lessons, Claire is in dialogue with me, 'providing me with an insight into her decision-making process' (C-RRD-obs2). She provides me with a meta-narrative of her decisions at different points in her lessons, enabling me to understand both what she does and why. She was also eager to know that what she was showing me was *useful* for my research and this served to remind me that each lesson observation is performed by Claire *for* me. In our first interview, I explain to Claire what I've done with the lesson videos:

> (V)   I've pulled up a huge number of clips because there was just so much that was interesting.
>
> (C)   Oh good. (C-int1)

She authors as pleased to be helping my research by providing what I have labelled as 'interesting' data. In our third interview, she also offered to fetch something – paper work, assessment data, a child's test script or book – for us to look at together 'if that's useful to you' (C-int3).

While Claire tells me that she is teaching *for* me, I noted in my research diary that she also tells me that what I observe is not a special performance:

> As she walked me to the door she made a comment about how the lessons she's teaching are not 'Ofsted lessons' but are everyday practice (with the accompanying disruptions). It reminded me of the quote from Erica Burman, "Tell your professors that we are good mothers," as I'm pretty confident that Claire preceded this comment with something along the lines of, "Tell your supervisors that these lessons are….". (C-RRD-obs2)

She tells me that I am not seeing 'Ofsted lessons' – a phrase that neither of us expands on because we share an understanding that such lessons *for* Ofsted inspectors are in some way artificially perfect – and labels what she is showing me (and the wider audience for videos of her teaching) as typical of her normal, everyday practice. In another example of her awareness of the nature of my research, she reflects on how other teachers might interpret video extracts of her teaching a small bottom set rather than a larger mixed-ability class:

> Claire suggested that when I show clips to other teachers, I'll need to watch out for the response of, "It's OK for her because she's only got 14 children and has 3 extra adults in with her". She said that she'd teach this way with a class of 30 too. (C-RRD-int1)

She authors as aware of how she contributes to my research, and aware that what she does is different from what other teachers do because she is so well-informed about mathematics teaching and has been engaged in a large amount of professional development, particularly MaST[28].

7.1.2   Having a research-informed 'teaching methodology'

Claire authors as having a coherent and well-informed 'teaching methodology' which she shows me in her lessons and tells me about in interviews. In her pen portrait, Claire sets out how this came about:

> **Claire has been teaching for over 25 years across the whole of the primary phase. She began her teaching career in London and it was there that she realised that she had no**

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[28] The MaST programme was described in section 2.2.2.

> **idea how to teach maths at all! … Fortunately, her mentor had been part of the BEAM development group (Be A Mathematician) and so she spent one afternoon a fortnight developing new activities and generally talking maths. These activities (which were mostly open-ended and investigative) she then trialled in her own classroom and reported back to the development group, prior to publication. This work had a major influence on her teaching methodology. Following a move … and the implementation of the National Numeracy Strategy, she was appointed as a leading maths teacher … other important influences over the years include membership of ATM, continuing to occasionally work with and write for BEAM, a wonderful workshop with NRICH and most significantly, the MaST programme. (C-biog)**

Although keen to describe her practices as normal for her, Claire authors in her pen portrait as aware that her 'teaching methodology' has come about because of her engagement with research and professional development, and therefore is different from how most primary school teachers teach mathematics because they've not had these same experiences. That she labels her approach to teaching as a 'methodology', suggests that she has a coherent pedagogy which has been consciously formed: this is something that she has worked on and continues to work on. Claire describes how this 'teaching methodology' has been informed by her engagement with the organisations and practices that she lists and knows that I also align myself with. She appears to have two aspects to her 'teaching methodology': research-informed pedagogical approaches; and a commitment to mixed-ability teaching. I provide example of these in turn.

7.1.2.1   *'The idea of using general statements … I do that all the time.'*

In relation to her pedagogical approaches, she goes on:

> **… [later, on the MaST course] she was introduced to the work of John Mason. After reading Mason's (2005) assertion that "a lesson without the opportunity to generalise is not a mathematics lesson," she became determined to ensure that every lesson she taught had an element of reasoning. She is particularly interested in promoting a deeper understanding by asking "Why?" (C-biog)**

Claire's pen portrait is written like a biography on a professional website. In adopting this genre, Claire establishes herself as a well-educated professional with pedagogic vision and expertise. She wants me to see aspects of her 'teaching methodology' – especially those influenced by her engagement with MaST – when I visit her classroom; she wants

to both tell me about what has influenced her and also show me how these ideas are embedded in her practices. She self-positions as an expert and directs these stories to me, an addressee with shared beliefs.

In our second interview, I provide Claire with an opportunity to talk about how she has incorporated Mason's assertion into her 'teaching methodology'. I introduce two video extracts from consecutive lessons – described in Figure 23 – to prompt this discussion.

In a lesson where pupils were finding fractions equivalent to one half, the pupils were asked to notice what was the same about the fractions. Adam claimed that, "All of the odd numbers [denominators] don't fit but all of the even numbers [denominators] do fit." And Will said that, "All of the numerator numbers are half of the denominator numbers." Both children were encouraged to write their statements in their books.

The following day, the lesson began with Will's work from yesterday. On the board, was written:

Will says, "The numerator is always half of the denominator in fractions equivalent to a half." Is he correct?

This is described as a general statement, a phrase that the class have met before. After exploring this statement with the pupils, Claire explains that Will is correct and explains why. She celebrated the children's work across the week and that they've found out something that's always true. She goes on to say, "That's what maths really is! That's what mathematicians do. They don't spend ages doing loads of sums, they think about what's true and they investigate it and try and find the answers."

The lesson continues with the pupils using their knowledge about fractions equivalent to one half to answer questions such as: $\frac{3}{10} + \frac{1}{10} + \frac{1}{2} =$

Figure 3: My account-of Claire's lesson (C-video-obs7&8) – maths is about investigating and making general statements.

Having watched the extracts from observations 7 and 8 (as described in Figure 23), Claire said:

> (C)   The idea of using general statements … I do that all the time and I've done that with all of my classes for a long time about lots of different things. I think the whole idea of it is, you start to play around with something and a child says something like that and you're in aren't you, shoom! "OK Will has said this, is that correct?" (C-int2)

Claire authors as experienced at working in this way and as a skilful practitioner who is able to put Mason's ideas into practice.

Claire also tells me that she has saved a fractions lesson from Jo Boaler's 'Week of Inspirational Math'[29] for me to see during my first week in her classroom (the other four WIM lessons were taught at the start of term). She authored as wanting to show this to me and in doing so, tells me that she knows about and uses these resources. These intertextual references serve to position herself as an expert. We watched this extract of the lesson – as described in Figure 24 – in our first interview.

> At the end of the lesson, Claire asks the children to recap what they've been learning and they recall that they've been 'convincing'. She goes on to ask if they were successful at convincing an adult and asks them to reflect on the fact that this was not a quick thing to do!
>
> Claire says, "Maths is not about being fast. Maths is about thinking really hard and struggling a little bit and finding things difficult. And then what happens in our brains? We've talked about this a lot of times. When you struggle and work really hard, what happens in your brains? Tell me."
>
> The children reply, "Your brain grows."
>
> "Your brain cells make new connections, it grows. So it was slow, and sometimes maths is slow and we have to think very hard. Nod your head if you have thought hard today in this lesson."
>
> The children nod their heads. "OK, well done", says Claire.

Figure 4: My account-of Claire's lesson (C-video-obs2) – maths is not about being fast.

As we watch this extract, Claire remarks that, 'you can hear the Jo Boaler spilling out of me, can't you?' (C-int2) and in doing so authors as having internalised the ideas of Jo Boaler to such an extent that Boaler's words have become Claire's words. These words are literally inside her to the extent that they are 'spilling out' as part of the orchestration of discourses that is her 'teaching methodology'.

7.1.2.2   'As a primary school teacher you want [to know] the whole child, don't you?'

Because Claire's school organises learning into sets for mathematics in Year 6, setting is a topic that we regularly return to in our discussion. In our second interview, I ask Claire how she thinks teaching in Year 6 should be organised:

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[29] https://www.youcubed.org/week-inspirational-math/

(V)   If you had your way then what ought it to look like in September in Year 6? … it wouldn't involve sets?

(C)   No no no. So it would be me with my own class because the thing is you lose a part of your understanding of the child, don't you, if you haven't got that … There's the big push to get maths across the curriculum which is very difficult for many people isn't it … so if we're doing science and we're doing some data handling, I don't know what those other children [from other sets] can do and I'm missing a bit of them. Do you know what I mean? As a primary school teacher you want [to know] the whole child, don't you? (C-int2)

Claire's 'teaching methodology' includes a particular stance on how children should be understood in education. She is concerned with 'the whole child' and this extends to her view on pupil engagement and ability, and the impact of an emphasis on testing.

Claire refers to Boaler again when she shares her concerns about mathematics being about performance and about the impact that setting has on pupils' engagement with the subject. In our first interview, she positions herself as a teacher very much in tune with Boaler's position. She says that, 'if Jo Boaler's right and everyone is a maths person' (C-int1) then there should be high expectations for all pupils. She goes on to suggest that some colleagues struggle to have this mindset in their mathematics teaching:

(C)   I think maths is seen as different, isn't it? All this Jo Boaler stuff about performance subject and it needs to <u>not</u> be a performance subject. (C-int1)

Claire is keen to say that an emphasis on performance is criticised by Boaler and that she concurs with this view. In our second interview, Claire argues that years of being labelled according to ability, has a negative impact on pupils' attitudes, citing her own teaching experience:

(C)   Last year [after SATs] I tried chucking them all in mixed ability groups and I just think because they've been set for so long, and they're well aware of which set they're in – anyone who thinks that children are not aware is wrong, Year 1 [children] know don't they? – so I found last year that the children in the lower ability groups did just sit back … I think that is a sad thing about setting actually … if they're used to it then all abilities can work on the same problem, can't they, and all get something out of it. (C-int2)

Claire's use of Mason and Boaler positions her as both co-researcher and as a fellow well-informed teacher of mathematics. She is very aware of me as her audience, addressing me as having similar knowledge and concerns about the teaching of mathematics.

7.1.2.3 'Being a maths teacher is always a 'work in progress'.'

In her pen portrait, Claire says that at the start of her career she had 'no idea how to teach maths at all!' (C-biog), and closes with a statement about her commitment to lifelong learning:

> **Claire's view is that being a maths teacher is always a 'work in progress,' and she is always open to new ideas and teaching methods. (C-biog)**

She writes that she has been self-aware from early in her career and proactive in seeking development opportunities (including with BEAM, NRICH and MaST, see above) and that she continues to be 'open to new ideas and teaching methods'. She orchestrates various discourses of mathematics in her overall authorial stance as a reflective teacher with a coherent and ever-evolving 'teaching methodology'.

For example, Claire shares her lesson inspirations including how she learnt to use Cuisenaire rods in her teaching of fractions:

> (V)   So how are you finding out to use them? Is that just your own thinking or are you/
>
> (C)   A little bit just thinking, as you're playing with it, you, I just come up with ideas, "Oh yeh, I could do that!" But there are some really good video clips and I can't remember the lady's name but they're on the NCETM.
>
> (V)   Caroline Ainsworth?
>
> (C)   That's it yeh. So I've had a good look through those and that gave me quite a lot of ideas as well. (C-int1)

Again, this is Claire's opportunity to author as knowing about these online materials, and I co-construct this discussion with her, as I also know about these resources and why they are important. Telling me about how she has accessed these, she constructs a picture of what she knows about and uses. She authors here as a reflective practitioner, carrying out research into how to teach and evaluating the approaches that she reads about and comes across through her own exploration.

Claire described the process of being part of the research as 'making her think about how she's teaching fractions' (C-RRD-int2) and that our post-lesson conversations were 'helping with her planning for the next lesson!' (C-RRD-obs5). She authors as viewing her participation in my research is part of her ongoing development as a teacher of

mathematics. We talk about pedagogy because it is safe to do so. I am not trying to influence Claire to make her better because we are equals who are in dialogue.

7.1.3   *'"That's not how we should be teaching maths anymore!"'*

Claire authors as having an unofficial expert status in her school saying that, 'I'm not the subject leader but I do work quite closely with Maria[30]' (C-int1). When talking about changes in her school since the introduction of NC2014, Claire describes the input that she has had in influencing the pedagogical practices of the staff team:

> (C)   I just think that people here are very much, "This is how you do it, now you practise," and I've led a staff meeting last year to sort of say, "If you do that and Ofsted come in, we're stuffed basically because that's not how we should be teaching maths anymore!" I've put in a little bit of training on the types of things [we should be doing] like how to do your times tables in a reasoning way, not just, "Six eights!" ((chants and claps hands in a regimented way)) (C-int1)

Claire authors as being both an authority on both how 'we should be teaching maths' in general and how 'we should be teaching maths' in a way that will please Ofsted. She also cites Ofsted when she attempts to encourage a move away from setting for mathematics:

> (C)   I think that along with that change of teaching style, if we got rid of the setting it would kind of come together wouldn't it because the approaches go together … "If Ofsted come, we have to be able to justify why we set," … we need to show that it's working, and if it isn't we need some answers up our sleeves. And I think that rattled everybody a bit and so they stopped in Year 5. (C-int2)

Claire says that she has knowledge of what the inspectorate are looking for and positions her colleagues as responding to her threat of Ofsted's potential disapproval, appearing to have used the authoritative voice of the inspectorate to persuade school leaders and teaching colleagues to make changes to practices in Year 5. In telling me about this, she provides evidence of both her expertise and her influence.

She describes Maria, the school's mathematics subject leader, as saying that 'some people are finding it very difficult' (Cint1) to teach like Claire and to adopt her 'teaching methodology'. Claire says she understandings this:

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[30] Maria is the school's mathematics subject leader.

(C)   It's a bit out of your comfort zone, isn't it? When you start asking the kinds of questions that I tend to ask kids, you don't quite know what they're going to say, do you? And then you've got to adapt what you're going to do depending on their [responses] …. I mean teachers do that all the time anyway but I don't think they do with maths. I think maths is seen as different, isn't it? (C-int1)

Describing her 'teaching methodology' as out of the 'comfort zone' of her colleagues, she acknowledges that this is hard for the other teachers who she positions as not welcoming unexpected events in mathematics lessons. It is unclear what Claire means when she says that 'maths is seen as different' by her colleagues. It could be that her colleagues view it as a 'performance subject' (C-int1) in which closed questions are asked with right or wrong answers. This would sit very much in contrast with 'asking the kinds of questions' that Claire says she asks questions that are open, which probe pupils' understanding, and to which pupils' responses cannot always be anticipated.

7.1.4   'I've done lots of PD during the years.'

The children are working independently.

Claire asks Liam to read his work to her. He has written,

"Red is $\frac{1}{1}$ of red".

Liam struggles to say the fraction. He says, "Red is a whole," and attempts to refine this to, "Red is a/ I can't pronounce it!"

They laugh together about this and both try to say, "One oneth!"

Claire then asks, "Why is it 'one oneth'?" and Liam replies that the two red pieces are the same size.
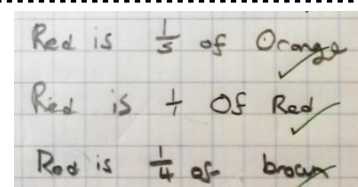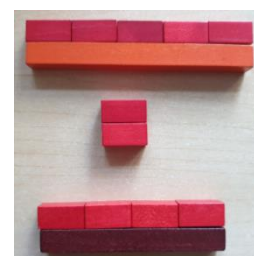
Figure 5: My account-of Claire's lesson (C-video-obs1) – Liam and "Red is 1/1 of red".

In order to learn more about how Claire – as an expert – responds to such contingent moments, I identify the video extract described in Figure 25 in which she interacts with Liam over his writing of "Red is 1/1 of red". We view the extract together because I want to explore with Claire the nature of her subject knowledge and why it is that she is able to recognise when unexpected events are mathematically interesting.

After observing this extract together, Claire describes how she thinks some of her colleagues might have responded to Liam's work:

(C)   Yeh, see I think lots of teachers would have seen the one one and gone, "Oh yes, that's [right]" because it is correct and there's very good reasoning that he's come up with it but would have been a bit disappointed because they'd be wanting the actual/ But probably wouldn't have spent as long with him, "Why?" and "Why?" And [the children] get a bit worn out with me as well ((both laugh)) but you know if you want them to reason you've got to demand/ You've got to require them to explain themselves haven't you?

(V)   But it strikes me from looking at something like that that your own … subject knowledge doesn't quite do it justice … you know your own knowledge of the maths is … you recognise that that's interesting. That that's one that's worth having a conversation about.

(C)   Yeh yeh. And I think that's because I've done lots of PD during the years. I also think … Liam will have seen that as a bit of a joke. It's a bit like he's trying to bend the rules a little bit … I just think they are looking for the ones that they think are going to catch you out.

(V)   Well they've met they're match in you then, haven't they!?

(C)   ((laughs)) Or maybe not. (C-int1)

I co-construct Claire's authoring as having superior subject knowledge about mathematics teaching as a result of her professional development experiences. How she talks about this unexpected moment with Liam is further evidence of the uniqueness and robustness of her 'teaching methodology'.

7.1.5   'I can see why I have the children that I do.'

Claire's school is four-form entry but the Year 6 children are taught mathematics in six sets with two of the school's non-class-based senior leadership team (SLT) providing the extra teaching capacity. Claire describes how she was positioned by Christine, the Headteacher, as the best teacher for the bottom set (set one of six):

(C)   Christine, the Head is very aware that you need to put your teachers who teach well with the children that can't do it. She says that constantly across school. And some people raised eyebrows and said, "I thought you'd have the top set, Claire, with your MaST and everything." But actually I can see why I have the children that I do, and she is right, isn't she? You need to understand what's going wrong for [the low attaining pupils] and I think some people don't get that if they're not quite in tune with how mathematical reasoning develops and so on. (C-int2)

Claire's anecdote reveals how she is seen by her colleagues. She self-authors as someone who does 'teach well' and who has a deep understanding of 'how mathematical

reasoning develops', and says that she is recognised as such by Christine. Implicit in Claire's authoring is the positioning of her colleagues as not being as good as her, and when she positions them as thinking that she'd be best suited to teaching the top set, she illustrates her point about their lack of understanding of mathematical development.

At the start of the year, fourteen children were in Claire's set one but that changed at the end of the autumn term when all Year 6 pupils completed a mock test and the results of this informed how sets would be rearranged after Christmas. Some of Claire's original 'set one' pupils moved to sets two and three on the strength of their performance and others moved into set one from higher sets because their performance in the test was weak, leaving Claire to work with a group of just seven pupils:

> (C)   The children that I've got, the way Christine worded it was, "We haven't given up on these children but we accept that they are not going to get age-related in the tests." And she's right, they're not going to. That's almost given me licence really because my brief was to look to see what they needed to learn and make sure that learning was active and enjoyable, and to try to fill the gaps and obviously looking for progress all the time. I've still got to demonstrate progress but I fairly much know that they're not going to get that age-related. (C-int2)

In this story, Claire positions herself as someone who is recognised as a good teacher who will make learning 'active and enjoyable' and will 'fill the gaps' in the pupils' mathematical knowledge. When Claire authors as having been given a 'licence' to do what she thinks best, she authors as being positioned as trusted to use her professional judgment and knowledge about how children learn to ensure that these children still make progress.

7.2   Performative pressures in Year 6

> (C)   I'm not too interested in results and things, which I probably ought to be a bit more … I believe in helping them to learn in the best way that they can and I believe I'm the best person to judge if they've learnt, not a piece of paper that's thrust in front of them on May the ninth. (C-int2)

In this speech, Claire articulates a dilemma that she faces from working in Year 6. As an expert teacher who is 'in tune with how mathematical reasoning develops and so on' (C-int2), Claire does not attach importance to the results of national curriculum tests (SATs). That she says that she 'probably ought to' value them a bit more indicates that she

understands how important test results are to the school, but they tell her nothing and interrupt her teaching.

7.2.1 The 'school perspective … the perspective is results, isn't it in Year 6?'

Claire authors as maintaining her 'teaching methodology' principles, despite teaching in Year 6, and in contrast, positions her colleagues as worked by the discourse of getting results and adopting pedagogies focused on test preparation:

> (C)   I don't want to ever be saying, "This is how you multiply, here's some [questions], let's practise!" I'll say, "Here's some digits, swap them round, and which is the biggest product you can make?" … I do try to make sure it's always got that reasoning.
>
> (V)   And is that very different from what's happening in the other Year 6 classes?
>
> (C)   Yes … They're doing very much demonstrate and practise and using test questions and things as well, which you do have to do in Year 6. (C-int1)

Claire describes herself as asking open-ended questions and demanding that pupils reason, in contrast to her colleagues who adopt approaches that she says she understands that 'you do have to do' in Year 6. She describes this contrasting discourse on how teaching should be in Year 6 as the 'school perspective … the perspective is results, isn't it in Year 6?' (C-int2). The 'school perspective' is positioned as in opposition with Claire's 'teaching methodology'.

Despite being powerless to change the 'school perspective', Claire describes how, as the expert pedagogue, she still tries to influence the mathematics teaching of her Year 6 colleagues:

> (C)   And I do suggest from time to time, so did somebody say to me, "I was going to tell them … how you calculate how the angle, internal angle of a regular polygon, then I was going to ask them to measure some different ones and check it's right." [So I suggested] "Instead of that, why don't you do, what are they? And make a table and see if they can see some sort of link and pattern and actually come up with the conjecture themselves?" "Oh, I hadn't thought of that!" So I'm slipping in those little things where I can but of course that will take you far longer and so then there's a bit of a reluctance isn't there because it's about coverage and time. (C-int1)

Claire authors as a resident expert, 'slipping in those little things' to encourage her colleagues to consider how the children could be taught differently. She also hints that she understands the pressure of 'coverage and time' which she positions her Year 6 colleagues as feeling because they do not have the same 'licence' that she does; pupils in sets two to six are expected to pass their SATs.

Elsewhere, Claire authors as sympathetic to the 'school perspective' of results when she suggests that 'there's so much at stake for schools' (C-int3) and as understanding of the decisions that Headteachers make in pursuit of results:

> (C)   [Teaching in Year 6 is] not about understanding, is it? It's about getting these results … When there's so much at stake for schools, you can see why Headteachers baulk at the thought of not setting or whatever because they believe [it will result in higher grades] … that's the whole political set up of it, isn't it? If it was all gone/
>
> (V)   Yeh so actually as, for your style of teaching, to be able to show, "Well actually Adam can make the national standard. And I've not been prepping him for the tests, that's not the way I've taught him since January." That's kind of quite nice, you know, that's quite a nice thing to be able to say actually, that he's got that. (C-int3)

Claire authors as aware of 'the whole political set up' of SATs, which I interpret as referring to the accountability pressures that schools experience due to the sheer importance of these results as determinants of a school's positioning in league tables and rating from Ofsted. I co-construct this passage with Claire and introduce the idea that her 'teaching methodology' has resulted in test success for one of her pupils, Adam, despite 'the whole political set up' in which she is working. It appears that Claire's 'teaching methodology' is not incompatible with the 'school perspective' of getting results after all.

7.2.2   'I'm teaching them thinking rather than, "This is how you do it!"'

Claire authors as understanding the educational histories of the group of learners in her small set one:

> (C)   I think as well, for these children, it's really hard for them because I think they're the children who probably all through school they've probably been the group with the TA, and now they haven't always got one and they've got to do it themselves, haven't they? (C-int1)

She positions these children as victims of the system in which they've acquired a learned helplessness and says that she is sympathetic to their situation. She is aware of the nature of the mathematics that these children have met before:

> (V)   It's really interesting that you're doing the deeper thinking with those children … where the higher attaining children within the year group are perhaps missing out on that.
>
> (C)   Yeh. I think they are. Yeh. I do think they are. But probably then these children [in set one] have never worked in that way. They've always been the ones who have just been plodding through the exercises as it were. And they do say that they like their maths lessons more so hopefully it's having some impact. (C-int1)

Claire positions the 'set one' pupils as having 'been plodding through the exercises' in their mathematics lessons, and I help Claire co-construct her 'teaching methodology' as both demanding for these children and as something that their peers are missing out on (although she doesn't take this up in quite the way I hope). Claire authors as having seen the impact of her 'teaching methodology' in one of the practice tests when her group outperformed others on a reasoning question:

> (C)   In the January set of papers, there was one question that nearly all my set got right and most children across the year group got wrong, and it was a combinations one I think … I was pleased with that because you know it shows I'm teaching them thinking rather than, "This is how you do it!" With the Government's focus on the non-routine questions, if you just teach them how to do questions, they're not going to succeed, are they? (C-int2)

Claire says that she is adhering to 'the Government's focus on the non-routine questions', which is a policy directive from NC2014 and in doing so both adds weight to her approach and results in test marks. She confidently says that she is providing pupils with the skills and confidence to tackle 'non-routine questions' as opposed to formulaically teaching them 'how to do questions'.

At the end of the year, Claire and I review the results achieved by the pupils who were in her set at the start of the year as well as the seven who were with her from Christmas. She draws my attention to Danny who started the year in set one with her and was subsequently moved to set three:

> (C)   I think, and I know this sounds awful, that if he'd have stayed with me I'm quite sure that he'd have got more. Because the class that he's

in, the reasoning isn't really there, and he's a slow thinker but he does get things. It's very frustrating but you know he does understand what he's doing and can explain it. It takes him half an hour, but he can, so I think that if he'd have had more of that [my] approach, he'd have done a bit better. (C-int3)

Claire positions the teacher of set three as less good as her because 'the reasoning isn't really there' although she is aware that what she says 'sounds awful'. Elsewhere she has authored as sympathetic to her colleagues and as understanding that they have no choice but to teach as they do, but here she positions this teacher – and the system which values performance in tests over understanding – as having let Danny down; he'd have done better staying with her in set one.

7.2.3 'I know what they can do. They don't need to do another test to show me that!'

In our first interview, aware of how the sets would be rearranged after Christmas, I ask Claire whether the seven children in her new set will be expected to sit the end of year tests:

> (C)   There's one girl who I've said I think she should be [disapplied] … then there are two more who I don't think are going to score on it. And I've said this [to the Headteacher] but because they came to us as a [level] 'two c' I've been told that they have to take the test. But I do kind of think it's sort of a bit cruel, isn't it, child cruelty. (C-int1)

While Claire says that she is unable to disapply her pupils from the actual tests, she has rebelled against a directive for pupils to sit mock tests in the small amount of time between the Easter holidays and the May test date:

> (C)   The rest of the cohort are doing another set [of SATs papers] … but I've put my foot down and said, "We're not," because it's a waste of teaching time. I know what they can do. I mean I've got seven children, I know them inside out, so I know what they can do. They don't need to do another test to show me that! (C-int2)

Claire is able to 'put my foot down' and exercise her 'licence' to do what she thinks best on the basis of her expert knowledge. Claire describes how her test preparation for set one involves focus on practical skills such as reading timetables and managing money, as well as 'basic calculations so that they can go to secondary school with some ability to add, subtract, multiply, divide' (C-int2). She shows awareness of the bigger picture of

what these children need for the next stage of their education, as opposed to being driven by test performance.

7.2.4 'I've sort of made recommendations and they are being taken quite seriously.'

When Claire and I meet for our third interview, she tells me that despite 'set one' pupils being thought of as working below expectations, one of her pupils, Adam, passed the tests and achieved the national standard. This result is in contrast to the 'shocking SATs results' (C-int3) achieved across the school: less than 50% of pupils achieved the national standard despite teachers predicting a success rate of above 80%. Claire tells me, 'we were discussing this could probably possibly trigger a maths Ofsted couldn't it, I would think' (C-int3) and here authors again as an authority on what Ofsted are looking for from a mathematics perspective.

As a consequence of these results, Claire describes herself as having 'a little bit of sway at present' (C-int3) and goes on to tell me how she is using this sway to address what she sees as shortcomings in teaching across the school. These shortcomings map to the two aspects of her 'teaching methodology' described above: research-informed pedagogical approaches; and a commitment to mixed-ability teaching.

In suggesting that results are those of 'all those teachers that children have had before' (C-int3), and not just the responsibility of the Year 6 staff, Claire makes a case for pedagogical change across the school so that representations and methods are coherently 'flowing through the school and building on each other' (C-int3), and reasoning and thinking deeply are integral to teaching. She recalls a discussion about the possible introduction of a mathematics scheme to achieve this:

> (C)   So the day these results came out … it was said to me [by the Headteacher, Christine], "Oh right, we're going to get a maths scheme, I want you to go and visit Lowerside [Primary School] where they have [a] scheme [which does not follow a 'mastery'-style approach] and see it in use." And I said, "I'm not going to Lowerside to see [the scheme]!" ((both laugh)) I mean Lowerside's a really good school … and their results are very good as well. But I don't think it's [the scheme] that made the results good! (C-int3)

She positions herself as knowing better than the Headteacher when it comes to what will make a difference to the school's mathematics results and again describes herself as

putting her 'foot down'. She goes on to describe how she utilised her contacts with 'mastery' specialists at the local Maths Hub to find out more about the implications of adopting a scheme. She passed this information back to the Headteacher:

> (C)   I passed this on to the Head and just said really, "If we're going to invest in a scheme," – I mean we're talking thousands of pounds for a school this size – "We need to get the reps in, get them to do their presentations, look at their stuff, take some time." You see she wanted it to be in place in September which I can understand as well. So she's agreed to do that now. (C-int3)

The 'school perspective' here is to get something 'in place in September' so that the impact on results can happen as soon as possible, and Claire says that she understands that position. In contrast, her own approach is to 'take some time' to carefully think through the pedagogical implications of a scheme and be confident that a sound decision has been made. Claire authors as well-connected and these external connections appear to contribute to Claire's in-school status as expert affording her the right to speak to the Headteacher the way she does. Ultimately, Claire describes having influenced Christine's decision about what will happen next.

At the start of the year in interview one, Claire authored as having warned colleagues that if results were not good then the school would 'need some answers up our sleeves' (C-int1) to justify any continuation of setting in Year 6, and in interview two, she described herself as still 'agitating for' (C-int2) this to happen. Following the poor results in May, she describes the changes planned for the following year:

> (C)   We are looking at – none of this is definite because obviously I'm not the subject leader but I've sort of made recommendations and they are being taken quite seriously because obviously [our] results are not so good – that maybe we won't set in Year 6. Probably they would set maybe at Easter or perhaps February half term if they really bottle it. (C-int3)

Claire says that she has 'made recommendations' but lacks the remit to see them through. She positions the senior leaders as likely to 'bottle it' and revert to sets at some point in the year because while they are taking her advice 'quite seriously', they remain under pressure to ensure that their 'school perspective' of achieving results is met. Claire has proven that results do come from following her 'teaching methodology' – even when working with the lowest attaining children – but her colleagues are yet to be entirely convinced.

7.3 Claire, the good learning-focused teacher

Claire authors as an expert mathematics teacher who has completed lots of professional development and has a coherent 'teaching methodology' which is informed by research and experience. She understands the 'school perspective' of getting results but is able to work to her own agenda because she is deployed to work with a small group of low attaining pupils and is given 'licence' to meet their learning needs. This approach results in one of her pupils, Adam, out-performing many of his peers and results in Claire having some 'sway' to influence teaching across Year 6.

8. Discussion

In this thesis, I set out to understand the work of Year 6 teachers in the context of England's high stakes accountability system. In the preceding chapters I presented the cases of my participant teachers, Anna, Bernard and Claire, and shared their very different narratives of what it means to do a 'good' job of teaching mathematics in Year 6.

In this chapter, I bring the three cases together along with reference back to literature, theory and methodology in order to consider how and why Anna, Bernard and Claire figure Year 6 mathematics teaching differently, and how the particular dynamics of our discussions have impacted on my own understanding. The discussion is structured around my research questions:

Research Question 1: How do Year 6 teachers narrate themselves as 'good' in the context of England's high stakes accountability system?

   a) **What is the role of 'history-in-person' in Year 6 teachers' self-authoring?**

   b) **What is the role of 'positionality' in Year 6 teachers' self-authoring?**

   c) **What are the roles of 'authoritative discourse' and 'internally persuasive discourse' in Year 6 teachers' self-authoring?**

I begin by taking each sub-question in turn and for each, discuss Anna, Bernard and Claire as individual cases first before drawing their narratives together in a cross-case comparison. The cases are not always discussed in the same order: Bernard is presented first in the discussion about history-in-person because her personal story is central to her work as a teacher; and Anna is presented first in the discussion about both positionality and orchestration of discourse as these feature strongly in her narrative. I close this section with some comments about the usefulness of Holland et al.'s (1998) theoretical lens for exploring teachers' narratives of doing good job in Year 6.

Research Question 2: How can dialogism support an understanding of insider research?

I then move on to discuss the second research question. I begin by examining how the researcher-researched relationship can be viewed as a particular type of self-other relationship and demonstrate how aspects of Bakhtin's dialogism can be seen in the interviews that I carried out with Anna, Bernard and Claire. I then go on to describe how I co-constructed Anna as a good results-focused teacher, Bernard as a good welfare-focused teacher, and Claire as a good learning-focused teacher.

The chapter concludes with a review of some of the findings and methodological challenges of researching the 'good' teacher in a performative context.

8.1 Research Question 1: How do Year 6 teachers narrate themselves as 'good' in the context of England's high stakes accountability system?

The narratives of Anna, Bernard and Claire are all set against the same national backdrop of performativity and high-stakes testing and there were similarities in how they spoke about the pressures and demands of working in this context. In different ways, they made reference to how national curriculum tests framed their work: SATs provide a 'well-defined bottom line' (B-biog) against which Year 6 teachers are judged; teaching is focused on ensuring success in the tests – what 'you do have to do in Year 6' (C-int1); and Year 6 teachers cannot '[rest] on any laurels' (A-int3) because results are not guaranteed. Despite these similarities, the three cases are very different and no one coherent discourse of what it means to be a 'good Year 6 teacher' emerged from their narratives.

None of the teachers explicitly labelled their practices as 'good'. However, it would seem odd to allow a researcher into your classroom if you did not believe that what you were doing was in some way 'good'. Therefore, I have worked on the assumption that Anna, Bernard and Claire have presented themselves in their best light within the constraints of the research, and that what they show me and tell me is what they want me to see and know about them. In their narratives they may not label their own practices as 'good' but they do introduce other figures who they frequently position as either 'good' or 'bad' and story themselves in relation to these figures.

In order to answer the overarching question of how teachers narrate themselves as 'good', I address the three sub-questions in turn. These questions draw on three aspects of the theory set out by Holland et al. (1998): history-in-person, positionality, and orchestration of discourses.

8.1.1 RQ1a) What is the role of 'history-in-person' in Year 6 teachers' self-authoring?

In the Policy Enactment project, Ball et al. (2011:636) reported that teachers' enactments of policy varied because they were at 'different points in their careers, with different amounts of accumulated experience', which is captured within what Holland et al. (1998) term 'history-in-person':

> One's history-in-person is the sediment from past experiences upon which one improvises, using the cultural resources available, in response to the subject positions afforded one in the present. (p18)

Figured Worlds thus views people as 'bathed in the light of their whole biography' (Holquist, 2002:37), supplying the tools for understanding how their past experiences inform future actions.

I relate this aspect of theory to Bernard first as she provides the most compelling story of how her tragic personal story has become translated into her practices as a teacher. Claire's story follows with an account of how professional development over many years informs her teaching, and finally Anna's account of how being good at mathematics herself impacts upon her teaching of the subject.

8.1.1.1 Bernard – 'My journey to this point is … an unconventional one!'

In Bernard's narrative, her history-in-person appears to have a direct connection to her practices as a caring, welfare-focused teacher. In fact, I would go further and say that Bernard herself made the connection between her biography and practice when she wrote her lengthy 'abridged autobiography!' Opening the text with the line, 'my journey to this point is … an unconventional one!' (B-biog), Bernard drew my attention to features of her history-in-person and her practices which appear important in understanding her response to her position as a Year 6 teacher. She authors as having translated the sediment from her childhood experiences of neglect at the hands of the local community

and school system, into a determination to ensure that the children in her class have good life chances. She describes herself as knowing these children and understanding their family circumstances, because these children and families are like her. Bernard's emphasis on caring is reminiscent of Moore's discourse of The Good Teacher as a charismatic subject (2004).

Bernard's knowledge and membership of the community is a particularly important feature of her narrative. Far more so than in the narratives of Anna or Claire, Bernard talks about her local context and the impact this has on her work. As in Braun et al.'s (2011) research into 'situated context' (roughly synonymous with locality) where many teachers referred to 'students like ours' (p589), Bernard places the individual children in her class at the heart of her story. While she describes her colleagues as using the nature of the children from this locality – the 'students like ours' – as an excuse for accepting lower standards, Bernard authors as believing in the children and working hard to provide them with the skills and qualifications to be successful in a way that she wasn't. For example, she describes how she works to improve children's social skills because she believes that everyone can 'work together if we have to. We're not animals, not just feral, not just going to start fighting' (B-in3). She treats the children as 'human beings' (B-int3) and sees herself as the best person to teach challenging children like Billy who her colleagues find 'really difficult' (B-int1). In mathematics, she describes her frustration that she tends to 'overcomplicate' (B-int2) things and explains that she strives to provide the children with a 'path of least resistance' (B-int2) so that they can be successful.

8.1.1.2   Claire – 'I've done lots of PD during the years'

In Claire's narrative, there is a strong sense of how her history of teaching mathematics and learning about teaching mathematics has informed how she works as a teacher today. She authors as akin to Moore's reflective practitioner discourse of The Good Teacher (2004).

Claire begins her pen portrait with an admission that when she first qualified as a teacher, she was unsure of how to teach mathematics, and her narrative builds from here taking in professional development workshops with BEAM, NRICH and myself, membership of ATM, involvement with the local Maths Hub, academic reading and most significantly, MaST. For example, Claire makes reference to having read 'Mason's (2005) assertion that "a lesson without the opportunity to generalise is not a mathematics lesson"' and the

subsequent impact that this went on to have on 'every lesson she taught' (C-biog). In her teaching, and the meta-narrative that she provides, she shows me how her experiences on the MaST programme have translated into her practices as a teacher. As described in Walker et al.'s evaluation of MaST (2013), participation in the programme has been transformational for Claire.

Like Bernard, it appears that it is really important for her to tell me about this connection between present and past, it is important for me to understand her history-in-person.

8.1.1.3 Anna – 'I'm … an absolute achiever from a competitive schooling environment'

Anna's story is less obviously connected to history-in-person, and as she did not provide me with a pen portrait, there are details of her past which I cannot know but which might have been important to how she sees herself as a teacher today. In terms of her mathematics teaching, Anna describes having borrowed the catchphrase – 'fractions are our friends and they're here to help us' (A-int3) – of her secondary school mathematics teacher, Mr. Jones, using this in her own teaching. She also talks about herself as having been good at mathematics, and how this appears to limit her understanding of how to teach the subject. She says, 'sometimes when you see something so clearly it's really difficult to see how someone can't see it that way' (A-int1).

Authoring as having been an 'absolute achiever', Anna relates some of her practices to her own educational experiences as a child:

> (A)   I'm putting a lot of pressure on [the children] … I don't know whether that's from my own personal striving to be an absolute achiever from a competitive schooling environment or what. (A-int2)

Having been to a 'competitive' school appears to have translated into her practice of 'putting a lot of pressure' on the children in her class. The 'sediment' of this competitive environment is also present in how she describes wanting the results for her class to be known separately from those of the Year 5/6 teacher, Julie, because then Anna would 'get a bit more credit' (A-int3) since her results were better. Anna's narrative is of someone who is keen to perform well and concerned for how others will judge her. She is suggestive of Moore's discourse of The Good Teacher as a competent craftsperson (2004).

8.1.1.4   Cross-case comparison

History-in-person is 'the sediment from past experiences upon which one improvises' (Holland et al., 1998:18) and we can see this in Anna, Bernard and Claire's stories of themselves as teachers in the performative context in which they work. These sediments come from different aspects of personal history, namely one's experiences of education as a pupil or as a teacher, and what might be thought of as one's personal life.

Sediments can come from teachers' professional experiences. Having taught for over 20 years, it is not a surprise that the history-in-person that Claire shares is related to this. She describes how she is reflective in her mathematics teaching, authoring as an expert mathematics teacher as the result of ongoing professional development. As she self-positions as a co-researcher, it may be that Claire is very deliberately ensuring that I know about the aspects of her history-in-person which she deems most appropriate for my research into mathematics teachers.

Sediments can come from experiences as a learner. Anna especially draws on such sediments which inform her mathematics teaching. She adopts the words of her secondary mathematics teacher but more significant to her narrative is that she is good at mathematics and is competitive. She describes how this translates to her practices and authors herself as a good Year 6 teacher who pushes her pupils to succeed akin to the results-focused teachers that Ball (2003) suggests are called up by the performative system. Bernard also briefly references her own schooling, and the experience of having been neglected and ignored by her teachers appears to have inspired her to be a different kind of teacher who cares for the pupils and knows them as individuals.

Finally, sediments can come from personal life. This is especially the case for Bernard whose experiences of having been ignored and neglected by the community have a direct influence on the teacher that she has become. She authors as the best teacher for these pupils from this community: her beliefs about teaching are framed in response to her history-in-person. As Sikes (2001) reminds us, 'teachers are people who happen to be teachers' (p97) and it was important for Bernard to tell me about her life before becoming and outside of being a teacher.

Sediments of all types have an impact on teachers' work. In the next section, I explore how they lead the teachers to be positioned differently by others.

8.1.2 RQ1b) What is the role of 'positionality' in Year 6 teachers' self-authoring?

Positional identities are concerned with 'the day-to-day and on-the-ground relations of power, deference and entitlement, social affiliation and distance' (Holland et al., 1998:127); teachers position others in their school, and are in turn positioned by them. In some cases, position becomes disposition, but as Holland et al. say, 'position is not fate' (p45); once someone comes to be part of and understand a figured world, then they may come to use the cultural resources of that world to become liberated from it. As explained in chapter 3, this process of liberation is often triggered by 'processes of objectification' (p142), a rupture, as one comes to see oneself through the eyes of another and recognise what one has become.

The role of *Year 6 teacher getting results* is what Holland et al. (1998:18) would refer to as a 'subject position' within the figured world of the primary school. Such subject positions are taken up differently by different teachers according to their history-in-person and ability to improvise 'using the cultural resources available' (p18). Anna, Bernard and Claire work with the subject position of *Year 6 teacher getting results* in very different ways. I begin with Anna whose narrative is imbued with stories of positioning in relation to the subject position, and then describe Claire and Bernard whose stories of positioning are less significant to their overall narratives.

8.1.2.1 Anna – 'It's a huge vote of confidence.'

Anna describes herself as having enthusiastically taken up the available subject position of *Year 6 teacher getting results*. She talks about being flattered to be offered this position so early in her career and considers this as a ratification of her worth as a teacher. Aspects of her history-in-person appear to chime with this subject position, notably that she is competitive and good at mathematics, and any improvisations described by Anna serve to amplify rather than deviate from a focus on getting results. In Anna's narrative, there is a strong connection between Anna's position and her disposition, and rather than position becoming fate, it appears that her fate was to hold the subject position of *Year 6 teacher getting results*. Holland et al. (1998:49) describe how 'people have the propensity to be drawn to … these worlds' and it feels as though Anna has indeed been 'drawn to' the subject position of *Year 6 teacher getting results* and works constantly to maintain this high status position.

Anna describes various ruptures in the form of people expressing their surprise at her being the Year 6 teacher; through these processes of objectification, she has come to understand that others position her as either at best atypical or at worst unsuitable. She describes being both amused and worried by this, and talks about being determined to show that being young, inexperienced and female is not a barrier to being a good *Year 6 teacher getting results*. She describes her predecessor, Brian (an older, experienced, male) as an ideal symbolic figure of the *Year 6 teacher getting results* and articulates the feeling that she is positioned by others in relation to him, especially by parents (positioned as 'lawyer parents' (A-int1)) and her class TA (who was Brian's TA).

In her narrative, Anna tells me that she is doing a good job in this tough, high status role. One of the ways she tells me that she is good is through comparisons with her colleagues. For example, Anna describes the Year 3 teacher's lack of knowledge about fractions as a way of introducing her own strong mathematics knowledge. And she describes Julie (the Year 5/6 teacher) as less of a *Year 6 teacher getting results* because she uses images and manipulatives whereas Anna works 'in a numerical sense' (A-int1) in preparation for tests and transition to secondary school. Ultimately, Anna knows that she does a good job as the *Year 6 teacher getting results* because the children achieve in tests. For Anna, these results are worth working hard for because they secure her position and status, because you're only as good as your last set of results and therefore cannot '[rest] on any laurels' (A-int3).

8.1.2.2   Bernard – 'I do it the proper way.'

Similarly to Anna, Bernard describes herself as having been 'rewarded' (B-biog) with the subject position of *Year 6 teacher getting results*. They differ though in that for Bernard this means that she has a great responsibility to do a good job for the children. She improvises on the subject position with her history-in-person (including as a member of the community and as having been the nurture TA) which result in her being concerned for pupil welfare and having different motivations for achieving results. She positions herself as the best person to teach these children.

Bernard positions others in her narrative but says little about how she is viewed in return. However, one incident that stands out is her retelling of a bullying incident between the children, and her comment that 'some parents objected' to how she had called 'their child a bully when they're a bully' (B-int2). This event acts as a rupture, a process of

objectification through which she comes to realise how parents see her as a teacher (which is different from how she saw herself a member of the community and as one of them).

Bernard tells me that she does a good job because she does things properly, as the pupils deserve. Like Anna, her stories of her colleagues serve to support this self-positioning. For example, she tells multiple stories of Year 5 colleagues who she positions as lazy, cheating and of thinking of themselves rather than what is best for the children (like the teachers in Pratt's (2016) research who over-stated achievement in one year and put pressure on the next teacher). Bernard does author as worried that she overcomplicates things in mathematics and positions her Year 6 partner, Vicky as having superior teaching skills because she appears to naturally know what is the best way to teach mathematics.

8.1.2.3   Claire – 'I've got a little bit of sway at present.'

Claire tells me that when, upon her appointment to the school, she was offered the subject position of *Year 6 teacher getting results*, she expressed her disinterest in this as it is not a position that she wanted or was flattered by. Drawing on her history-in-person – especially the sediments from her professional experiences – Claire describes how she resists this positioning. This improvisation and Claire's subsequent liberation from the focus on results is facilitated by Christine, the Headteacher, who deploys Claire as the teacher of the bottom set with a 'licence' (C-int2) to focus on pupils' learning rather than on test results. When she describes this deployment, Claire says that Christine told everyone that she wanted the 'teachers who teach well with the children that can't do it' and positioned Claire as 'in tune with how mathematical reasoning develops' (C-int2) and thus as the best person for the job.

In her narrative, Claire positions herself as an expert mathematics teacher and as both ideologically aligned with me and as my equal. She describes herself in her pen portrait as having a 'teaching methodology' and positions herself as well-informed and well-connected. She talks about how others position her as an expert in mathematics pedagogy, and how she is advising the school's subject leader and Headteacher about how mathematics should be taught. Like the MaST graduates in research by Barnes et al. (2013), MaST appears to have provided Claire with a warrant to influence the practices of others. She also positons herself as an expert on what Ofsted look for in mathematics

lessons and this connection to the mechanisms of performativity appears to add to her status.

Claire's colleagues do not have the same 'licence' that she has, and she positions them as working differently from her and engaging in practices which are about maximising results as 'you do have to do in Year 6' (C-int1). These colleagues are described by Claire as not having had the same professional development experiences that she has had (they don't have the necessary history-in-person) to be able to improvise on the subject position, and Claire is sympathetic to this. Claire's story tells of a rupture at the end of the year, in the form of disappointing SATs results and the subsequent realisation on the part of Christine and the Year 6 teachers that their pedagogical practices have been unsuccessful, while Claire's approach – her 'teaching methodology' – has resulted in one of her pupils achieving the pass mark. This rupture results in Claire being positioned as of even higher status, and when she is approached for advice, she says she gave it at length.

8.1.2.4   Cross-case comparison

Anna, Bernard and Claire all respond differently to the 'subject positions afforded one in the present' (Holland et al., 1998:18). In their cases, the 'subject position' is that of *Year 6 teacher getting results*. There are however some consistent features in their narratives including their reference to 'the day-to-day and on-the-ground relations of power, deference and entitlement, social affiliation and distance' (p127).

Firstly, each of them self-positions in relation to others to say something about themselves. For example, Anna tells me that she is good at mathematics (in contrast to her Year 3 colleague who lacks knowledge of fractions), Bernard tells me that she does things properly (unlike her Year 5 colleagues who are lazy and cheat the system), and Claire tells me that she teaches according to her well-informed 'teaching methodology' (whereas her Year 6 colleagues teach to the test).

Secondly, each of their stories features a rupture and subsequent moment of realisation which 'often seemed to motivate (plans for) action, sometimes even life-changing action' (p142). For Anna and Bernard, this is a process of objectification through which they see themselves through the eyes of others, whereas for Claire, the rupture is experienced at an institutional level as the Headteacher and Year 6 teachers recognise that teaching has not resulted in good results and that a new plan for teaching in Year 6 must be adopted.

Finally, their history-in-person has an impact on the nature of their improvisations on the subject position of *Year 6 teacher getting results*. Claire's improvisation is the most extreme but the Headteacher facilitates this by deploying her to work with the bottom set. In an age when 'institutional loyalty and compliance with organisational values' is expected and 'conformity has an even higher value than before, while dissent is increasingly constructed as disloyalty' (Reay, 1998:185-6), it is interesting that the Headteacher, Christine, deployed Claire as she did. It is as though she deliberately avoided potential conflict between Claire's perspective and 'the school perspective' of achieving high results, and her deployment with low attaining pupils was a way of keeping Claire happy, and quiet.

8.1.3 RQ1c) What are the roles of 'authoritative discourse' and 'internally persuasive discourse' in Year 6 teachers' self-authoring?

As can be seen in the cases of Anna, Bernard and Claire, there are many discourses of education which teachers encounter in their professional lives. As described in chapter 2, the discourses associated with performativity (Ball, 2003) are particularly prevalent in the English school system and so a discourse of results as important is seen as an 'authoritative word' (Bakhtin, 1981:342) that is difficult to ignore. As described in chapter 3, a person can be described as 'ventriloquated' when such discourses are adopted without them having an authorial stance towards them. In contrast, 'internally persuasive discourse … is affirmed through assimilation, tightly interwoven with "one's own word"' (Bakhtin, 1981:345) – what Maguire et al. (2015) describe as teachers' 'perspectives, values and positions' (p487) – and so an authorial stance is the result of orchestrating with this filter. In this section, I explore how the Year 6 teachers in this research orchestrate this 'authoritative word' about the importance of results, and the extent to which they are able to make it their own.

8.1.3.1 Anna – 'If we don't get the grades, I'm accountable … it's just constant pressure, isn't it?'

Anna's narrative is imbued with her determination to achieve good results. When she talks about test scores, like the teachers in Pratt's (2016) research, she refers to the results as being hers, a way of judging how good she is and as a validation of her teaching.

As someone who early in the year described herself as competitive, it came as no surprise that she wanted the results achieved by her class to be singled out for praise, and also expressed a desire for a 'higher pass' grade so that she could 'get a bit more credit' (A-int3) for her class's results. For Anna, the children are units of data (Williamson, 2014).

While getting results is Anna's priority, she is not monoglossic. Anna acknowledges the presence of other educational discourses when she describes herself as 'selfishly' spending more time on topics that have a greater allocation of marks and feeling 'guilty' about her focus on a 'skills-base' approach which she believes will best prepare the pupils for the tests (A-int2). As Ehren et al. (2019) found, Year 6 teachers prioritise the authoritative voice of results and adjust their practices to focus on this goal. In Anna's narrative, it appears that she is aware of other ways of teaching – including Webb's DOK (see Figure 19 for an explanation) with a focus on reasoning and problem solving, and the use of manipulatives, which, Anna says, 'won't get us through our SATs will it?' (A-int2) – but does not see how they can be compatible with her necessary commitment to getting results. Perhaps she knows that she isn't teaching as she might were the circumstances different. While she rejects most alternative discourses of teaching, she takes on those which she feels are compatible with her focus on results including the teaching strategies of Mr. Jones, the mathematics teacher from her 'competitive [secondary] schooling environment' (A-int2), and James Kennedy, a local Year 6 teacher and fellow 'young whippersnapper' (A-int1).

Anna's narrative includes references to meeting performative demands and a feeling of being constantly under surveillance. She wants to – needs to – be 'preferred' (Smyth, 2001), and so as well as working to maximise results, she finds a way to meet the additional demands made on her by the Headteacher and the Governors even when this feels incompatible with the authoritative discourse. For example, when the Headteacher demands that AfL strategies be introduced, she does 'something quickly to keep him happy' (A-int1), and when the Governors tour the school to look at mathematical problem solving, she describes the need to 'perform to the camera so there will be problem solving galore going on!' (A-int2). Even when the 'field of judgement' (Ball, 2003) shifts – for example, to a discourse that problem solving is an essential part of good mathematics teaching – Anna strives to perform well in the moment of judgement. In one of the observed lessons, she recruits the children in this performance, saying that 'if

someone with a snooping eye comes in' (A-obs7) and asks them about their targets, they are to show them the list in their mathematics books. She comes across as resentful of these interruptions to her important work, and the discourses represented by these demands ultimately remain side-lined as Anna's teaching continues to be a ventriloquation of the authoritative discourse of getting results.

8.1.3.2   Claire – 'I know what they can do. They don't need to do another test to show me that!'

In direct contrast to Anna, Claire has an authorial stance which means that she orchestrates the authoritative discourse of getting results as opposed to being ventriloquated by it.

Claire's narrative demonstrates her awareness that people view discourses differently. She mentions 'the whole political set up' (C-int3) of the 'school perspective' of achieving results in Year 6, and 'my perspective' (C-int2) which she sets in contrast. Her perspective is borne of her history-in-person and her self-authoring as an expert mathematics teacher. Claire's perspective appears to give her power to resist the school perspective (which her Year 6 colleagues have succumbed to). For example, she describes how she 'put [her] foot down' (C-int2) and refused to make her class take a mock SATs test paper because, as an expert teacher, she didn't need another test to tell her what the pupils could do or still needed to learn. Pupil learning of mathematics is central to her 'perspective'.

Claire's Headteacher positions her as 'in tune with how mathematical reasoning develops' (C-int2) and deploys her to teach the bottom set of pupils who are not expected to achieve. Claire describes this having been given a 'licence' (C-int2) to ignore the school perspective of results, stick to her beliefs about mathematics teaching and meet criteria that are different from those used to judge her Year 6 colleagues. It appears that Christine, the Headteacher, has viewed Claire 'bathed in the light of [her] whole biography' (Holquist, 2002:37), and has avoided ideological conflict by deploying Claire in this way.

Claire introduces herself as having a 'teaching methodology' (C-biog) which she describes as having developed over many years of professional development and reflection on the teaching of mathematics. Like Reena, the expert teacher in the research by Maguire et al.

(2015), Claire interprets and enacts local and national policies differently from her colleagues because of her specialist training. She makes reference to many theorists whose ideas she has met, and in her teaching, I see these in action. Their ideas have become hers, they have become part of her internally persuasive discourse.

Claire describes being able to orchestrate discourses from official bodies such as Ofsted and as seeing the parallels between their perspective and hers. She also acknowledges that for others, Ofsted (for example) is an authoritative voice to be in fear of and unquestioningly followed, and when she tries to persuade her colleagues to teach as she does, she taps into their anxiety about Ofsted. For example, she says that if Ofsted observed the way they currently teach, '"we're stuffed basically because that's not how we should be teaching maths anymore!"' (C-int1).

8.1.3.3   Bernard – 'They worked really hard for it and made my job easier … they earned it.'

Bernard sits somewhere between Anna and Claire. She has an authorial stance as a caring teacher with clear ideas about how her children should be treated, but she is also worked by the discourse of getting good results. She appears to have internalised the voices related to pupil welfare, but to be less in control of discourses related to mathematics pedagogy, narrating herself as having little control over what and how she teaches. Early in the year, she described how she liked 'how we did things last year' (B-int1) and suggested that the introduction of NC2014 had forced her to teach differently. She regularly made reference to being reluctant to adapt the new scheme, treating it as an authoritative voice.

She tells me that her mathematics teaching is informed by the tests, and describes needing to cover every topic because 'you don't know' (B-int3) what will come up. She also describes how, when introducing her pupils to some new concrete manipulatives at the behest of her Headteacher, she was unconvinced by their value, because the tests ask questions and demand that pupils work 'in a very abstract way' (B-int1). In her story about these resources, she explains how it was the pupils who said they could complete the calculations without the manipulatives and so when the pupils wanted to move on, Bernard put them away.

Bernard narrates herself as driven to achieve good results but I hesitate to describe her as ventriloquated by this discourse because her motivation for achieving these is neither related to school performance nor to her own status. Results are important for Bernard because they are important for the children. Good results are down to their hard work and, like Anna, she would like a 'higher pass' grade but only so that those who worked really hard got more credit, not her. Results are important but Bernard does not view the pupils as units of data.

She describes how in Year 6, it is important to be 'a hundred percent certain in what you say [in your teaching] because what you say is going to be tested' (B-int3). Elsewhere she talks about being ready to justify her predicted grades to moderators and at the end of year is happy that what she predicted matched what the pupils achieved. Bernard talks about the importance of doing things properly which suggests a feeling of being constantly under surveillance (Perryman, 2006; Page, 2017). She wants no surprises for the children because they deserve good results. Bernard's strong authorial stance as a member of the community and the best person for teaching these pupils means that she focuses on ensuring that the pupils achieve the results that they need, and this overrules any pressures to perform that she feels under professionally.

8.1.3.4   Cross-case comparison

For Anna, it appears that the discourse of getting high results is a 'centripetal force' (Morris, 1994:75). It sits comfortably with what she told me about being competitive and is easily taken on by her without question. For Bernard also, the discourse appears authoritative and like Anna, she adjusts her teaching so that results can be secured. Their approaches are different though because while Anna spends more time on aspects of the curriculum which carry more marks, Bernard ensures that she has covered everything because the questions could be about any aspect of NC2014. Bernard describes very different motivations from Anna. For Bernard, getting good results is so that the children can be successful and have opportunities that she didn't have. Anna wants good results because they secure her position as a good Year 6 teacher. In this sense, Anna and Bernard are in stark contrast. Using Gleeson and Gunter (2001: table 9.1), Anna can be described as viewing children as 'objects and targets to be assessed and counted' whereas Bernard's 'ethical commitment to children' is more reminiscent of teachers' attitudes prior to ERA88.

Claire's authorial stance results in her being able to occupy a position that pupil learning of mathematics is more important than results. She has a 'teaching methodology' and a history-in-person which enable her to stand up to her colleagues who have bought into the 'school perspective' of getting high results, and her alternative perspective is facilitated by being deployed to teach the small bottom set. This deployment means that Claire is working in a different field of judgement from Anna and Bernard, as her pupils are not expected to succeed in national tests. Despite Claire telling me that 'she'd teach this way with a class of 30' (C-RRD-int1) or a mixed-attainment group in which pupils were expected to succeed, I have not seen her working in this context. I also cannot know, were Anna or Bernard deployed to teach just a small low attaining set, how their practices would change once they were no longer under pressure to perform.

Through their orchestrations of discourse, Anna, Bernard and Claire reveal their 'perspectives, values and positions' (Maguire et al., 2015:487) on the 'justification and … purpose' (Fielding and Moss, 2011:52) of schooling. Interpreted as internally persuasive discourse, their 'perspectives, values and positions' are reflected in their narratives and are central to how I have co-constructed their stories. For Anna, education is about performance and hence we have co-constructed her story as a good results-focused teacher who achieves results for the pupils, for the school and for herself. For Bernard, education is about nurture and relationships, about personal development and meeting one's potential, and so we have co-constructed her story as a good welfare-focused teacher. Finally, for Claire, education is about learning. While Bernard wants to find the 'path of least resistance' (B-int2) through the mathematics curriculum, Claire tells her pupils that 'maths is about thinking really hard and struggling a little bit and finding things difficult' (C-video-obs2). We co-constructed Claire as a good learning-focused teacher.

8.1.4   How do Year 6 teachers narrate themselves as 'good' in the context of England's high stakes accountability system?

Anna, Bernard and Claire narrate themselves as 'good' in quite different ways despite working in the same context of performativity. Anna authors as a good results-focused teacher who meets performative demands, Bernard authors as a good welfare-focused teacher who cares for the pupils, and Claire authors as a good learning-focused teacher who is dedicated to pupil learning. The theoretical lens of *Figured Worlds* supports an

understanding of why and how these different versions of 'good' have transpired and how they are sustained.

Exploring Anna, Bernard and Claire's histories-in-person, as the 'sediment from [their] past experiences' (Holland et al., 1998:18), sheds light on their beliefs and values about education, which could also be seen in their practices. For each teacher, history-in-person frames their version of 'good'. Focusing on positionality added a further dimension for understanding how Anna, Bernard and Claire authored as 'good'. Their improvisations in response to being offered the subject position of *Year 6 teacher getting results* were closely aligned with their histories-in-person. Their narratives included examples of both positioning others and being positioned themselves, and each also included an example of rupture and realisation. Finally, I observed that teachers orchestrate discourses about education according to their histories-in-person. Discourses relating to performativity have a centripetal pull for Anna and are also authoritative for Bernard. For Bernard however, her authorial stance as the best person to teach the pupils from her community and her desire for them to have the educational opportunities that she didn't have – both borne from her history-in-person – ensure that her focus on results is because they benefit the pupils. Claire on the other hand, has an authorial stance which enables her to orchestrate such performative discourses.

Returning to work on context, it is useful to reflect on how Anna, Bernard and Claire narrate themselves within the professional contexts of *their* schools, how they work to be 'preferred' (Smyth, 2001) by their Headteachers. Braun et al. (2011) describe professional context as 'teachers' values and commitments and experiences and policy management within schools' (p591) and in these cases we see examples of teachers who comply but also those who resist school-level ways of working.

Like Reay's secondary school teachers (1998), Anna's response to her Headteacher's school-wide initiatives 'suggests a grudging rather than a ready compliance [with policies] underlain with resentments' (p187) because her priority is preparing pupils for national curriculum tests. Achieving these is how she seeks to be 'preferred'. In how Bernard uses the word 'we' she hints that the whole school works for the community, her frustration being that some of her colleagues are less committed to this than she is. For Bernard, doing things properly is her route to being 'preferred'. Braun et al. (2011) warned of 'potential dissonances' because 'there are strong interdependencies between

professional values, intake, and what and how policies are pursued' (Braun et al., 2011:591). In Claire's case, she describes how she does not always comply with the Headteacher's demands but this does not lead to 'dissonances' because Claire is 'preferred' for being an expert teacher, and conflict is avoided by her deployment to work with the bottom set.

8.2 Research Question 2: How can dialogism support an understanding of insider researcher issues?

Insider research is:

> … undertaken by people who, before they begin to research, already have an attachment to, or involvement with, the institutions or social groups in, or on, which their investigations are based. (Sikes and Potts, 2008:3)

My history-in-person means that I understand the figured world of the primary school, the figures who populate it and both the expected behaviours and unitary language that is normalised within it. I am an insider but I am also more than this because the role that I held most recently in the figured world of the primary school was a high status role: that of mathematics consultant. For the purpose of this research, I came to label myself as an 'expert-insider-outsider researcher' in order to capture my insider knowledge, my history-in-person lens and my status (I set out how I was both insider and outsider in Figure 10). This was important to do because the participants in the research were drawn from my professional networks and therefore issues of positioning were anticipated. As an expert-insider-outsider researcher, I 'cannot escape [my] past' (Mercer, 2007:8) and become neutral and so it became important to find a way of theorising these tricky relationships in order to find a language to explain what went on in the research. Dialogism provides me with the language to do this.

van Enk (2009) recognised the importance of describing the dynamics of a research interview and appreciating that the interviewer has a large impact on what is said – '**I cannot avoid influencing the words of the interviewee' (van Enk, 2009:1266) – and** this is especially true when the interviewer is an insider. Interviews were with me and lessons I observed were for me and so in Bakhtin's sense, Anna, Bernard and Claire were

addressing me and what they thought I stood for and was interested in. I had knowledge of the figured world but I also had knowledge of the research participants, and they knew something of me.

To answer the research question, I look first at how the researcher-researched relationship can be theorised as an example of Bakhtin's self-other relations (1981; 1986; 1990). Then I reflect on how I co-constructed Anna, Bernard and Claire's narratives.

8.2.1 The researcher-researched as self-other

As I have a shared history with each of Anna, Bernard and Claire, it is to be expected dialogically that we would take into account what we knew of each other in the course of the interview. For example, each of them knew my views on mathematics pedagogy and in turn I knew something of their professional experience, their schools and the wider performative context for their work as Year 6 teachers. At the point of interviews, I had also observed their teaching and so we had a very recent shared history.
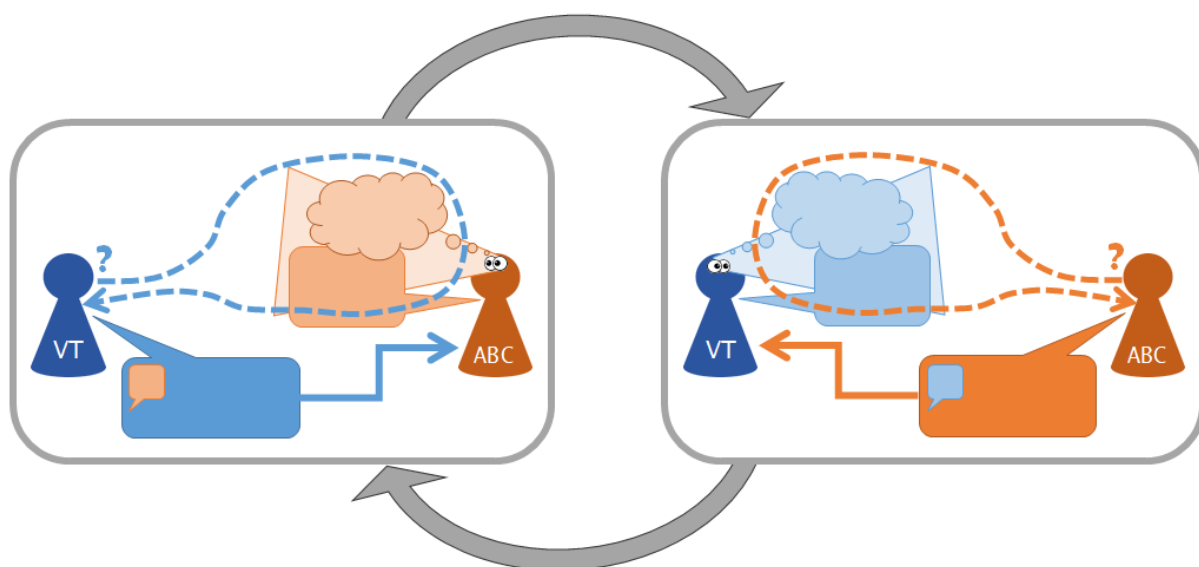
Figure 26: Dialogism in the interview.

Figure 26 illustrates how the interview is a particular example of a self-other relation. When I – Vivien (VT) – speak in the interview I firstly see myself through the eyes of my interviewee and imagine their thoughts (they are the-other-for-me). I hear their words and some of their words become my words as I address them. Then, when the interviewee – Anna, Bernard or Claire – speaks back to me, they also anticipate my thoughts and use my position as the-other-for-me to view themselves from the outside. They hear my words and some of these become their words as they in turn address me. Our addressing is always for the other person in the interview, we are always the I-for-

the-other for each other. As we go back and forwards in the interview, we speak with knowledge of each other.

In addition to lesson observations and interviews, I asked Anna, Bernard and Claire for a pen portrait so they could provide any aspects of their history-in-person that they felt were pertinent to their role as a Year 6 teacher of mathematics. Anna sadly did not respond, and Claire sent a brief ready-to-use pen portrait written in the third person. In contrast, Bernard sent a lengthy account of her life including details of a traumatic childhood and setting out her connection to the community in which she was brought up, and now lives and works. At the time, I reflected that this felt like a story that Bernard needed to tell and wondered whether she felt I needed to know this in order to fully understand her as a teacher. She possibly positions me as a 'super addressee' (Holquist, 2002:38) who, through this research, is coming to fully understand her and all that she has been through.

In interview, Bernard frequently added the phrase 'to be totally honest' (B-int1) to her statements and this also gave the impression that she was telling me the full truth because it was important for me to fully understand her. To a lesser extent, I also encountered Anna and Claire addressing me conspiratorially as though they were telling me things that they shouldn't share. For example, at one point Claire told me 'this needs to not be reported as our school' (C-int1) and Anna regularly spoke in a whisper which seemed to indicate that she was saying something she shouldn't be.

Our shared 'unitary language' (Morris, 1994:75) of education results in words and phrases used in the interview going unexplained and unquestioned because we assume that we each have the same understanding of language. Equally, prior to interviews, we shared the experience of some mathematics lessons and when these were discussed in later interviews, moments from these lessons were discussed without explanation and with an unspoken assumption that we had both seen the event the same way.

Often we would pick up each other's words, but not always. For example, in interviews with Bernard, she picks up on a number of my words or phrases including:

> (V)   So do you **mix across** the two classes for that?

> (B)   Yeh, we **mix across** the year group. (B-int1)

But she also sometimes rejects my cues, as here when I try to shift the discussion about topics that were absent from the tests to talk about the aspects of fractions that were not tested:

> (B)   There wasn't really any ratio and things like that … lots of things that weren't in there that I'm just thinking, "Oh don't have all those things in the curriculum if you're not going to test them!"
>
> (V)   I know. Well I was interested in that for my **fractions/**
>
> (B)   Miles and kilometres! Miles to kilometres! ((laughs)) (B-int3)

We often struggled to hold onto the interview genre and to maintain our roles of interviewer and interviewee. Anna would tell funny anecdotes using different voices, and Bernard occasionally addressed me as expert, slipping back into our tutor-trainee relationship. In contrast, Claire and I would often discuss pedagogy as equals to the extent that I cannot tell from the transcript which of us is speaking.

Each teacher was very talkative and would often deliver a monologue of sorts in answer to my questions, changing topic multiple times perhaps to topics that were of interest to them or to topics that they thought were of interest to me. This is another example of how our interviews struggled to conform to the interview genre.

8.2.2   Co-constructions

Narratives generated during termly interviews were dialogically co-constructed through a 'process of addressing and answering' (Braathe and Solomon, 2015:153). Although produced in the same way, the narratives of Anna, Bernard and Claire are quite different but rather than view this as a problem, I came to recognise that I was building their cases by focusing on 'the features of the case which gradually appear to be most significant' (Mabry, 2008:217). We were co-constructing their narratives. My role in this co-construction can be seen both in my preparation for interviews and within the interview itself.

Prior to the interviews, in addition to a set of generic key questions, I also prepared some additional case-specific notes to follow up on a particular event from Anna, Bernard or Claire's lessons, or to build on something raised in an earlier interview. Also prior to interviews, I reviewed their lessons and carefully selected some video extracts of interesting moments which were 'in accordance with a narrative structure that [was]

emerging' (Derry et al., 2010:11). These were aspects of their practice which seemed particular or important to them, or were of interest to me.

Then, during the interviews themselves, I posed my questions and often allowed the teachers to give long monologues in response, in which they moved between various topics and often away from what was on my agenda and towards what they wanted (or needed) to say. The small number of video clips which we actually watched together were usually selected by me in response to things that the teachers had talked about, and so rather than interrupting them and starting a new topic of conversation, the video extracts enabled them to build on their existing narratives.

I picked up on how Anna, Bernard and Claire orchestrated discourses and on what they appeared to hold dear in relation to teaching and what they deemed important in their roles; I gained an insight into the nature of their internally persuasive discourse. Together, we co-constructed Anna as a good results-focused teacher, Bernard as a good welfare-focused teacher and Claire as a good learning-focused teacher.

8.2.2.1   Co-constructing Anna as a good results-focused teacher

In my first interview with Anna, she spoke about pupil attainment and progress, and showed me a print out of a spreadsheet in which she was tracking the Year 6 pupils' mathematics results. My response – 'Oh gosh, I love a spreadsheet, look at that' – appeared to encourage her to tell me more about how she was using the document. She showed me how the sheet opened out and I responded with an excited, 'Ah, an A3 spreadsheet!' Anna's response – 'Oh yes, and when you're feeling really organised and you do that' – was accompanied by a demonstration of how data from two documents could now be viewed side by side. We finished this exchange with me gushing, 'Ah, that's very satisfying' and Anna agreeing, 'I know, it's lovely' (A-int1). I act as the-other-for-me for Anna, and by admiring her spreadsheets I am telling her that from the outside I see her as someone who manages data well. It should be no surprise then that Anna continued to share her tracking documents with me across the year. This is one way in which we co-constructed Anna's narrative as a teacher who is mathematically competent, has a keen eye on data and has skill with 'accountability mechanisms' (Keddie, 2013): essential skills for someone holding the subject position of *Year 6 teacher getting results*.

Anna's performances in lessons and interviews felt very much for me, I was Anna's addressee and she was the I-for-the-other who authored as being good in this tough role and ambitious to succeed. In her teaching, Anna presented as confident with her mathematics pedagogy and at the end of lessons, she never sought my approval or spoke to me in such a way that would suggest that she positioned me as an expert in mathematics pedagogy. Only very briefly did she hint at being concerned that she didn't know how her predecessor, Brian, taught and this revealed an underlying anxiety exacerbated by the constant presence of Brian's TA.

On reflection, I find it interesting that I avoided showing Anna video extracts which I considered critical of her pedagogical practice when viewed through my history-in-person lens. Unlike Bernard, who assumed that everything I showed her was a criticism, Anna viewed everything she did as good and appropriate for Year 6, and so a reflective discussion about pedagogy could only happen if I stepped out of my researcher role and into an expert role, something that I wanted to avoid. This research was not about improving Anna, it was about understanding her, and keen to maintain our self-other relationship, I did not want to upset Anna's self-image as a good results-focused teacher.

8.2.2.2 Co-constructing Bernard as a good welfare-focused teacher

Bernard and I both appeared to struggle to move away from our previous relationship as tutor-trainee. In my negotiation meeting with Bernard and her Deputy Headteacher, Bernard commented that through the research I was going to tell her how to teach fractions – something I quickly corrected – and this raised questions for me about what Bernard thought participating in the research was going to involve. Despite being adamant that the research was not about me improving the participants, I caught myself selecting video extracts where I judged Bernard's mathematics teaching to be problematic. And for her part, Bernard seemed to assume that I was going to be critical and that all extracts were of something negative. For both of us, 'the sediment from [our] past experiences' (Holland et al., 1998:18) problematised our relationship as researcher-researched. I realised that Bernard presented as insecure in her mathematics teaching, and so in interviews I steered away from discussions about pedagogy which I feared would lead to us falling back into our previous self-other relationship, and the clips I had selected remained unwatched.

I was very concerned for Bernard's feelings and anxious to not upset her or increase her anxiety about herself as a teacher of mathematics. As described above, she expressed discomfort at watching herself on video and her comment that 'I'm never wearing that dress again' (B-int1) drew this sharply to my attention. Whenever I offered to show a clip, she responded with something along the lines of 'Oh god, do we have to?' (B-int2) or 'No let's not look' (B-int3). Her discomfort seemed to be both in relation to her appearance and her teaching. This led me to avoid showing her clips which I thought might upset her and also meant that she and I missed out on the opportunity to discuss her mathematics teaching. Bernard described how she is keen to use video as a professional development opportunity, but wants this to be an experience that is not shared by 'senior managers, nobody else can watch it' (B-int3). This reflection leads me to conclude that Bernard struggled with my role as the-other-for-me and the way in which, through my eyes and my history-in-person lens, she saw herself as I saw her. She saw herself from the outside.

In my early observations of Bernard, I noticed how she spoke to the pupils about the need to be confident and the importance of helping each other. She seemed to both know them as individuals and like them, and she encouraged them to interact with me before or after lessons. The extracts that I showed Bernard and the additional notes that I made for our interviews were predominantly about this aspect of her practice. I co-constructed her as caring and pupil-centred, as a good welfare-focused teacher.

8.2.2.3   Co-constructing Claire as a good learning-focused teacher

Whilst Claire has received professional development from me, she did not appear to position me as of higher status than her. Early in the year, we established our shared history and mutual beliefs about pedagogy and positioned each other as experts, as equals. Claire already knew how she was seen from the outside as a mathematics teacher, and her MaST qualification labels what she does as good. Unlike in interviews with Anna and Bernard, I didn't need to worry about speaking as a mathematics expert with Claire because that was the position that we both took.

I cannot know what Claire thought my research was about beyond what I told her. Like Anna, I felt that Claire's teaching was very much for me and that she wanted me to observe real, everyday teaching built upon her 'teaching methodology' as opposed to the kind of special 'Ofsted lessons' (C-RRD-obs2) that might be performed for inspectors.

Positioning herself as co-researcher, she provided me with a meta-narrative of her practice and was keen to know that what she showed me was useful. I reflected that maybe she thought that I would be preparing professional development materials from my videos and notes on how to teach fractions well, and that her involvement was co-authorship of these.

I selected an enormous number of video extracts from Claire's lessons and we watched and discussed these at length. I selected clips which drew Claire into discussions about mathematics pedagogy especially in relation to what I identified as key aspects of her practice including the use of reasoning and pupils making generalisations, growth mindset messages, and the use of resources. I wanted her to talk about herself as an expert and to explore the nature of her expert subject knowledge, and to compare what she did with the practices of her colleagues. I encouraged her to celebrate the impact of her 'teaching methodology' on pupil learning, and in this way, I co-constructed Claire's narrative as a good learning-focused teacher.

8.2.3 How can dialogism support an understanding of insider researcher issues?

Dialogism has provided a useful tool for understanding insider research. Seeing researcher and researched as self and other has provided a way of theorising the relationship between me and my participants, and as accounting for how we address each other in the interview. Our unitary language supported our interactions and on many occasions we struggled to stay in the interview genre.

The idea of narratives being co-constructed has provided a tool for accounting for my role in the generation of teachers' stories. For each of Anna, Bernard and Claire, I adapted or abandoned my interview schedule and instead either pursued a line of questioning or allowed discussions to move in other directions 'in accordance with a narrative structure that [was] emerging' (Derry et al., 2010:11).

Focusing on dialogism has provided me with tools not only for elucidating the narratives in answer to the first research question, but also for situating myself within those narratives and understanding their consequent construction in terms of the interplay of discourses and contexts.

8.3 Researching the 'good' teacher in a performative context

In the narratives of Anna, Bernard and Claire, I have presented evidence of mechanisms of performativity through which teachers' work is monitored and surveilled. Managing such 'accountability mechanisms' (Keddie, 2013) is part of the job for all teachers, but for both Anna and Bernard, doing a good job of this is particularly important in Year 6. Under pressure to track pupil attainment, Anna's (exquisite) spreadsheets and Bernard's (proper) monitoring of progress reflect their commitment to achieving results and the impact of such 'simulated surveillance' (Page, 2017:11) is that the end-of-year results were not a surprise for either of them.

In Anna, I have seen an embodiment of Ball's 'new kind of teacher' (2003) who 'can maximize performance' (p223) in a highly accountable education system. Her history-in-person leaves her without the resources to challenge or improvise on the subject position of *Year 6 teacher getting results*, and instead, she embraces it. For Anna, pupils are viewed as 'objects and targets to be assessed and counted' (Gleeson and Gunter, 2001:table 9.1) and she teaches in such a way that test results are maximised (Reay and Wiliam, 1999; M. Brown et al., 2003; Mansell, 2007; Wyse and Torrance, 2009; Ehren et al., 2019).

While Bernard also uses the tests to drive decisions about her teaching and is committed to achieving results, this is not because she is compelled to contribute to the success of the school in an educational marketplace (although she is aware that results serve this function). Rather, Bernard's history-in-person results in her being deeply committed to the welfare of the pupils, and their future well-being is motivation for her to ensure high test scores. Bernard's 'ethical commitment to children' (Gleeson and Gunter, 2001:table 9.1) would not look out of place in schools pre-ERA88.

In Claire, I presented a teacher who seeks out the 'fault lines' (Davies, 2005) between policies and official discourses and exercises her professional judgement about mathematics teaching in these gaps. Her history-in-person leads her to self-position as an expert mathematics teacher with the 'pedagogical skill … required to promote effective learning' (P. Williams, 2008:7) as a result of completing the MaST programme, and this qualification also provides her with a warrant to influence the practices of her colleagues

(Barnes et al., 2013). She uses these resources in her improvisation on the subject position of *Year 6 teacher getting results*. Claire describes having been outspoken about her disinterest in working in Year 6, which was risky, given that schools today have corporate identities and 'conformity has an even higher value than before, while dissent is increasingly constructed as disloyalty' (Reay, 1998:186). In response, Claire's Headteacher deploys her with the bottom set of pupils and gives her 'licence' to stick to her principles. Claire views pupils as learners of mathematics and is committed to developing their understanding of the subject.

In his seminal work, Ball (2003:216) described teachers as 'ethical subjects [who] find their values challenged or displaced by the terrors of performativity', as victims with no autonomy. However, in his later work as part of the Policy Enactment project, he reported that far from being 'done to', teachers brought their own 'perspectives, values and positions' (Maguire et al., 2015:487) to the task of interpreting and enacting policy. Following Colebatch (2006), they suggested that where teachers 'stand' in terms of enacting policy depends on where they 'sit' in terms of their values and beliefs. In this research I have shown how this is true of three teachers working in Year 6 classrooms. Both Bernard and Claire talk about having values which inform how they teach, and for Anna, herself a child of the performative system, her narrative is not one of feeling challenged or compromised. For Anna, performativity is normal.

In Figure 2, I illustrated the three levels of context in which teachers work. At the top level is the national context from which policy directives originate. Policies are then mediated in local contexts by Headteachers working at the school-level. The four local contexts described by Braun et al. (2011) include the external, situated, material and professional contexts. All three teachers made reference to the external context be it in relation to SATs results or Ofsted gradings, and for Anna especially, the drive to perform was extremely prominent in her story. The situated context of locality and intake (and the related material context relating to school resources) also appeared for all three but in Bernard's case this was absolutely central to her narrative as being from the community and of knowing the children and their families. The professional context was most prominent in Claire's story as she spoke about different perspectives at her school and actively engaged in trying to influence attitudes and practices in relation to mathematics teaching.

All three teachers have strained relationships with their Headteachers who are mediating all national policies at the school-level. Anna and Bernard are dismissive of their Headteachers' attempts to introduce school-wide change – in Anna's case this is in relation to AfL, and the inclusion of reasoning and problem solving through Webb's DOK, and for Bernard this is in relation to the use of mathematics manipulatives – as it is considered a distraction from their focus on preparing pupils for SATs. As Year 6 teachers, they are very focused on this one aspect of school performance while the Headteachers appear to have a wider agenda and to be concerned about performance in other 'field[s] of judgement' (Ball, 2003:216). In direct contrast, Claire is frustrated that her Headteacher appears driven by SATs results while Claire says that she looks more broadly at pedagogy and learning. At the time that this research took place, Claire's school had an Ofsted grade of 'requires improvement' and this external context may be the reason for the 'school perspective' to raise SATs scores.

Conducting research into the work of Year 6 teachers was not without its challenges. The performative context led to concerns on my part that my research would be experienced as yet another form of surveillance. I did not know how my participants would receive me in my expert-insider-outsider researcher role, and whether I would be received differently at significant points in the year, for example when tests were imminent or after results were published. Throughout, I was aware of my expert-insider-outsider researcher status and conscious that all data has been collected by me from this particular position and interpreted through my particular history-in-person lens. Having initially considered this to be a problem, I came to understand that 'the insider cannot escape his or her past' (Mercer, 2007:8) and instead, through Bakhtin's dialogism, found a way of accounting for my presence and contributions.

I present data as 'instrumental' (Stake, 1995:3) case studies. Teachers were recruited with a 'concern for representation' (p5) and each case was co-constructed resulting in three distinctive and in-depth accounts of Year 6 teachers' working practices and contexts (Yin, 2003). Because I sought to understand how Year 6 teachers narrated as 'good' – as opposed to applying my own judgements of this – I was alert to 'the features of the case which gradually appear [sic] to be most significant' (Mabry, 2008:217) and which made the cases distinctive. These 'features' were reflected in my supplementary interview

questions, and in how I both allowed discussions to move and made selections of video extracts to 'support an evolving narrative' (Derry et al., 2010:14-15).

A part of this thesis is about my role as an insider researcher (or as an expert-insider-outsider researcher). My use of theory has enabled me to generate deep insights into insider research and especially the challenges of conducting a research interview as an insider researcher. I did not expect to be talking about me, the interviewer, in my discussion chapter, but then I had not appreciated the extent to which the choices made by me 'based on [my] research interests and prior theories' (S. Jones, 2004:258) would influence what was produced. I came to recognise that **interviews were '**not just a giving up of information' about working as a Year 6 teacher but rather were 'joint constructions in which I played a part' (Solomon, 2012:177) as an addressee (or potentially even a super-addressee). Through the dialogic process of addressing and answering, I could not **'**avoid influencing the words of the interviewee' (van Enk, 2009:1266) because they would be taking into account what they knew of me and my beliefs about teaching as they engaged in discussion with me. Understanding our roles as self and other has supported my interpretation of data.

In the final chapter, I return to my role as an expert-insider-outsider researcher, as I address questions of validity and replicability and reflect on my experience of conducting this project. I outline how this research has made a contribution to knowledge about teacher identity and teaching in a performative context, and make suggestions for further research.

9. Conclusion

This thesis is a response to these research questions:

Research Question 1: How do Year 6 teachers narrate themselves as 'good' in the context of England's high stakes accountability system?

1   **What is the role of 'history-in-person' in Year 6 teachers' self-authoring?**

2   **What is the role of 'positionality' in Year 6 teachers' self-authoring?**

3   **What are the roles of 'authoritative discourse' and 'internally persuasive discourse' in Year 6 teachers' self-authoring?**

Research Question 2: How can dialogism support an understanding of insider research?

In this chapter, I present a brief summary of the findings and provide a reminder of points of theoretical and methodological interest. I suggest how this research contributes to literature on understanding teachers' policy enactments in a performative context, and to the ever-growing canon of work which is an application of social theory to understand teacher identity. I share some limitations of the research and make suggestions for future study. I close the chapter – and the thesis – with some reflections on my five year research journey.

9.1   Summary of the findings

In this thesis, I have presented in-depth cases built upon the narratives of three Year 6 teachers Anna, Bernard and Claire, drawing on their biographical pen portraits, lesson observations, and interviews with video extracts of teaching used to stimulate discussion. These case studies describe what it means to work as a Year 6 teacher and especially how the high-stakes environment of Year 6 informs teachers' practices.

The three teachers self-authored as doing a 'good' job in quite different ways. Holland et al.'s (1998) concept of history-in-person was useful in understanding how the sediments of past experiences are central to teachers' beliefs about teaching, and also in providing a

rationale for how they orchestrate educational discourses. History-in-person was also visible in, and appeared to direct, how teachers improvised on the subject position of *Year 6 teacher getting results*. Elsewhere, positioning was present in how teachers spoke about themselves and in how they referred to their colleagues. Their stories often involved comparisons with others which in turn drew attention to their own beliefs and skills.

Following Bakhtin's dialogism, I theorised the researcher-researched relationship as self-other and this application shed new light on how to understand insider relationships in a research interview. Interviews were co-constructions of teachers' stories: Anna as a good results-focused teacher, Bernard as a good welfare-focused teacher and Claire as a good learning-focused teacher.

9.2　　Limitations of this insider research

I have experienced both positive and negative aspects of being an expert-insider-outsider researcher. My insiderness was a benefit at the recruitment stage as I had access to three different networks, and as offers of participation came in, my knowledge of the teachers led me to recruit three who I knew were suitably different from each other: Claire had been teaching for a long time and had completed the MaST programme, Anna and Bernard were at the start of their teaching careers but while Anna was in her early 20s, Bernard brought many years of experience as a TA to the role. They all knew me from different networks and so I felt that they would provide both interesting contrasts but also generate relatable cases. The in-depth cases that have been presented and discussed in this thesis provide three insights into what it can be like for teachers with a particular history-in-person, working in a particular set of local conditions.

As is often the way in qualitative research, findings are not generalisable to the whole population of Year 6 teachers and I have not arrived at essentialist answers. Considering this issue in more depth, viewing the world through my history-in-person lens, I brought rich insights to the analysis of data. However, because of my history-in-person, I struggled to be objective and judgement-free. This research would not be replicable by another researcher. Even if the same three teachers were recruited, their responses to another researcher would be different because they would be presenting their 'I' to a different 'other' than me. In dialogism the I is always an I-for-the-other, taking into account what it

knows of the other and Anna, Bernard and Claire (as the I) all knew plenty about me (as the other) and my beliefs about mathematics teaching. Had the observations and interviews been carried out by a researcher as part of the Policy Enactments research project, Stephen Ball for example, very different stories may have emerged, based on the very different positionalities of the researcher and researched.

My knowledge of Anna, Bernard and Claire – and of the context of working in Year 6 – led me to treat them with sympathy and empathy. In the course of our co-constructions of their stories, I was alert to their strengths and to what might upset them, and while another researcher might have ploughed on with an interview schedule regardless, I sensitively collected data on their terms, keen to cause no harm. In many respects, I became a super-addressee, a confidante, not only for Bernard who shared her very emotional story, but also with Anna and Claire who also sought to be understood.

My approach to data collection has generated revealing discussions about what it means to teach in Year 6. It has also led to three uniquely co-constructed narratives with few opportunities for direct comparison. I have perhaps indulged each of Anna, Bernard and Claire and could be accused of allowing them, rather than me, to lead the discussions. A different researcher might have co-constructed very different stories.

9.3 The contribution of this research

This thesis contributes to two bodies of literature: that of teacher identity, and policy enactment.

9.3.1 Understanding teacher identity

Firstly, I have utilised theoretical tools to understand teacher identity. This thesis provides a nuanced account of the identities of three teachers working within the constrained context of teaching mathematics in Year 6, made possible through the adoption of Holland, Lachicotte, Skinner and Cain's (1998) *Figured Worlds* theory. This theory has provided tools – and directed me to towards the work of Bakhtin on dialogism – which have enabled me to provide a clear account of Anna, Bernard and Claire. Three tools are especially worthy of mention here.

The first of these, history-in-person, as 'the sediment from past experiences upon which one improvises' (Holland et al., 1998:18), led me to look beyond the participants' age or

length of service, and I came to understand that events and experiences from across the lives of Anna, Bernard and Claire informed how they worked as teachers; I came to view them 'bathed in the light of their whole biography' (Holquist, 2002:37).

Positional identity, the second key theoretical tool, is concerned with 'the day-to-day and on-the-ground relations of power, deference and entitlement, social affiliation and distance' (Holland et al., 1998:127). As a theoretical tool, positionality enabled me to articulate what teachers had described about their relationships with their peers and Headteachers. In stories of positioning, teachers revealed how they saw themselves and also how they believed they were viewed or positioned by others. Such stories gave me an insight into what was possible for them: the extent to which they were able to take agency.

The third theoretical tool that has been particularly useful is actually a set of concepts which Holland et al. (1998) articulate in a section of their book entitled 'The space of authoring'. These tools relate to the ways in which individuals work with discourses and many of the ideas are borrowed from Bakhtin. The 'space of authoring' is not only the dialogic space in which an interviewee authors themselves to an 'other', rather, in the context of this research, the 'space of authoring' relates to how teachers orchestrate the different policy and day-to-day discourses about teaching and education in general, and maths teaching in particular; the extent to which they take a stance.

Part of this suite of theoretical concepts related to authoring – internally persuasive discourse – is a theorisation of what others have described as 'perspectives, values and positions' (Maguire et al., 2015:487), and thus provides a filter of sorts through which any new discourses are interpreted. Internally persuasive discourse is 'affirmed through assimilation, tightly interwoven with "one's own word"' (Bakhtin, 1981:345). Where discourses are aligned with a teacher's internally persuasive discourse, there is a greater probability that the ideas be adopted and incorporated into practice whereas when new discourses are not closely aligned with one's existing internally persuasive discourse, they may be rejected. This theoretical tool supported my thinking about how Anna, Bernard and Claire adopted or ignored or reimagined different policies and discourses that they encountered through their work, and why they might do this differently. For example, in Anna's experience of being asked to incorporate Webb's DOK[31], I have encountered an

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[31] See Figure 19 for a reminder about Webb's DOK.

example both of discourse that is easily incorporated (DOK 1&2) as well as discourse that is rejected because it does not complement her internally persuasive discourse that getting results is of utmost importance (DOK 3&4).

As I learned more about Anna, Bernard and Claire, I became aware of the links between their histories-in-person and internally persuasive discourses, and with this awareness I began to co-construct their cases. I came to characterise them as doing a good job according to my understanding of their internally persuasive discourse: Anna as a good results-focused teacher; Bernard as a good welfare-focused teacher; and Claire as a good learning-focused teacher.

9.3.2   Understanding policy enactment

Secondly, while most research into policy enactment has focused on the school or local levels (amongst others, I have focused here on Ball, 2003; Braun et al., 2011), this thesis looks at the teacher level, using theoretical tools to build on and develop Maguire et al. (2015) suggestion that 'the perspectives, values and positions of different types of policy actors' (p487) had an impact upon their enactments of policy. *Figured Worlds* analysis has enabled me to gain rich insights into how Year 6 teachers author themselves as they enact the mathematics elements of NC2014. I have come to know the different characters, archetypes, and ways of speaking and acting that are valued in Year 6 settings. The figured world of Year 6 was understood by all three participants who in their different ways acknowledged that holding the subject position of *Year 6 teacher getting results* and preparing pupils for tests required certain ways of working.

The case studies reveal that teachers do not implement policy in isolation; NC2014 is taken on alongside other national and local discourses, in the context of teachers experiencing pressure to meet both local and national performative demands. Understanding teachers' internally persuasive discourse, I became sympathetic to their enactments of NC2014 and came to understand that because of their beliefs and values (theorised as internally persuasive discourse) – informed by their history-in-person – it was inevitable that they would enact the same policy in very different ways.

9.4 Implications for further research

My research draws attention to what happens in Year 6 classrooms behind closed doors over the course of a year and leaves me with further questions about this particularly high-stakes year group. While my focus was on the teachers, I see value in researching other figures in this environment: the pupils and the Headteacher.

The pupils feature in the narratives of each of my teachers, and I have witnessed their lessons but have not engaged with them other than to say hello. While present in classrooms, I have at times been curious about the nature of pupils' understanding of fractions but exploring that has been beyond the scope of this project. I have also become interested in their perceptions of mathematics as a subject. In relation to tests, I would be keen to explore whether pupils can identify discernible changes between their experiences in Year 5 and Year 6, and how they are experiencing any pressure to perform.

While I met with Headteachers (or another senior leader) at the start of the research project, I had little contact with them across the rest of the year. That said, each teacher made multiple references to their Headteacher in their narratives. For Anna and Bernard, their Headteachers' whole-school initiatives are described as an inconvenience. Anna especially acted to please the Headteacher but for both Anna and Bernard, once the Headteacher's back was turned, they could carry on with their focus on getting results. In Claire's case, the Headteacher is described as in need of an education from Claire on matters of mathematics pedagogy and setting. The Headteacher's perspective is set in contrast to Claire's own. It would be interesting to explore the pressures to achieve test results with Headteachers and to enquire about the direction that they give to their Year 6 teachers. Having come to understand the significance of teachers' history-in-person and internally persuasive discourse in their enactments of policy, I would be interested to explore these same ideas with Headteachers. To return to Gove (2012), it would be interesting to learn how his message about pedagogic 'freedom' was received by school leaders alongside that of being 'held properly and rigorously accountable' for pupil outcomes (Gove, 2012).

This thesis was a response to the introduction of NC2014. Since carrying out this work, there has been yet another policy change affecting primary schools in the form of a new Ofsted school inspection handbook. The significant change made by Ofsted is to focus on

the quality of a school's curriculum and to particularly address the experience of children in year groups with high-stakes tests:

> There need be no tension between success on these exams and tests and a good curriculum. Quite the opposite. A good curriculum should lead to good results. However, good examination results in and of themselves don't always mean that the pupil received rich and full knowledge from the curriculum. In the worst cases, teaching to the test, rather than teaching the full curriculum, leaves a pupil with a hollowed out and flimsy understanding. (Ofsted, 2017)

The subsequent school inspection handbook then includes a statement that in the best schools, 'the curriculum remains as broad as possible for as long as possible' (Ofsted, 2019:41) and a reminder that 'inspectors will be particularly alert to signs of narrowing in the key stage 2 and 3 curriculums' (p42). Of course, Ofsted inspection is only one 'field of judgement' (Ball, 2003:216) among many in which schools must perform. Test results still matter because these determine a school's position in local and national league tables.

As an insider, I recognise that these two demands – for a full curriculum and for high test scores – may feel contradictory. In all three schools, the curriculum was dominated by mathematics and English in Year 6 and, for example in the case of Anna, she described making further, 'selfish' (A-int2), decisions to narrow the mathematics curriculum to focus just on what would secure most marks in tests. Anna, and the other two teachers, referred to decisions like this as what 'you do have to do in Year 6' (C-int1). My motivation for conducting research with teachers would be to find out how they orchestrate this new authoritative voice of curriculum breadth which appears to be in contradiction with the authoritative voice of curriculum focus to ensure performance in tests, a discourse which is central to the subject position of *Year 6 teacher getting results*. What subject positions will be available and what will doing a 'good' job in Year 6 look like in the future?

For policy makers, Headteachers or 'experts' who in some way wish to influence the practices of teachers, an understanding of teachers' histories-in-person and current internally persuasive discourse might prove to be a useful gauge for predicting how policies may be enacted at an individual level. Braun et al. (2011) describe teachers as 'both an agent [sic] and a subject of policy enactments' (p586), and my research findings lead me to wonder whether it is time for teachers to also become policy designers.

9.5 Reflections on my experience of doctoral research

It is possible to apply Holland et al.'s (1998) *Figured Worlds* theory to my own experience of entering the figured world of research in September 2014 and being offered the subject position of doctoral researcher. I improvised on this position with my history-in-person which includes sediments from working as a primary school teacher and as a primary mathematics consultant. Over five years, I learned skills to support my claim on the subject position of doctoral researcher and as I began to think, act and write as a researcher, I began to self-author as such.

Engaging with the figured world of research had an impact on my identity as a mathematics consultant in a parallel figured world: that of mathematics education. I discovered that I had more resources to draw on from having engaged with literature, and I found that I was being positioned differently by others because of my engagement with research. And in the figured world of research, my history as a practitioner supported my understanding of context, my ability to empathise with participants and my interpretations of data.

There were tensions between these two worlds, between the two subject positions of researcher and mathematics consultant. As I outlined at the end of the methodology chapter, issues of 'internal ethical engagement' (Floyd and Arthur, 2012:172) troubled me. In particular, I had consciously self-authored as a friendly researcher and was anxious that observations by me were not akin to observations by Ofsted inspectors. However, in this process I had failed to account for the fact that an observation by me was still an observation by a mathematics consultant because participants knew this of my history-in-person. While I was co-occupying positions of consultant and researcher, I cannot know whether teachers saw me as one or the other or both.

As a consequence of completing this research, I have changed. Whether I continue to work in the figured worlds of research or of mathematics education, or enter another figured world, the sediments of this experience will be part of how I improvise 'using the cultural resources available, in response to the subject positions afforded [to me] in the present' (Holland et al., 1998:18).

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Appendix 1: Example – Reflexive writing from my research diary

09.11.15 [ ] observation 2

Pupils were excited to have me and the camera back but largely ignored me through the lesson. Much improved from last time.

$$\frac{1}{3} = \frac{4}{12}$$

(X4) ... (X4)

Relating to accountability. Pace of learning was a theme throughout with [ ] concerned that it wasn't fast enough. And also she asked the TA to ensure that some pupils were showing working out so they will do it in the tests….

Notation has changed slightly for finding equivalents. Now x4 (for example) is in brackets. [ ] frustrated that work she left for a colleague to follow last week while she was off, had not been used. She worried that she was confusing the pupils with using different language or notation from last week.

I noticed a few incidents relating to ability. She reminded one of the vHAP boys to work with his partner … but it was said more as though he needed to help his partner. Two vHAP boys were moved to sit together to work on an extension task. One uMAP boy had self-resourced a multiplication fact grid which he was chastised for not needing. [ ] said that he lacked confidence and was part of her 'multiples group'. In this group, she is making lots of connections in order to support pupils in knowing their multiplication tables. Things like relating x6 to x3 (but she has also "resorted to using fingers for 9s" .. they just need to know them now!! Accountability pressures…..). Pupils didn't seem to have met these ideas before. I wonder whether what she discovers in Y6 influences what she does as a SL. Will she ask other teachers to ensure that they are making these connections in their teaching?

It has been confirmed that teaching of maths will be in CLASS GROUPS from January. Some concern among parents and teachers about this. [ ] will have a very broad range of attainment in her class from a pupil who "doesn't know the alphabet beyond T" to a vHAP pupil who "would rather do maths than eat or go outside". LAPs as school focus and [ ] cited evidence that they do better through class maths.

In both lessons I have observed, a girl has cried. Interesting in light of the work at the start of the year (Jo Boaler's materials). Only at the end of the lesson today did [ ] say anything along the lines of "fractions are our friends" and only then to the girl who had been upset.

Interesting to reflect on how we interacted at the end of the lesson this time. Throughout, she had been talking as an aside to her TA about how worried she was about how slow progress was being made. I'd obviously overheard this! At the end of the lesson, the look on her face was one of exasperation and the conversation was along the lines of "So how far behind do you feel you are…?" and a discussion about the frustrations of having been off last week. It did not feel like a typical conversation between a teacher and an observer BUT more like one between two teachers who both understood the situation; she saw me as someone who could empathise with her frustrations. We were co-conspirators, equals. It felt good.

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Manchester
Metropolitan
University

September 2015

Participant information sheet A

The new primary mathematics National Curriculum for England: Teacher knowledge and Discourses of mastery in the teaching of fractions

Information for teachers interested in participating in stage two of the research: classroom observations and interviews

Aims of the project

Through this research project, I aim to understand how teachers are working with the new, more cognitively challenging, National Curriculum for primary mathematics; especially the fractions content. As the rhetoric around the new curriculum is of developing *mastery* over time, the way teachers engage with and use the language of *mastery* is also of particular interest.

My research will focus particularly on teachers working in Y6 for whom the curriculum is statutory for the first time in September 2015. This year group is of particular interest because they will also be the first to sit the new National Curriculum tests (in May 2016) with teachers under pressure to meet new accountability targets (85% pass rate).

The research methods

The research is in four stages:

1. A documentary analysis of paperwork and guidance from DfE, NCETM, schools and others relating to fractions and mastery in the 2014 National Curriculum.
2. Classroom observations of two Y6 teachers teaching fractions and termly interviews with the teacher to explore any 'critical moments' from their lessons in greater depth.
3. These 'critical moments' will then form the starting point for discussion by two focus groups, each made up of Y6 teachers from a wider range of schools and professional backgrounds.
4. A survey of teachers (not just from Y6 or with an interest in mathematics) will ask questions about one of these 'critical moments' in order to explore whether the issues raised resonate with teachers from other year groups and other settings.

More detail about participation in stage two

Who can be involved? Only Y6 teachers can be involved in this stage of the research.

What is involved? I will observe every time you teach fractions. After each lesson we might (if possible) have a quick 10 minute chat and then half-termly, it would be good to find up to 2 hours to talk in more depth about one or two specific moments from your teaching (which I'll have recorded for us to watch back together).

Vivien Townsend, PhD student

Faculty of Education, Manchester Metropolitan University

vivien.m.townsend@stu.mmu.ac.uk

Why participate? I'm interested in finding out what you do and why you do it! This is the most intensive level of involvement lasting the whole academic year 2015-16 and will be a great opportunity to reflect on your practice.

How will the research be carried out? I will be present in your lessons and may take some notes. Lessons will also be videoed by a camera at the back of the room which may sometimes zoom into any teaching aids or examples that are displayed at the front as part of your teaching. You will be asked to wear a lapel microphone to aid transcription of the lessons. If you are working with a group, I may also record some of these interactions. As the emphasis is always on what the teacher is doing and not on the children, as far as possible, pupils' faces will not be included in the shots (I will take your lead on whether / how to gain permission from parents for this). Interviews will be audio recorded and transcribed. I will also collect copies of planning, tasks and some samples of pupil work.

Other important things to know

All the data I gather will be anonymised and will be kept securely until December 2017 when it will be destroyed (unless you give permission for it be kept indefinitely).

It is important for me to have your permission to share video clips and materials from your lesson with my supervisory team and participants in stages three and four of the research. As some of these participants will be local teachers, there is a chance that they will recognise you and I cannot therefore ensure your anonymity in this aspect of the research.

Your interviews will only be listened to by me and my supervisors.

The data will contribute to my PhD thesis and the research findings will be shared at conferences and through academic papers. You will be given a pseudonym of your choice. If you wish to see a recording or a transcript at any time, these will be made available to you.

If at any point in the study you want to withdraw, you are free to do so without any need to explain why. If you withdraw then all the information and data collected from you will be destroyed and your name removed from all of the study files.

And finally.....

Thank you so much for considering being part of my PhD research. If you are keen to take part, then please now complete **Consent form A**.

Please feel free to contact me if you have any questions about the project or your participation in it: vivien.m.townsend@stu.mmu.ac.uk

Consent form A

The new primary mathematics National Curriculum for England: Teacher knowledge and Discourses of mastery in the teaching of fractions

Consent form for teachers interested in participating in stage two of the research: classroom observations and interviews

Please read the statements and then initial each box

You will receive a copy of this document once it has been signed.

I confirm that I have read and understood **Participant Information Sheet A** and have had the opportunity to ask questions about my participation.

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason to the researcher.

I understand that the researcher will want access to every mathematics lesson in which fractions is being taught and that they will want to collect documents such as lesson planning and pupil work from the lesson.

I understand that I need to be available for a quick conversation (10 mins maximum) after each lesson (whenever possible) and then each half term, I need to meet for a longer meeting (up to 2 hours).

I give permission for lessons to be video recorded as described in **Participant Information Sheet A** and interviews to be audio recorded.

I understand that video recordings will be seen by the researcher and her PhD supervisors and give permission for extracts to also be shared with participants in later stages of the research.

I give permission for lesson materials (planning, tasks, pupil work) to be shared with other teachers participating in later stages of the research.

I understand that audio recordings of interviews will not be heard by anyone other than the researcher and her PhD supervisors.

I will support the researcher in gaining approval for her research from parents (if necessary).

I understand that all data will be anonymised and that I can choose my own pseudonym.

I understand that all data is scheduled to be destroyed in December 2017.

I do / do not give permission for my lesson and interview data to be archived beyond the end of the project in December 2017.

I understand that at my request, a transcript of lessons or interviews will be made available to me.

I agree to take part in this stage of the research.

Name of participant   *Date*   *Signature*
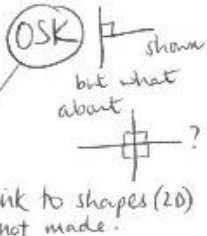
Name of researcher   *Date*   *Signature*

Foundation

TUP Theoretical underpinning of pedagogy
AP Awareness of purpose
ISE Identifying student errors
OSK Overt display of subject knowledge
UT Use of mathematical terminology
ATB Adherence to textbook
COT Concentration on procedures

(OSK) shown but what about ? link to shapes (2D) not made.

(TUP) repetition + practice 'over learning'
real life examples use of red herrings!

(UT) by teacher, TA + pupils including definitions

(OSK) different orientations (link to (UT))

(ISE) previous lessons... today built.

Transformation

TD Teacher demonstration
UIM Use of instructional materials
CUR Choice of representations
CUE Choice of examples

(TD) good use of visualiser to demonstrate

(CUE) real life pictures great apart from train tracks — perspective
loved red herrings!!

(CUR) hurried through for HAPs

(UIM) Arms /actions + songs all reinforced the ideas → reminder sheet at front ☺

Connection

MCP Making connections between procedures
MCC Making connections between concepts
AC Anticipation of complexity
DS Decisions about sequencing
RCA Recognition of conceptual appropriateness

(MCC) HAPs' activity meant they started to see a pattern with ⊢ and ⫫ although not really developed (RSI)

(DS) Ensure not too long spent on each task (HAPs spent 15 mins id. ⊢ !!)

(AC) Had you anticipated the difficulty of drawing ⊢ and ⇒?

Contingency

RSI Responding to students' ideas (I, AS, RI)
DA Deviation from lesson agenda
TI Teacher insight
RAT Responding to the (un)availability of tools and resources

(RSI) One child still answer, so you spent time with her at end (RI)

(TI) awareness of how ch. learn best in class.

" 45 but not having any problems ~ 46.

$$\frac{3}{7} + \square = \frac{1}{2}$$ child says $\boxed{\frac{05}{7}}$ encouraged to find equivalent

Lots of "make sure that your partner is comfortable + confident with this" and asking children to turn around and help each other.
Then asked to make up examples of your own.

Ⓠ about gen re odd/even denom.
— about recognising fr > or < $\frac{1}{2}$

15 postive boxes of Caar bars on cupboards!!

Who can explain ?? → chooses **PUPIL** who had explained to others. (who hadn't understood)

T talks about a circle or pie re equivalent fractions but doesn't draw.

T asks for hands up for confidence in fr/dec/%.
— pupils id % as the element of weakness.
— T expected this …. That's what revision is about.

% as "part of 100"

50% as $\frac{50}{100}$ → % easy to convert to fractions $\frac{x}{100}$.

✓   X   class v set, differentiation

✓   ⊗X   SATs, data, accountability

✓   ⊗XX   rules, generalisations

   maths talk

✓✓   examples chosen

//✓⊗⊗ XX   real life, images, "of" common sense, counted

<u>VIDEOS</u>

00.00 ✓ Class maths — LAPs + MAPs

02.21 X ✓ Class maths — vHAPs.

04.55 X self assessment

08.43 ✓ maths targets

✓ 09.27 X answering SATs qs.

3✓ 10.39 XX✓⊗ methods ⟶ class pool ideas

14.20 x✓ ⊗ ½ and ⊖2 ⟶ procedure + cake

15.39 x X⊖ methods ⟶ post its + procedures （different from scheme?）

20.20 ✓ ☐ connects ⊗½ and ⊖2 etc. (100)

2✓ 20.42 ✓⊖ using fraction circle apparatus

22.39 ✓x $\frac{4}{7}$ ⊖2 = $\frac{2}{7}$

25.58 ✓x $\frac{3}{4}$ ⊖2 = $\frac{3}{8}$

Key questions for Anna, Bernard and Claire:

- Interpretations of mastery
  - School definition of mastery?
  - School approaches to mastery?
  - Evaluation of these.

- Your practice in relation to mastery
  - How has your practice changed since mastery is on the national agenda?
  - How does what you do fit with mastery? (generally and specifically in relation to fractions)
  - How else are you finding out about mastery?
  - What are the challenges of mastery?

Additional questions for Anna:
None

Additional questions for Bernard:
None

Additional questions for Claire:
None

Key questions for Anna, Bernard and Claire:

- Two terms in, how is the Year working out for you?
  - Curriculum content (coverage, understanding, retention)
  - Mastery (definition, what influences?)

- What ought teaching in YEAR 6 look/be like?
  - For teachers; for pupils; parents; class organisation; sets, pairs, seating; levels and status; pedagogy; curriculum; resources and tasks; SATs preparation

- How close is that to reality?
  - What do you manage? Why?
  - What is not possible? Why?

- What will maths lessons look like post-Easter?
  - As SATs approach, what do you prioritise? How? Pupils?
  - And post-SATs?

Additional questions for Anna:
- Context of change – how changed since move to class maths?
- Impact of tutors?
- And what do you do post-SATs?

Additional questions for Bernard:
- Scheme and assertive mentoring?

Additional questions for Claire:
- TRG influence on mastery in school?

Key questions for Anna, Bernard and Claire:

- Practice (SATs, WHAT)
  - Use test questions as the basis for the interviews … how did pupils respond to fractions questions? (how they scored and what methods they used – using item by item scores and individual scripts returned)
  - Performance of groups of pupils and individuals?
  - Were pupils ready/ prepared for the new papers? Including the problem solving/ reasoning elements of the tests? (A and B: emphasis in lessons has been on procedural fluency; C: emphasis on conceptual understanding and reasoning)

- Agency (pedagogy, HOW)
  - Why did you teach this topic the way you did? Did you choose?
  - Have you felt under pressure to teach in a certain way? (SATs, fitting in with what colleagues do/did, scheme of work, following a particular philosophy…)
  - If my PhD had focused on a different aspect of the curriculum (calculation?) would I have seen something very different?
  - How do you evaluate decisions around sets, groups etc…?
  - Will you do anything differently next Year? / what do you think you'll do differently next Year? … what do you want to look at together on the video? (how taught, length of time spent on topics etc)

- Identity
  - What does it mean to be the Year 6 teacher? Your identity as this figure.
  - To what extent are results seen as a judgement of you, the Year 6 teacher?
  - Had previous experiences prepared you for this Year? How was it different?
  - What does it mean to be a good teacher of maths? A good teacher of maths in Year 6 (different)?
  - Why did you volunteer to be involved in the research?
  - Is it OK to send a biographical 'survey' to capture your 'history'?

Additional questions for Anna:
- Pressure on pupils?
- Webb's DOK?
- Are they your results?
- Judgements by Brian, the parents, the HT, other teachers?

Additional questions for Bernard:

- Pressures on pupils?
- The scheme, 'mastery' lessons and assertive mentoring lessons?
- Influence of your year group partner?
- Groupings and pairings?
- Test results as most important thing?

Additional questions for Claire:

- Did pupils get to the fractions questions in the test?
- Emphasis has been on conceptual understanding and reasoning – did pupils perform on non-routine problems? Your set v others?
- Test prep? You were doing new teaching in May!?
- Oftsed – were expectations met? Next year – sets?
- Class maths post-SATs?
- Secondary readiness?

Appendix 10: Example – Analysis of interview transcript (initial codes)

The space on the right-hand side of the page was used to add comments, questions and words to summarise sections of text. These formed my initial codes.

[OK] but there's a lot of things that I don't necessarily differentiate because I don't think they've got the fundamentals because they've not really done the which will probably change over time but because they've not had the six years' build up to what they're expected to do this year [yeh] there's a lot of fundamental knowledge missing. It's quite hard ... they come up with gaps and it's just because they haven't done that in year 3 and year 4 and it's just there are gaps [yeh] I think it's quite to be the first year

problem of these pupils not having new NC throughout.

gaps in knowledge

it's hard to be 1st year.

Yes. It's going to be a real interesting [yeh] ...

Well it will because they'll have had two years of it by the time [yeh] and the year after theoretically it should get easier. I'm not sure it ever gets easier though does it

it should get easier...

No. the other thing that I know you mentioned to me was thinking about the shift to – it's tied in to differentiation perhaps – that shift to mixing the children up and not sitting them in ability groups [yeh] that sort of thing [Peer working] Yeh. How's that been. How did that come about and how has that been?

Um well because that's a Shirley Clarke strategy as well [OK] maths was the only subject that I didn't do that in. but then my year group partner said you know I'm not mixing for maths and I thought well I need to give it a try. There's one of my children particularly and he er he came with a low grade and he's in the lower group for assertive mentoring [mm] maths and in maths lessons he's brilliant, he doesn't get anything wrong. And he tries he does the harder work every single time [yeh] and it's and it's kind of frustrating because to me it's his reading that's the problem and his reading has always kept him down in maths really which is really frustrating and being quite new as well and I'm kind of saying that I'd like him to try the other stuff and being told he's not reached that level yet because when we do a test [yes OK] he can't read the question and I feel 100% sure that if I gave him the stage 6 test, the age appropriate one, that he'd do just as well on that as on the stage 5 but unfortunately I'm not ....

Shirley Clarke approach maths as different role of the yr grp partner

being brilliant at maths = being right

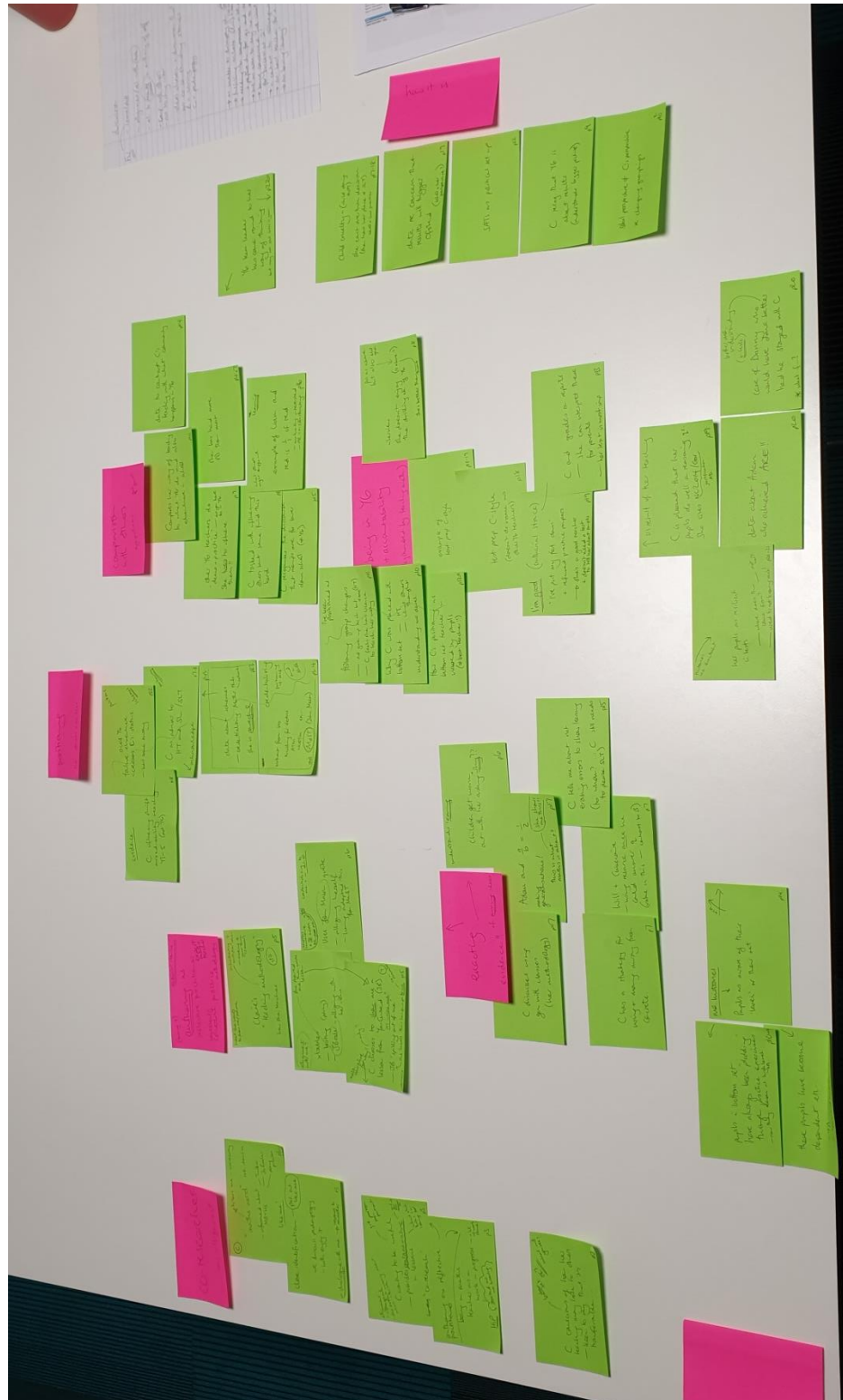*reading as barrier to success in maths*

she isn't allowed to give him the test (stage 6)

So that's for the assertive mentoring. The groups for that. [Yeh] So do you mix across the two classes for that?

Yeh. We mix across the year group now the rest of the school mix across the school

Oh Ok. How does that work?

Um. Well ... a year five child that goes to a year 2 class if they're working at stage 2 what they will have is they'll have
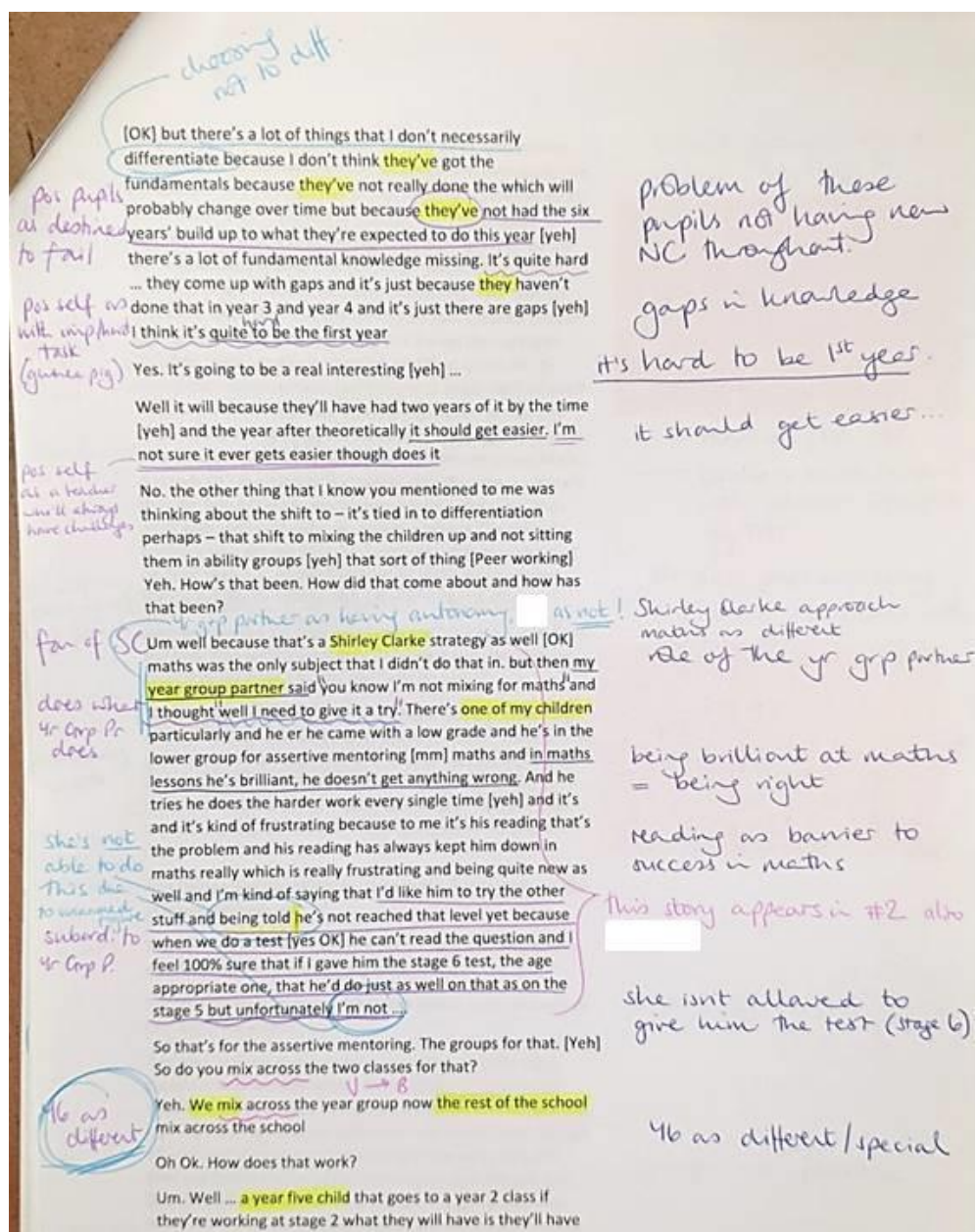
Yb as different/special

Appendix 11: Example – Analysis of interview transcript (identifying aspects of theory and/or literature)

This is the same extract of transcript that was used in Appendix 10.

Comments have now been added to the left-hand margin and elsewhere on the text. Comments in purple are references to 'positionality' and those in blue refer to mentions of freedom/ agency. In pink are comments about how this story has appeared elsewhere and also occasions when interviewer and interviewee adopt each other's words. Interesting words or phrases are circled. Figures have been highlighted in yellow.

A solid line represents a direct influence and a dotted line represents an indirect influence. So 'The Authorities' directly influence the work of 'The Experts' and 'The School Leaders' (the solid red lines) and indirectly influence the work of four other groups (the dotted red lines).

The dotted lines show that Anna also positions these teachers as experts.

Appendix 15: Example – Analysis of interview transcript (themes)

This is the same extract of transcript that was used in Appendices 10 and 11.

The pink post-it notes have now been added to indicate significant stories and label these with a theme.

ETHICS CHECKLIST

This checklist must be completed **before** commencement of <u>any</u> research project. This includes projects undertaken by **staff and by students as part of a UG, PGT or PGR programme**. Please attach a Risk Assessment.

Please also refer to the University's Academic Ethics Procedures and the University's Guidelines on Good Research Practice

Manchester Metropolitan University

Full name and title of applicant:	Mrs Vivien Maureen Townsend
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University Email address:	vivien.m.townsend@stu.mmu.ac.uk
Status: (delete as appropriate)	Postgraduate Student: Research
Department/School/Other Unit:	ESRI
Programme of study (if applicable):	PhD
Name of DoS/Supervisor/Line manager:	Yvette Solomon / Sue Pope
Project Title:	The new primary mathematics National Curriculum for England: Teacher knowledge and Discourses of mastery in the teaching of fractions
Start & End date of project:	September 2014 – August 2017
Number of participants (if applicable):	Approximately 200
Funding Source:	MMU

Brief description of research project activities (300 words max):
Through this research project, I aim to understand how teachers are working with the new, more cognitively challenging, National Curriculum for primary mathematics. Specifically, I am interested in the changes that have been made to the expectations relating to fractions.

My research will focus particularly on teachers working in year 6 (teaching children age 10-11, the oldest year group in English primary schools) for whom the curriculum is statutory for the first time in September 2015. This year group is of particular interest because they will also be the first to sit the new National Curriculum tests (in May 2016) and therefore I am interested in how teachers prepare their pupils for these.

The rhetoric around the new curriculum is of developing 'mastery' over time, and the way teachers engage with and use the language of 'mastery' is of particular interest. As the 'mastery' approach may not guarantee that schools will be ready to achieve the Government's required higher pass rate (up from 65% to 85%) within the year, I will be looking out for the ways in which teachers approach the curriculum and the way in which the pressure of accountability targets impacts on their practice.

The first stage of the research will be a documentary analysis. The second stage will involve classroom observations of two Y6 teachers teaching fractions and termly interviews with the teacher to explore any 'critical moments' from their lessons in greater depth. These 'critical moments' will also form the starting point for discussion by two focus groups (stage three), each made up of Y6 teachers from a wider range of schools and professional backgrounds. Finally (stage four), a survey of teachers (not just from Y6 or with an interest in mathematics) will ask questions about one of these 'critical moments' in order to explore whether the issues raised resonate with teachers from other year groups and other settings.

Does the project involve NHS patients or resources?		**NO**
If 'yes' please note that your project may need NHS National Research Ethics Service (NRES) approval. Be aware that research carried out in a NHS trust also requires governance approval. Click here to find out if your research requires NRES approval Click here to visit the National Research Ethics Service website To find out more about Governance Approval in the NHS click here		
Does the project require NRES approval?		**NO**
If yes, has approval been granted by NRES? Attach copy of letter of approval. Approval cannot be granted without a copy of the letter.		

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NB Question 2 should only be answered if you have answered YES to Question 1. All other questions are mandatory.	YES	NO
1. Are you are gathering data from people?	☒	☐
For information on why you need informed consent from your participants please click here		
2. If you are gathering data from people, have you:		
a. attached a participant information sheet explaining your approach to their involvement in your research and maintaining confidentiality of their data?	☒	☐
b. attached a consent form? (not required for questionnaires)	☒	☐
Click here to see an example of a participant information sheet and consent form		
3. Are you gathering data from secondary sources such as websites, archive material, and research datasets?	☐	☒
Click here to find out what ethical issues may exist with secondary data		
4. Have you read the guidance on data protection issues?	☒	☐
a. Have you considered and addressed data protection issues – relating to storing and disposing of data?	☒	☐
b. Is this in an auditable form? (can you trace use of the data from collection to disposal)	☒	☐
5. Have you read the guidance on appropriate research and consent procedures for participants who may be perceived to be vulnerable?	☒	☐
a. Does your study involve participants who are particularly vulnerable or unable to give informed consent (e.g. children, people with learning disabilities, your own students)?	☐	☒
6. Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited (e.g. students at school, members of self-help group, nursing home residents)?	☒ To be negotiated with the schools	☐
Click for an example of a PIS and information about gatekeepers		
7. Will the study involve the use of participants' images or sensitive data (e.g. participants personal details stored electronically, image capture techniques)?	☒	☐
Click here for guidance on images and sensitive data		
8. Will the study involve discussion of sensitive topics (e.g. sexual activity, drug use)?	☐	☒
Click here for an advisory distress protocol		
9. Could the study induce psychological stress or anxiety in participants or those associated with the research, however unlikely you think that risk is?	☐	☒
Click here to read about how to deal with stress and anxiety caused by research procedures		
10. Will blood or tissue samples be obtained from participants?	☐	☒
Click here to read how the Human Tissue Act might affect your work		
11. Is your research governed by the Ionising Radiation (Medical Exposure) Regulations (IRMER) 2000?	☐	☒
Click here to learn more about IRMER		
12. Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind?	☐	☒

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13. Is pain or more than mild discomfort likely to result from the study? Please attach the pain assessment tool you will be using.	☐	☒

14. Will the study involve prolonged or repetitive testing or does it include a physical intervention?	☐	☒

15. Will participants to take part in the study without their knowledge and informed consent? If yes, please include a justification.	☐	☒

16. Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?	☐	☒

17. Is there an existing relationship between the researcher(s) and the participant(s) that needs to be considered? For instance, a lecturer researching his/her students, or a manager interviewing her/his staff?	☒	☐

18. Have you undertaken Risk Assessments for each of the procedures that you are undertaking?	☐	☒
19. Is any of the research activity taking place outside of the UK?	☐	☒

I understand that if granted, this approval will apply to the current project protocol and timeframe stated. If there are any changes I will be required to review the ethical consideration(s) and this will include completion of a 'Request for Amendment' form.

☐ I have attached a Risk Assessment

Signature of Applicant: Vivien Townsend   Date: 15/05/15

Independent Approval for the above project is (please check the appropriate box):

If the applicant has answered **YES** to **ANY** of the questions **5a – 17** then they must complete the MMU Application for Ethical Approval.

Granted
☐ I confirm that there are no ethical issues requiring further consideration and the project can commence.

Not Granted
☐ I confirm that there are ethical issues requiring further consideration and will refer the project protocol to the Faculty Research Group Officer.

Signature:_____Date:_____(DD/MM/YY)

Print Name: _____Position:_____
Approver: Independent Scrutiniser for UG and PG Taught/ PGRs RD1 Scrutiniser/ Faculty Head of Ethics for staff.

Application Number_____
Date Received_____

iv. Finally, a survey of teachers (not just from Y6 or with an interest in mathematics) will ask questions about one of these 'critical moments' in order to explore whether the issues raised resonate with teachers from other year groups and other settings.
The survey will gather some background information will be gathered about the teachers (e.g. length of time teaching, qualifications, attitude to teaching mathematics) as well as seeking opinions on one of the particularly interesting 'critical moments' from lessons. It may also ask about any discourses which have surfaced as being of particular interest.

2.3. Are you going to use a questionnaire?

Yes. My survey will be based upon findings from my focus groups. It will be carried out at the end of the 2015-16 school year. I have attached an example of what this might look like.

2.4. Start Date / Duration of project:

September 2014 (3 years).

2.5. Location of where the project and data collection will take place:

The three different stages of the research are located differently.

i. N/A (documentary analysis)
ii. Primary schools in the midlands
iii. Primary schools in the midlands
iv. Any primary schools following the English National Curriculum

2.6. Nature/Source of funding:

Funding has come from ESRI (MMU)

2.7. Are there any regulatory requirements?

No.

3. Details of Participants

3.1. How many?

Different numbers of participants are sought for each stage of the research:
i. N/A (documentary analysis)
ii. One or two Y6 teachers
iii. Two or three focus groups, each of up to six Y6 teachers
iv. As many as possible, hopefully in the region of 200

3.2. Age:

All will be adults of working age. It is likely that one of the focus groups is made up of teachers who are recent graduates and therefore may be younger than other participants.

3.3. Sex:

M and F.

Application Number_____
Date Received_____

Digital recordings will be stored until December 2017 at which point they will be deleted from all drives <mark>unless permission is granted by participants for it to be archived</mark>. Any paper documentation will be shredded at this time. Data will not be used beyond the remit of this project.

6.2. The Human Tissue Act

The Human Tissue Act came into force in November 2004, and requires appropriate consent for, and regulates the removal, storage and use of all human tissue.

6.2.1. Does your project involve taking tissue samples, e.g., blood, urine, hair etc., from human subjects?

No.

6.2.2. Will this be discarded when the project is terminated?

N/A.

6.3. Insurance

The University holds insurance policies in place to cover claims for negligence arising from the conduct of the University's normal business, which includes research carried out by staff and by undergraduate and postgraduate students as part of their course. This does not extend to clinical negligence.

In addition, the University has provision to award indemnity and/or compensation in the event of claims for non-negligent harm. This is on the condition that the project is accepted by the insurers prior to the commencement of the research project and approval has been granted for the project from a suitable ethics committee.

Research which is applicable to non-negligent harm cover involves humans and physical intervention which could give rise to a physical injury or illness which is outside the participants' day to day activities. This includes strenuous exercise, ingestion of substances, injection of substances, topical application of any substances, insertion of instruments, blood/tissue sampling of participants and scanning of participants.

The following types of research are not covered automatically for non-negligent harm if they are classed as the activities above and they involve:

1) Anything that assists with and /or alters the process of contraception, or investigating or participating in methods of contraception
2) Anything involving genetic engineering other than research in which the medical purpose is treating or diagnosing disease
3) Where the substance under investigation has been designed and /or manufactured by MMU
4) Pregnant women
5) Drug trials
6) Research involving children under sixteen years of age
7) Professional sports persons and or elite athletes.
8) Overseas research

Will the proposed project result in you undertaking any research that includes any of the 8 points above or would not be considered as normal University business? No.
6.4. Notification of Adverse Events (e.g., negative reaction, counsellor, etc): (Indicate precautions taken to avoid adverse reactions.) Please state the processes/procedures in place to respond to possible adverse reactions: N/A. In the case of clinical research, you will need to abide by specific guidance. This may include notification to GP and ethics committee. Please seek guidance for up to date advice, e.g., see the NRES website at http://www.nres.npsa.nhs.uk/

SIGNATURE OF PRINCIPAL INVESTIGATOR: Vivien Townsend	Date 15.05.15
SIGNATURE OF FACULTY'S HEAD OF ETHICS:	Date:

Checklist of attachments needed:
1. Participant consent form
2. Participant information sheet
3. Full protocol
4. Advertising details
5. Insurance notification forms
6. NHS Approval Letter (where appropriate)
7. Other evidence of ethical approval (e.g., another University Ethics Committee approval)