Teacher Agency: Curriculum Development in English Primary Academies

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Abstract

The genesis of this study was the confluence of the Academies Act (2010), which legislated academy status and disapplied the statutory nature of the National Curriculum (DfE, 2013), and the finding that primary schools' curriculum capacity was a cause for concern (Alexander, 2010). This concurrence seemed to make apparent a serious gap between intentions of teacher autonomy conveyed through policy (DfE, 2010; DfE, 2016a) and the capacity for teacher agency. This was compounded by a context of teachers' professional environments characterised by long-standing statutory (Education Act, 1988) and non-statutory curriculum guidance (DfEE, 1998; DfEE, 1999) and stringent accountability measures (Hammersley-Fletcher and Strain, 2011; Ball, 2003; Ball, 2016). My own professional experience of primary schools and university initial teacher education departments reinforced this concern, which was heightened by its context of curriculum as the pre-eminent element of education (Young, 2014).

The focus of the study is the achievement of teacher agency, regarding curriculum development specifically. It draws upon the ecological approach to teacher agency (Priestley, Biesta and Robinson, 2013) in order to explore the causal influence of the interplay of personal capacity and ecological conditions. Twenty-two primary academy teachers, across six primary academies, participated.

A critical realist approach governs the study, thus the search for causal mechanisms considers structures at the real ontological level and the manner in which they are actualised by conditions. The methodology aligns with this philosophical paradigm and through a case study design, a deep understanding of participants' realities is facilitated. This interpretivist, qualitative approach means theorised trends are strongly rooted in the data.

Ultimately, the study's key finding is that teachers' personal capacity is the defining factor for their achievement of agency due to the way in which it affects their perception of their working environment. The study also posits that it is key professional learning experiences which are a principal influence upon teachers' personal capacity to achieve agency. This develops the existing ecological approach to teacher agency (Priestley, Biesta and Robinson, 2013) by adding detail regarding the nature and impact of important past experiences. Recommendations regarding teachers' professional learning experiences are made.

Dedication

To Fergus and Tait, without whom this would have been impossible and meant nothing.

To Mum and Dad, for believing in me and being an unsurpassable support team.

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Chapter 1. Introduction

1.1 Introduction

The focus of this study is the agency of primary academy teachers regarding curriculum development. It is based on an understanding of agency as an emergent phenomenon, achieved by means of social and material environments and affected by experiences across different temporal dimensions (Priestley, Biesta and Robinson, 2013). This introductory chapter gives a brief account of the current context of teacher agency which, in conjunction with my professional background, serves to situate the motivation for conducting this study. The chapter also presents a rationale for the study and sets out its intended aims, all of which are strongly linked to the current context. The chapter concludes with a brief overview of the structure of the thesis and focus of each chapter.

1.2 Teacher agency and curriculum development

A resurgence of teachers' autonomy regarding curriculum became clear from 2010. Prominent rhetoric publicly declared confidence in teachers (DfE, 2010; Gove, 2013b) and it was supported by action. Following decades of centralised curriculum control, the government analogised the National Curriculum (NC) as a 'prescriptive straitjacket' (DfE, 2010, p.10) and requested teachers' support in its reform (DfE, 2013b). Academy status was constitutionalised (Academies Act, 2010), granting schools wide-ranging autonomy (Gove, 2010b), but particularly regarding the curriculum due to the intrinsic disapplication from the statutory nature of the NC. Fundamentally, it became clear that the government's expectation is for teachers to fulfil a far greater role in curriculum development than in the preceding decades following the introduction of the NC (Education Act, 1988). Indeed, the policy landscape shifted and appeared to view teacher agency as a desirable attribute (Priestley, Biesta and Robinson, 2013).

For curriculum development specifically, this raises concerns as the influential review of primary education by the Cambridge Primary Review Trust (CPRT) (Alexander, 2010a) identifies primary teachers' curriculum capacity, one element of which is to 'conceive and plan a broad, balanced and coherent curriculum' (Alexander, 2012, p.1), as a cause for concern. Indeed, the CPRT (no date) includes 'curriculum' as one of its eight priorities for future work. Further, Apple (cited in Priestley, 2016) terms curriculum development a 'lost

art' and Wheelahan (2010) believes there to be a crisis of curriculum. Whilst such rhetoric may be overstating the case, the 'clear direction of travel over the last thirty years [has been] towards a centralised power structure' (Fisher, 2012, p.238), resulting in a deprofessionalised cohort of teachers (Elliot, 1998; McCulloch, Helsby and Knight, 2000; Children, Schools and Families Committee (CSFC), 2009; Abbot, Rathbone and Whitehead, 2013) who are reduced to mere deliverers of the curriculum (Trowler, 2003; NAHT, 2009 cited in CSFC, 2009). Indeed, the profession is constituted by a young population of teachers of whom 88% will not have taught in a pre-NC era of curriculum freedom (DfE, 2014a).

It is also important to note that the context within which these declared freedoms sit is characterised by an 'increasingly pervasive preoccupation with accountability' (Hammersley-Fletcher and Strain, 2011, p.871) and a rapid, relentless and wide-ranging rate of top-down change (Davidson, 2017). Indeed, the context does much to undermine teacher agency and teachers are suggested to have become

> 'inculcated with the notion that the curriculum should be structured in a way that meets central directives in order to ensure compliance with accountability regimes'
>
> (Brundrett and Duncan, 2010, p.5).

This perhaps suggests tension between legislated freedoms and contrasting policies which affect the 'lived experiences of teachers who feel constrained by the output regulation' (Leat, Livingston and Priestley, 2013, p.235).

It may be the case that the policy tension is deliberate and that support of teacher agency (DfE, 2010; DfE, 2016a) is a façade veiling true intentions of control and power effected through monitoring activities. One example is the timeline of the recent publishing of the new NC (DfE, 2013a). The NC review was announced in January 2011 and the final version of the NC published in Autumn 2013 (DfE, 2013a). However, the draft consultation was open between February and April 2013 (DfE, 2013b), seemingly allowing very little time for submissions and their impact to be accounted for. This suggests that responses from the profession were to play a minimal role in the redrafting of this important document, despite being publicly welcomed.

Less cynically, it may be that explicit support for teacher agency, from legislating autonomy (Academies Act, 2010) to raising its profile (DfE, 2010; DfE, 2016a), is considered sufficient; that the potential of other policies to overpower these intentions is politically underappreciated. A pertinent example is the Curriculum for Excellence (CfE) (Scottish

Executive, 2004) which has at its heart a 'renewed vision of teachers as developers of curriculum at school level, and more widely as agents of change' (Priestley, Biesta and Robinson, 2015, p.11). During a recent speech by the Leader of the Scottish Conservatives at her party's conference, a review of the CfE (Scottish Executive, 2004) was announced due to her analysis of it having led to a 'collapse in standards' and 'utter confusion' for teachers (Davidson, 2017). Davidson (2017) assigns blame to the CfE (Scottish Executive, 2004) rather than considering any potential impact of tension between competing policy agendas (Priestley and Drew, 2016) which could be pertinent as the CfE (Scottish Executive, 2004) juxtaposes the accountability practices to which Scottish schools are subjected. Despite the CfE (Scottish Executive, 2004) sitting within an 'environment where teachers are effectively disabled when developing the curriculum as required by policy' (Priestley, Biesta and Robinson, 2015b, p.128), Davidson's (2017) analysis presumes that teachers are able to thrive in a complementary lattice of autonomy and accountability, rather than succumb to the latter in the crossfire.

The issues raised within this section are apparent within my professional experience, indeed it is their prominence and coalescence through reflection that provided the genesis for this study. This is detailed within the next section.

1.3 My professional background

From beginning undergraduate initial teacher education (ITE) in 1998 to leaving classroom teaching in 2009, I was unquestioning of any curriculum documentation. Rather, I felt satisfied that I could exercise discretion and autonomy in my classroom within a trusted framework which, whilst not necessarily consciously thinking highly of, did not feel inclined to critique. On reflection, I think this was due to three main reasons. Firstly, I qualified as a teacher during an era of prescriptive documentation as at the beginning of my Qualified Teacher Status (QTS) programme, the National Strategies for literacy and numeracy (NLS and NNS) (DfEE, 1998; DfEE, 1999a) were published and thus played an integral role in my training. Their successor, the Primary Framework (DfES, 2006), alongside schemes of work from the Qualifications and Curriculum Authority (QCA), also loomed large in the first decade of my career. It was simply all I had known. Secondly, I lacked encouragement and models regarding a critical professionalism. My relationships were confined to a narrow pool, bounded by my school, or borough, and more experienced colleagues who did resist new curricular documentation were framed as 'difficult' or 'old-fashioned', never as thoughtful or critical. This contributed to the dormancy of this element of my professionalism. Thirdly, to

some extent, the pressures of the job meant that my entire focus, and time, was committed to teaching what I felt I had to teach to the highest possible standard. I would consider my pedagogy to be innovative and creative, albeit firmly rooted within the existing curriculum framework. However, it is worth noting that despite the afore-mentioned accountability pressures, I was not unduly influenced by them. Certainly, in comparison to my Year 6 colleagues who taught lessons based on test materials, I took an alternative pathway and strove to teach meaningful, memorable lessons and minimise the impact of the tests for my classes. In general, as a classroom teacher, my environment did not support the achievement of agency regarding curriculum development and I was very much a cog in the system who strove to implement and meet externally imposed guidance and targets respectively.

Joining a Higher Education Institute (HEI) as an ITE lecturer in 2011 was a seminal moment in my career for three main reasons. Firstly, the nature of the role required academic rigour and fuller engagement with policy. Secondly, it prompted membership of a professional subject association which involved lobbying politicians and participating in Department for Education (DfE) consultations, mostly related to the NC, as this period coincided with its redrafting and republishing, and largely with disappointing outcomes. Further, this was just one way in which my professional relationships proliferated to incorporate critical colleagues following my sector change. Thirdly, studying for and graduating with a Masters Degree in Primary Education was part of the role which involved huge professional learning. In summary, joining the HEI proved to be a watershed for becoming more involved in powerful discourse communities and developing a more critical outlook. It threw into stark relief my compliance, based on trust, which was representative of my previous primary classroom career and led me to acknowledge it as such. In turn, this allowed me to observe similar tendencies in my ITE students; after twenty-three years, the same issues were arising. Set against the building resurgence of teacher agency (DfE, 2010), a seed of doubt was planted as to whether there was a significant issue within the teaching profession. Questioning whether it was woefully underprepared and ill-equipped to utilise its growing autonomy and provide a high quality primary curriculum provided the genesis of this research.

1.4 Statement of purpose

At heart, this is a sociological investigation which aims to gather empirical evidence, within a theoretical context, in order to construct a logical set of conclusions regarding its research question (Sadovnik, 2011). It aims to find out 'what is', to lead to 'what ought to be'

(*ibid.*). The focus is solely on primary academy teachers as, in theory, they are afforded the greatest autonomy regarding the curriculum. The aim is to find out about their agency regarding curriculum development, as self-perceived and evidenced, and to develop an understanding of the influencing factors.

Ultimately, this study aims to make suggestions at individual teacher level, as well as at school leader level as this is where, pragmatically, it could hope to have an impact regarding how such individuals could function agentically within the current system and support others to do the same. Such practical outcomes aim to address the limited reference made to how the change agent role is translated into practice (Carse, 2015). Additionally, the aim is to make recommendations for policy level as it is this level which has the power to effect the greatest change. However, three main reasons preclude the likelihood of any significant impact here from this study.

Firstly, a policy shift is unlikely (Reid, 2014). The DfE remains adamant that their policies grant schools freedom and power and believe that such an 'autonomous, school-led system depends even more on an effective accountability system' (DfE, 2016a, p.104). They see autonomy and accountability as complementary and believe legislating for autonomy to be sufficient, despite evidence that autonomy does not equal agency (Priestley, Biesta and Robinson, 2015). Secondly, the DfE is concerned with autonomy at school level which they equate to freedom from local authority maintenance (DfE, 2016a). There is little interest regarding what this may mean for individual teachers; there has been no audit into the take up of NC disapplication, for example. The persistent linking of 'raised standards' and 'autonomy' and 'freedom' (DfE, 2016a) could suggest that output data is the DfE's primary concern and whether autonomy, or agency, is truly achieved for individual teachers is an inconsequential by-product. Thirdly, the scope of this study is small and completed by an inexperienced researcher, thus unlikely to influence nationwide policy. Further, the government seems to cite research which fits its view, evident in Gove's (2010b) speech where he, as the incumbent Secretary of State for Education, references worldwide examples sympathetic to his favoured dyad of autonomy and accountability, from Canada and America to Singapore and Sweden. At times, the government even generates research if required. For example, in 2008 a review of the primary NC was commissioned by the Secretary of State for Education (Balls, 2009), for the same remit being addressed by the ongoing CPR (Alexander, 2010a) which was independent, thorough, based on a much wider provenence and led by a very well respected educational professional (Lyle, 2009).

Nevertheless, this is a worthwhile, timely piece of research which aims to add to the body of work on teacher agency. It remains current as despite the focus on curriculum within the legacy of the CPRT, which includes addressing ITE and continuing professional development (CPD) provision, primary schools' curriculum capacity has 'had neither the attention nor the policy response that it requires' (Alexander, 2010b, p.1). Indeed, the

> 'problem of curriculum capacity in primary schools has outlived a major HMI enquiry in the 1970s, a select committee enquiry in the 1980s, a government enquiry in the 1990s'
>
> (Alexander, 2010b, p.4)

This study aims to make practical suggestions for current professionals and it has a unique angle on the issues which is explained within the next section.

1.5 Claim for originality

This section aims to set out this study's claim for originality by focussing on its sample of teachers from English primary academies. Firstly, it explains why researching this cohort supports a claim of originality before addressing why now is an apposite time to do so.

That the sample is drawn from primary academies in England justifies the originality for two main reasons. Firstly, this specific cohort has not been researched previously regarding issues of teacher agency and curriculum development. Much of the existing research into teacher agency has been completed in Scotland (*for example,* Priestley, Robinson and Biesta, 2011; Priestley, Biesta and Robinson, 2012; Priestley *et al.*, 2012; Priestley, Biesta and Robinson, 2013; Priestley, Minty and Eager, 2014, Priestley *et al.*, 2015; Priestley, Biesta and Robinson, 2015). Secondly, the country difference is of note because the Scottish CfE (Scottish Executive, 2004) emphasises the importance of teachers' engagement (Priestley, Biesta and Robinson, 2015) which contrasts with England where, despite the offered freedoms to academies, there is no requirement for their adoption. Indeed, the combination of a new NC (DfE, 2013a) and more demanding statutory tests at Year 6 designed to 'reflect the new national curriculum' (DfE, 2016a, p.92) might actually discourage teachers in England from utilising their curricular freedoms. Further contextual features make it a fitting time to focus on primary teachers in English academies.

Firstly, the dyad of recent disapplication from the NC (Academies Act, 2010) and long-standing performativity measures, from which there is no escape for any English school (Ball, 2003), seems to evoke conflict, and it is these teachers who are at its centre. Secondly, in recent times the school system in England has evolved rapidly to include over two and a half thousand primary academies (DfE, 2015b), thus a significant number of teachers are subject to these conflicting policies. Thirdly, with fewer and fewer primary schools converting to independent academies, academy chains are the dominant structural organisation (*ibid.*) meaning the issue of individual teachers having curriculum capacity is key due to the risk of centralised chain structures and systems quashing their autonomy. This is of raised importance as 'there is at present no convincing evidence of the impact of academy status on attainment in primary schools' (Education Select Committee, 2015, no page). Indeed, the drive for conversion (Cameron, 2015) seems to be the result of an unsubstantiated DfE (2016a) belief that academies improve standards. Overall, such important changes within the policy landscape demand 'new ways of theorising the work of teachers and the ways in which schools and teachers operate' (Priestley, Biesta and Robinson, 2015, p.128) and it is here that this study hopes to contribute.

1.6 Structure of the thesis

This thesis consists of six chapters, all of which are underpinned by the following research question:

> 'How do primary academy teachers' personal capacities and ecological conditions interplay over three temporal dimensions to have a causative influence on their achievement of agency, regarding curriculum development?'

This section aims to demonstrate how the research question is integral to this thesis by briefly summarising each subsequent chapter. The Literature Review (Chapter 2) considers the concept of teacher agency and its roots before exploring the ecological factors of teachers' work environments. As a key influence on the achievement of agency, teachers' personal capacities are also considered and the chapter culminates in the study's theoretical framework. The Methodology (Chapter 3) discusses this study's underpinning philosophical perspective and research design and gives a rationale for the research methods used. A key premise is justifying the research quality and to this end there is a discussion around its ethical procedures, as well as the principles and processes of the data analysis. The Findings (Chapter 4) present the empirical data in three separate sections. Firstly, the nature of the participants' agency is explored through empirical evidence of curriculum development. Secondly,

influential factors are considered through analysing teachers' experiences across the chordal triad of their past experiences, present contexts and future aims (Emirbayer and Mische, 1988). Thirdly, these two sections are repeated for one particular example of teacher agency; a maths curriculum development project. The Discussion (Chapter 5) employs a critical realist (CR) approach which, through its stratified depth ontology (Fletcher, 2016), explains social events (*ibid.*). The chapter follows a process of abduction whereby the data is re-described using theoretical concepts. Causal mechanisms which are suggested to be responsible for the observed events at the empirical level are subsequently identified and discussed. The Conclusion (Chapter 6) summarises the study and offers recommendations for practice.

Chapter 2. Literature Review

2.1 Introduction

This chapter synthesizes and evaluates a range of philosophical and empirical literature. Through doing so, it aims to situate this study and demonstrate the relevance of its focus, in order to justify its importance. The current context is reviewed with a focus upon the resurgence of teacher agency regarding curriculum, its exemplification for individual teachers, and its importance for the schooling system and its key stakeholders. The focus then centres on agency, culminating in the introduction of an ecological approach to teacher agency (EATA) (Priestley, Biesta and Robinson, 2013) around which this study's theoretical framework centres. Factors which support and constrain teachers' achievement of agency regarding curriculum development work are then explored before a concluding section. Due to the way in which the EATA (Priestley, Biesta and Robinson, 2013) suggests teachers achieve agency by means of their environment, the literature is largely sociological. However, teachers' personal capacities are considered an important factor in their achievement of agency (Priestley, Biesta and Robinson, 2013), meaning some psychological literature and theory is drawn upon.

2.2 Curriculum development – the scope and impact

In England, recent legislation (Academies Act, 2010) offers academies freedom to plan their own curriculum through disapplication from the statutory nature of the NC. Although the long-standing design of the NC sits within a wider school curriculum (DfE, 2010), the Academies Act (2010) clearly extends the scope for curriculum development which is particularly important to consider for three main reasons. Firstly, the great extent to which the legislated freedoms may be exercised and secondly, the significant potential of this. Thirdly, it is suggested that there is limited capacity for curriculum development within the primary profession (Alexander, 2010a) which necessitates a focus on teacher agency as it becomes apparent that action is not a straightforward consequence of autonomy. All three areas of concern are explored in greater depth within this section.

Academies are set to comprise an increasing proportion of the primary sector due the dyad of government policy to push schools to convert (Mansell, 2016) and the threat of forced academisation should schools be judged inadequate by the Office for Standards in Education (OFSTED) (DfE, 2016g). Despite the reversal of a DfE pledge to ensure all schools are academies by 2022 (DfE, 2016a) following widespread opposition (DfE, 2016b), 22% of

state-funded primary schools in England have converted to academy status, and their number is set to increase as a further 748 schools are in the pipeline to do so (DfE, 2017a). This suggests there to be a substantial number of teachers who are subject to curricular freedoms. This is encouraging as there are a number of significant benefits which emerge from high levels of curriculum development. However, the profession's limited capacity for curriculum development may curtail this potential. The benefits are considered first.

Firstly, for teachers, curriculum development work facilitates professionalism (Thomas, 2012), serving to re-energise commitment and enthusiasm (Catling, 2013). Curriculum making is emancipatory (*ibid.*) as teachers feel empowered regarding professional expertise, authority and aspirations (Priestley, Biesta and Robinson, 2012) and 'few things are more important than to restore to schools and their members a sense of empowerment and respect' (Alexander, 2010a, p.2000). Secondly, for children, curriculum innovation raises standards (Brundett and Duncan, 2011). Such improvement is not limited to traditional measures of attainment, but instead has the potential to lead to the advancement of pupils' 'empowerment, autonomy and citizenship' (Alexander, 2010a, p.506). In general, the inherent critical engagement required of teachers 'makes for better teaching' (*ibid.,* p.506) and specific advantages include the development of a localised education system (Alexander, 2010; Thomas, 2012) which reflects local needs and circumstance (Scottish Government, 2008) and more creative, collaborative approaches (Thomas, 2012). Indeed, during the last era of curriculum autonomy in the 1970s and 1980s some schools were able to provide 'a curriculum of vision, vitality and rigour' (Alexander, 2011, no page). Positive experiences of autonomous, collegial planning allowed teachers and children to flourish, yet 'in a system with little structure and accountability' there was a lack of consistency across schools (Bayley, 2008, p.301) which legislation (Education Act, 1988) aimed to address. Nevertheless, it is suggested that

> 'every primary school must have access to the range and depth of curriculum expertise which is needed in order to plan and teach, with consistent quality across the full curriculum range, the curriculum that 5 to 11 year olds need and deserve'
>
> (Alexander, 2010a, p.432).

However, this could be problematic due to the broad consensus that capacity to achieve this is lacking in primary schools. Indeed, Bayley (2008) analogises the aforementioned policy making as a sledgehammer cracking a nut which imposed a 'stranglehold of fear' (Bayley, 2008, p.301) upon teachers. Apple (cited in Priestley, 2016) terms curriculum development a 'lost art', whilst Alexander (2010a) considers teachers' curriculum capacity, one element of which is to 'conceive and plan a broad, balanced and

coherent curriculum' (Alexander, 2012, p.1), to be an area of concern. Such a dearth of capacity during the last era of curriculum autonomy in the 1970s and 1980s meant that some schools' curricula was narrow, thus disadvantaging marginalised children (Alexander, 2011). Added to this limited capacity is the suggestion that the extent to which freedoms will be taken up by schools is limited by accountability measures (Thomas, 2012) and unless there is capacity for agency, the status quo may persist in contradiction to the goals of curricular policy (Priestley, Biesta and Robinson, 2015). Indeed, it is not a straightforward case of legislated autonomy equating to action. As the 'socioculturally mediated capacity to act' (Ahearn, 2001, p.130), teacher agency is required for teachers to be able to engage with curriculum development. In Scotland, this is supported more fully than in England as the Curriculum for Excellence (CfE) (Scottish Executive, 2004) explicitly positions teachers as agents of change within a curriculum development role. However, both England and Scotland are indicative of the emerging tendency within the United Kingdom (UK) education policy and elsewhere to acknowledge the importance of teacher agency (Priestley, Biesta and Robinson, 2015). Indeed, the suggestion is that in pursuit of improving any situation, it is important to engender a bottom-up, intelligent path, as opposed to a top down, systemic approach, which means enhancing teacher agency (*ibid.*).

Teacher-driven curriculum policy development is identified as an instance of positive teacher agency (Bascia *et al*., 2014) as it is an example of generic agentic behaviours such as engagement with policy initiatives (Priestley *et al*., 2012; Priestley *et al*., 2015; Stevenson and Gillilard, 2016), acting as a force for change (Casey, 2006; Fenwick and Somerville, 2006), the development of existing work practices through creative initiatives (Littleton, Taylor, and Eteläpelto, 2012; Paloniemi and Collin, 2012) and involvement in educational innovation, as opposed to simply supporting school-based reform (Priestley *et al*., 2012). Indeed, curriculum development offers opportunities to trigger transformation of the social order which is another defining feature of agency (Eichner, 2014; Collins *et al*., 2015). Ultimately, curriculum development seems to embody Priestley, Biesta and Robinson's (2015, p.141) summary that agency is achieved when teachers

> 'are able to choose between different options in any given situation and are able to judge which option is the most desirable, in the light of the wider purposes of the practice in and through which they act.'

The next section considers the concept of agency.

2.3 Agency

This section explores the extensively theorised concept of agency (Biesta, Priestley and Robinson, 2015) before focusing specifically on the EATA (Priestley, Biesta and Robinson, 2013) which forms the theoretical framework for this study. Initially it is important to highlight the potential 'fallacy of equating action with agency' (Eichner, 2014, p.23) when, for example high levels of agency can be assumed, yet it is simply 'unproblematic trajectories' (Emirbayer and Mische, 1998, p.1008) which facilitate action. Similarly, a lack of action may result from highly agentic active resistance to change (*ibid.*) but not be perceived as such. It is suggested that one conceptual distinction with action is agency's intentionality (Priestley, Biesta and Robinson, 2015), despite some contention within the literature as to the pre-eminence of intentionality or influence when defining agency (Eteläpelto *et al.*, 2013).

Agency is important across a range of domains, within which a breadth of definitions is found, often due to conflicting conceptions of its ontological basis (*ibid.*). Due to the overarching sociological concern with the crucial tension between 'the degree to which external forces determine individual actions' and 'whether individuals are capable of freely shaping the world' (Sadovnik, 2011, p.xiv) which drives this study, the subsequent discussion around teacher agency will be largely limited to the sociological literature which sees agency as a 'socioculturally mediated capacity to act' (Ahearn, 2001, p.130). Coherence within the sociological literature stems largely from the fairly consistent concern with holistic and individualistic explanations of social action (Hollis, 1994), namely the structure–agency problematization (Biesta and Tedder, 2006; Biesta, Priestley and Robinson, 2015). Within this debate, distinctions are drawn between conceptualisations of agency dependent upon two important issues. Firstly, the nature of relationships between individuals and social/contextual elements ranging from analytical inseparability to separateness (Eteläpelto *et al.*, 2013). Secondly, the varying emphasis given to social and economic structures and their influence on human activity, and the degree of individual agency within the structures (Hitlin and Elder, 2007; Biesta, Priestley and Robinson, 2015). It is suggested that this structure/agency debate remains ongoing and may actually be irresolvable (Priestley *et al.*, 2012). The following section, explores this range at three distinct points; polar opposite views and a centrist position.

2.3.1 ***The Spectrum of Agency***

This section considers the spectrum of agency at three particular points by contrasting their positions concerning the structure/agency debate. The internal view of agency posits that there is capacity for autonomous action that is unaffected by any potential constraints effected by social structures (Calhoun, 2002). Essentially, it holds that humans are ‘self-motivated, self-directing, rational subjects, capable of exercising individual agency’ (Usher and Edwards, 1994, p.2). However, it is argued that this is an overly individualistic view of agency which under-emphasises the influence of societal structures and human culture and discourses. Such voluntarism (Archer, 2010a) reduces human existence to purely social action by failing to recognise the analytical separation between the individual and the social (Goldthorpe, 1998; Evans, 2007), often conflating autonomy with agency (Priestley *et al*., 2012). Essentially it is an ‘undersocialised view of man’ (Archer, 1998, p.11).

It is argued that such an understanding can result in a ‘lack of conceptual tools to address working contexts and professional discourses and consider how these limit or resource an individual professional's agentic action’ (Eteläpelto *et al*., 2013, p.49). Specifically, it can result in a blurring of the line between individual and collective agency (*ibid.*) and render irrelevant the temporal dimension which differentiates between the ‘historical continuum of an individual person's life course and their socio-cultural conditions’ (*ibid.,* p.49), which is important in the way in which it provides space for the agentic orientations of people to differ in different contexts and times (Priestley *et al*., 2012). Disregarding, or not affording this sufficient importance, is particularly limiting for a number of reasons. Firstly, the ‘projective aspirations of agents’, linked to the future, which should form part of the analysis of agency (*ibid.,* p.198) are unaccounted for which is problematic as they may inform the practice of agency whereby individuals choose the problems with which they engage. Secondly, the iterational (past) aspect is important because as experiences are accumulated and material/social conditions evolve, potential for agency changes and ultimately, it is clear that agency is an on-going process which has its roots in practical-evaluative (present) activity (Emirbayer and Mische, 1998).

At the opposite end of the spectrum, downwards conflation (Archer, 1998) ascribes much decision making to the influences of structural and historical conditions of our institutions (Popkewitz, 1984). Such an approach is grounded in the influence of society over the individual and seeks to supplant agency with structure (Priestley, Biesta and Robinson, 2012) which, it could be argued, is an over-socialised view of someone who is 'shaped and

moulded by his social context' and little more than an epiphenomenon of society (Archer, 2000). This could be considered a 'form of social determinism' (*ibid.*) which prevents analysis sensitive to different levels of impact on agency (Priestley, Biesta and Robinson, 2012).

The middle ground which purports a centrist view of agency (Giddens, 1979; Archer, 1995) has emerged as a reaction to perceived shortcomings of the two aforementioned models. Such a centrist position rejects the idea that agency is an individual capacity able to resist and transform dominant power relations (Lipponen and Kumpulainen, 2011), instead positioning it as a variable, as a driver for social action. Because structure and agency are positioned as analytically separately, problems with seeing agency as a capacity to be possessed and disregarding of the context are overcome. The centrist position is therefore suggested to be a fitting model when considering teachers' curriculum work as they are seen to be neither entirely free agents, nor wholly constrained by structures and circumstances (Bascia *et al*., 2014). This is where the EATA (Priestley, Biesta and Robinson, 2013) sits as it highlights the importance of both agentic capacity and contextual conditions in shaping agency. The EATA (*ibid.*) builds upon important earlier works, namely the morphogenetic approach (Archer, 1998), the chordal triad (Emirbayer and Mische, 1998) and ecological agency (EA) (Biesta and Tedder, 2006). Thus in order to justify the suitability of Priestley, Biesta and Robinson's (2013) model as the theoretical basis of this study, the following sections explore these building blocks in turn.

2.3.2 *The Morphogenetic Approach*

Due to the foundation it provides for the EATA (Priestley, Biesta and Robinson, 2013) this section explores Archer's (1995, 1998, 2000) morphogenetic model. It explores its critical realist roots, its key premise of analytical dualism and the importance it ascribes to reflexivity. Archer's (1995, 1998, 2000) morphogenetic model follows a critical realist perspective as she sees that 'in addition to human discursive relations to reality, human beings also have practical and embodied relations to the world (Eteläpelto *et al.*, 2013, p.50). The morphogenetic model employs two general categories of social ontology, structure and culture, to help make sense of the nature of social reality (Archer, no date).

The morphogenetic model addresses the agency/structure 'problem' by positing that agency and structure are analytically separate. Such analytical dualism provides a methodological approach which facilitates attempts to specify the causal mechanisms of variations in agency (Archer, 2010a), proving helpful when trying to account for the structuring and restructuring of the social order (Archer, 2010b). It is suggested to overcome

perceived shortcomings of earlier centrist models, particularly structuration (Giddens, 1979) which employs an analytical duality wherein central conflation prevents any discernible distinction between conditions and actions, thus denying autonomy to each level (Archer, 2010a). The morphogenetic approach's (MA) key premise of analytical dualism is made possible by two reasons, both represented in Figure 1.

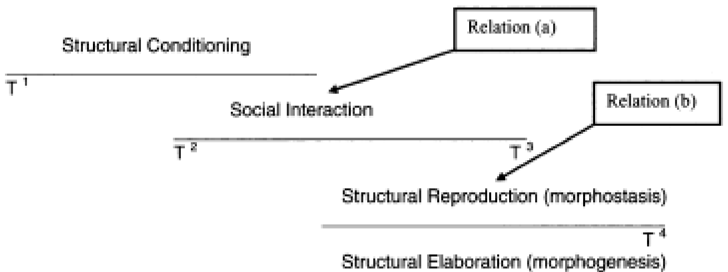

Figure 1: The basic morphogenetic sequence (Archer, 2010b, p.275)

Firstly, structure and agency are 'different kinds of emergent entities' (Archer, 2010b, p.275) as demonstrated by the differences in properties and powers. Despite this they presuppose each other as Bhaskar (1989, p.92) argues, structure and agency are 'existentially interdependent but essentially distinct. Society is both ever-present *condition* and continually reproduced *outcome* of human agency.' Second is the fundamental premise that 'structure and agency operate diachronically over different tracts of time' (Archer, 2010b, p.275) which ultimately results in morphostasis (structural reproduction) or morphogenesis (structural elaboration). Figure 2 develops Figure 1 to deepen the understanding that people always act out of structural and cultural circumstances, which their very actions then proceed to modify or sustain (Porpora, 2013).

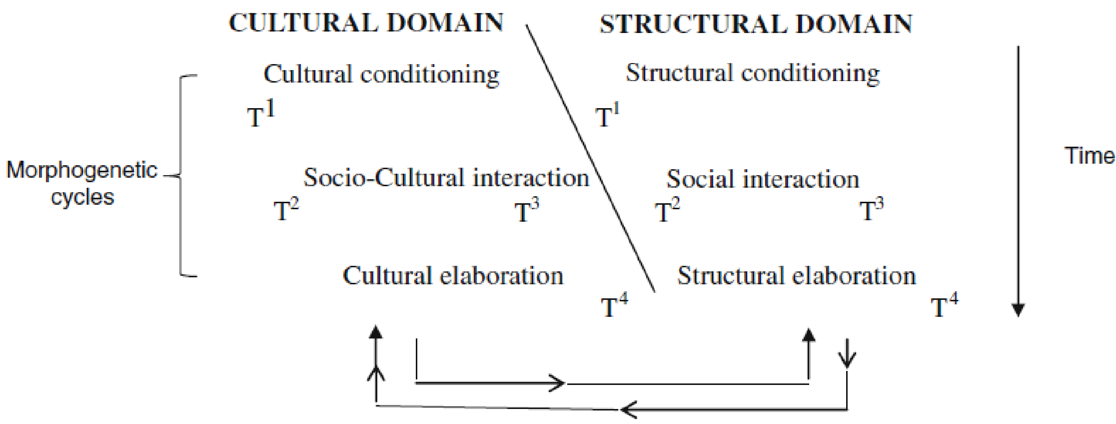

Figure 2: Morphogenesis and reflexivity (Archer, 2010b, p.284)

Figure 2 illustrates that structure necessarily predates transformative action, and structural elaboration necessarily follows such action. Essentially, the morphogenetic approach posits that 'social practice is ineluctably shaped by the unacknowledged conditions of action and generates unintended consequences which form the context of subsequent interaction' (Archer, 2010a, p.226). Furthermore, it allows for a nuanced effect of social acts on reproduction or transformation, rather than a standardised approach such as structuration which assumes 'all actors enjoy an equal measure of transformative freedom' (Priestley *et al*., 2012, p.196). In part this is due to the intrinsic mediation between structure and agency of the morphogenetic approach which situates people as reflexive and influenced, rather than determined, by society (Archer, 1995, 1998, 2000). Within the morphogenetic approach, individuals are understood as being embedded in and imbued by their socio-cultural contexts, and capable of transforming conditions rather than passive carriers of their contextual conditions (Eteläpelto *et al*., 2013). Indeed, it is suggested that 'courses of action are produced through the reflexive deliberations of agents who subjectively determine their practical projects in relation to their objective circumstances' (Archer, 2003, p.141).

Archer positions reflexivity as 'a genuinely *interior* phenomenon' (Scambler, 2012, p.147) exercised through 'internal conversations' (Archer, 2010b), which 'activate the causal powers of structures and allow individuals to project their actions based on the articulation between personal concerns and the conditions that make it possible to accomplish them' (Caetano, 2015, p.62). Such 'causal efficacy' (Scambler, 2012, p.147) can be explored by analysis of the interplay between subject and object as enabled by Archer's concept of analytical dualism (Caetano, 2015). As an emergent personal property, reflexivity 'mediates the impact that structures have on agents, it also conditions individual responses to particular social situations' (*ibid.,* p.62). Bourdieu sugguests that individuals' capacity for critical reflexivity varies (Swartz, 2002), whilst Archer (2003) posits that it is common to all, however its mode is dependent upon individuals' relations with their social context and main concerns. Her following typology categorises four types:

COMMUNICATIVE REFLEXIVES - those who need their internal conversations confirmed by others prior to action
META REFLEXIVES - those who critically evaluate their internal conversations prior to action
FRACTURED REFLEXIVES - those whose internal conversations intensify distress rather than lead to action

AUTONOMOUS REFLEXIVES- those whose self-contained internal conversations lead directly to social action

Whilst this typology may be helpful to explain differences in agentic behaviours despite consistency of structure, for example why teachers within the same school act differently, it raises two points. Firstly, Archer's work allocates dominant modes of reflexivity without acknowledging that the social context may invoke a change (Caetano, 2015) and such an inflexible approach may lack necessary nuance. Reid's (2014) concept of contractual agency may be helpful here due to its reflexive foundation and fluid nature. Contractual agency (Reid, 2014) conceptualises teachers' mediation of their context as influenced by their internal perceptions of capacity and duly notes that this may flex in accordance with varying contexts. Secondly, whilst the case of communicative reflexivity accounts for external conversations within specific social contexts, the other three modes of reflexivity 'lack interactional dynamics' (Caetano, 2015, p.67). This could be perceived to be limiting if it is considered external conversations should also be taken into account as within, for example, the model of relational agency which positions agency as 'a capacity to align one's thought and actions with those of others in order to interpret problems of practice and to respond to those' (Edwards, 2005, p.170). Such a perspective could be based upon dialogic theory which rejects the notion of an autonomous, self-sufficient subject and suggests self-understanding be built on the relationship between the self and the other (Xu, 2013). It is suggested that agency is a dialogic process (Emirbayer and Mische, 1998) and this is explored in the following section.

2.3.3 *Dialogism*

The reflexive interaction individuals have with their context within the morphogenetic approach positions meaning-making as not being limited to an internal, individual pursuit (Archer, 2010a). Indeed, Emirbayer and Mische (1998) suggest agency to be dialogic due to its integral positioning of the individual not as a bounded self but in conversation with others, and meaning as made through interactions and differences. Further, the potential within the morphogenetic approach to result in morphogenesis represents the dynamic potential of the dialogic position whereby agency is facilitated. Marková (2003, p.255) thus argues that a dialogic ontology is able to account for 'innovation, creativity and change' and such transformative aspects have particular significance to participation practices (Barrow, 2011), such as curriculum development.

The simultaneous inter-animation of more than one voice within dialogic processes (Wegerif, 2008) is particularly useful because it makes it possible to undertake a multi-layered exploration of dominant and non-dominant voices, namely for this study, the macro context of performativity in UK education, the meso level of academy chains guiding curriculum development, and the micro level of the individual teacher and their curriculum planning. Furthermore, temporal aspects and the importance of social relations within the context are central to the morphogenetic approach and dialogic processes involve multi-layered interactions between voices such as acts of speech reflecting previous and future experiences (Emirbayer and Mische, 1998) and the presence of another person or other people (Bakhtin, 1981). The temporality of agency is theorised by Emirbayer and Mische's (1998) chordal triad which is the focus of the following section.

2.3.4 *The Chordal Triad*

Due to the foundation it provides for the EATA (Priestley, Biesta and Robinson, 2013), this section explores Emirbayer and Mische's (1998) chordal triad of the iterational, practical-evaluative (PE) and projective dimensions which Eichner (2014) describes as habit, judgement and imagination respectively. The chordal triad underpins Emirbayer and Mische's (1998, p.970) definition of agency as 'the capacity of actors to critically shape their responses to problematic situations' based upon their 'temporally constructed engagement with different structural environments' (*ibid.,* p.970).

The iterational dimension frames how teachers might respond to dilemmas and choose to manoeuvre between repertoires. It comprises life/professional histories, professional and personal knowledge/skills/attitudes/values/beliefs and habit and expectation maintenance (Priestley, Biesta and Robinson, 2015). Intrinsic is an 'ongoing impact of professional habitus' *(ibid.,* p.129), indeed Bourdieu's concept of habitus positions actors as 'strategic improvisers who respond in terms of deeply ingrained past experiences to the opportunities and the constraints offered by present situations' (Swartz, 2002, p.62). Cementing this link between the iterational and PE dimensions is the suggestion that selective reactivation of past patterns of thought and action are 'routinely incorporated in practical activity' (Emirbayer and Mische, 1998, p.971). Despite Archer's (2010b) alternate viewpoint that suggests instead it is a reflexive process, it is often apparent that despite changed circumstances, existing behaviours prevail:

> 'if a bird has been in a cage for a decade and suddenly finds the door open, it should not be surprising if the bird does not wish to leave. The familiar is often more comfortable than the uncertainty of the unknown'
>
> (Eisner, 1992, p.167)

This makes apparent the importance of acknowledging that autonomy does not equate to agency (Priestley, Biesta and Robinson, 2015). Indeed, the PE dimension has a 'major influence on agency, powerfully shaping (and often distorting) decision making and action, offering both possibilities for agency and inhibiting it' (*ibid.,* p.33). The PE dimension is primarily concerned with judgements of risk, embodied by the day to day navigation of present contexts for action based upon practical and evaluative considerations. The manner of this is affected to some extent by the projective dimension as individuals 'actively author their futures' (Reeves and Forde, 2004, p.98) whereby their imagination becomes a driver to action. The projective dimension encompasses the visualisation of other futures and the development of aspirations which affect the achievement of agency (Emirbayer and Mische, 1998).

The literature exposes individual elements of the chordal triad which may support or hinder the achievement of agency. Further, tension within a dimension, such as a contrast between teachers' views about children's learning and statutory assessment requirements, is also positioned as a potential factor affecting the achievement of agency. However, it is the interplay between these dimensions which is principally important regarding the achievement of agency. For example, whilst teachers may have substantial capacity as a result of their iterational experiences, as well as strong educational aspirations which form their projective dimension, innovation within the PE dimension may be too problematic or risky to enact, rendering agency impossible (Priestley, Biesta and Robinson, 2015).

Further, there are clear links between the temporal dimensions as the iterational dimension is positioned as the genesis of a drive towards the future which makes a difference in the here and now (*ibid.*). Furthermore, each can have a defining impact on the others as today's PE contexts both helps define the projective dimension and constitutes the iterational domain of the future (*ibid.*). It is therefore important to consider the impact of current contexts on the years to come as those which inhibit agency today may also hinder the development of the sorts of experiences that enhance agency in the future. A potential outcome is a truncated development of future aspirations and expertise which cyclically affects achievement of agency within the PE dimension. For example, Priestley, Biesta and Robinson's (2015, p.145) research in Scotland concludes that a 'comparative lack of agency in the face of the new

curriculum could be clearly linked to past contextual practices'. Conversely, rich iterational experiences may equip people better to 'develop more expansive orientations towards the future' (*ibid.*, p.25) and thus projective aspirations which enable greater levels of agency (*ibid.*).

In conclusion, the temporal dimensions constitute analytical distinctions and all three, in varying degrees, will be found within any concrete empirical instance of action and it is this understanding which leads to the 'chordal triad' analogy of three dimensions which resonate, not always in harmony (Emirbayer and Mische, 1998).

2.3.5 *Ecological agency*

This section aims to introduce ecological agency (EA) and draw links to the previous sections by demonstrating how it builds upon Archer's morphogenetic approach and Emirbayer and Mische's (1998) chordal triad.

Biesta and Tedder's (2006) model of EA considers agency to be 'achieved' (p.15) when 'individuals are able to exert control over and give direction to the course of their lives' (p.9), always 'in transaction with environments or contexts (2006, p.16). It shares many features with Archer's morphogenetic approach and fundamentally, both models represent an emergent process of societal reproduction/transformation whereby agency is positioned as transactional and relational (Priestley *et al.,* 2012). EA is the necessary product of a focus on 'actors acting by-means-of-an-environment' (Biesta and Tedder, 2006, p.18) as opposed to simply in their environment, thus highlighting the importance of looking at individuals and what they are able or not able to do, alongside cultures, structures and relationships that shape the particular ecologies within which teachers work (Priestley, Biesta and Robinson, 2015). Within both the morphogenetic approach and EA, agency and structure presuppose each other whilst also being analytically separate, yet subject to an acceptance that neat separation is not always possible empirically (*ibid.*). Finally, Biesta and Tedder's (2006) concept of the ability to 'manoeuvre between repertoires' aligns with Archer's idea of reflexivity in that individuals are seen as influenced, but not determined, by society and able to make choices.

Alongside such theoretical commonalities lies the important fact that both EA and the morphogenetic approach constitute a methodological framework (Priestley *et al.*, 2012; Priestley, Biesta and Robinson, 2015). Due to the analytical dualism they employ, 'various components of each setting can be disentangled for the purpose of analysis' (Priestley *et al.*, 2012, p.198) thus enabling empirical inquiry into the ways in which teachers achieve agency

in their professional contexts (Priestley, Biesta and Robinson, 2015). This is explored further and discussed with reference to this study within the Methodology chapter.

Philosophically, one difference between EA and the morphogenetic approach is that EA builds on the pragmatist roots of Dewey, particularly transactional realism and symbolic interactionism, and is rooted in an action-theoretical approach, as opposed to the sociological approach of morphogenetic approach (Priestley, Biesta and Robinson, 2015). Common ground is found however as, regarding human action, pragmatism is an approach which holds that 'ends and means develop coterminously within contexts that are themselves ever changing and thus always subject to re-evaluation and reconstruction on the part of the reflective intelligence' (Emirbayer and Mische, 1998, p.967-8). In turn this is the basis for the morphogentic approach comprising of structural conditioning, reflexive social interaction and structural reproduction/elaboration (Archer, 2010b).

With regard to Embirmayer and Mische's (1998) work, the 'chordal triad' are central to EA and represent a departure from the morphogenetic approach. However, the model of EA also addresses issues identified within the chordal triad such as the perceived limitation to problematic situations only, rather than 'creating different futures just for the sake of it' (Biesta and Tedder, 2006, p.11). Further, EA's focus on actors-in-transaction-with-context negates the possible perception that Embirmayer and Mische (1998) promote an understanding whereby agency is understood as an individual's capacity.

Ultimately, EA is understood as 'the interplay of individual efforts, available resources and contextual and structural factors' (Biesta and Tedder, 2007, p.137). This therefore promotes the importance of the questions 'how is agency possible?' and 'how is agency achieved?' (Biesta and Tedder, 2007), requiring a shift away from the typical sociological perception of agency as a variable in social action to a view of it as an emergent phenomenon (Priestley *et al.,* 2015). This necessitates a focus upon the ecological conditions and personal capacities of primary academy teachers.

2.3.6 *The ecological approach to teacher agency*

This section aims to introduce the ecological approach to teacher agency (EATA) (Priestley, Biesta and Robinson, 2013) and position it as this research's theoretical framework. Links are drawn to previous sections through demonstrating how the EATA builds upon Archer's morphogenetic approach, Emirbayer and Mische's (1998) chordal triad and Biesta and Tedder's (2006) ecological agency. In brief, the EATA synthesizes these seminal theories with a particular slant towards teachers. Figure 3 clearly exemplifies how, through analytical separation, the interplay of individuals' capacities and ecological

conditions, across the temporal dimensions, is understood to lead to the achievement of agency:

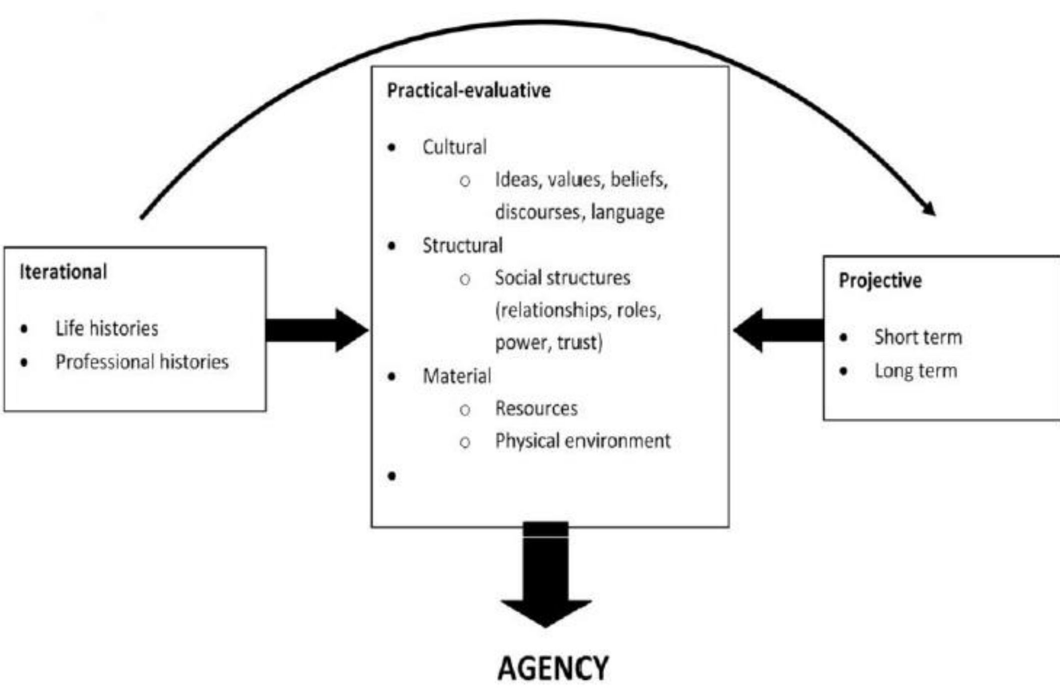

Figure 3: An ecological approach to teacher agency (Priestley, Biesta and Robinson, 2013, p.190)

The EATA (Priestley, Biesta and Robinson, 2013) builds upon a range of other theoretical work and the manner of this is now expounded. There is clear coherence between the EATA (Priestley, Biesta and Robinson, 2013) and Emirbayer and Mische's (1998) work as temporal dimensions provide the structure and similarly identify relationships and roles as structural elements present within the PE dimension. Biesta and Tedder's (2006) influence is also clear within the EATA (Priestley, Biesta and Robinson, 2013) as the idea of actors acting by means of their environment, rather than simply in it, is central. The intrinsic importance ascribed to both cultural and structural contextual conditions builds on Archer's (1998) morphogenetic approach (Figure 2) and their intertwined nature garners support from elsewhere too as Porpora (2013) suggests that acting upon structured interests is always done so in a way which is culturally informed. Furthermore, social structures have a significant effect on the percolation of cultural forms as relationships are the key conduit through which this occurs (Priestley, Biesta and Robinson, 2015). For example, particular roles and structures may be established as a result of particular ideas about learning, which the emergent power is then used to further (Priestley, Biesta and Robinson, 2012). Coherence also

emerges between other theorists and the EATA (Priestley, Biesta and Robinson, 2013) concerning the detail of the culture category as elsewhere culture is similarly summarised as ideas and skills (Archer, no date), individuals' value commitments and concerns (Porpora, 2013) and beliefs and discourses (Emirbayer and Mische, 1998).

As explicit within Priestley, Biesta and Robinson's (2013) EATA, it is not simply contextual features which affect teachers' achievement of agency, but their interplay with teachers' capacities. Such capacities refer to teachers' skills and knowledge, as well as their ability to make practical and normative judgements within the PE dimension, and their capacity to imagine different futures. Thus, the EATA is deemed a fitting theoretical framework for this study as it affords both teachers' capacities and environments influence on the achievement of agency. Essentially, the inherent analytical dualism of the EATA allows for the investigation of the 'causative influence of the capacity of individuals on a particular instance of agency, as well as the influence of contextual or ecological factors' (Priestley *et al*., 2012, p.198). Further, the EATA has previously been used as a methodological framework to guide analysis when exploring issues of teacher agency within the UK (Priestley, Biesta and Robinson, 2012; Priestley, Biesta and Robinson, 2013; Priestley, Biesta and Robinson, 2015).

This discussion of agency culminates in the refined research question which drives this study :

> How do primary academy teachers' personal capacities and ecological conditions interplay over three temporal dimensions to have a causative influence on their achievement of agency regarding curriculum development?

The next two sections of this chapter (2.4 and 2.5) are guided by the research question as they explore relevant literature. Section 2.4 considers the ecological conditions of teachers' professional lives and the impact they exert on their personal capacities, and ultimately, their achievement of agency. Section 2.5 focuses on teachers' personal capacities and how they affect their achievement of agency.

2.4 Ecological Factors

This section considers those factors which populate the iterational, PE and projective dimensions of the EATA (Priestley, Biesta and Robinson, 2013) (Figure 3) and duly exert an effect on the achievement of teacher agency. Firstly, the generic way in which these factors do so is addressed; they can affect teachers' cultural resources, including the way in which they

think, understand and talk about relevant situations and issues (Priestley, Biesta and Robinson, 2015). The sub-sections then address the macro level with the consideration of neo-liberalism (NL) and its effect on teachers and education more broadly, before moving on to meso-level professional learning experiences, and finally more localised ecologies at school-level.

2.4.1 *Tools for Thinking*

Teachers' tools for thinking emerge from sociocultural contexts (Moje and Wade, 1997) as 'individual voices are deeply penetrated by the culture of institutions, groups, and communities in which they participate' (Hermans, 2008, p.192). Indeed, Wertsch (1991) suggests that in utterances, the voices of groups and institutions are heard. This is supported by research that suggests 'many beliefs seem to echo current policies and trends' (Priestley, Biesta and Robinson, 2015, p.57), perhaps as a result of the 'internalization' of policy discourse (*ibid.,* p.57). Akkerman and Mejer (2011, p.314) suggest this can be quite significant as the elevation of others' voices to 'a more structural part of thinking and reasoning' means they may become 'part of who I am'. This is conceptualised within Hermans' (1996, 2008, 2013) dialogical self which assumes the existence of other individuals', and collective, voices within the self. The idea of 'voices in the landscape of the mind' (Hermans, 2013, p.83) results in a 'dynamic multiplicity of fairly autonomous I-positions' (Hermans, 2008, p.188) comprising the dialogical self as Hermans' (*ibid.*) other-as-self principle departs from the idea that it is centred around one core. It posits that the self is comprised of a number of internal I–positions (e.g. I as teacher) and external I–positions (e.g. my children). These positions do not operate in isolation instead flexibly interacting, thus demonstrating how the self interacts with the environment. The I-positions are dialogical in the sense that dialogue between them can result in one position being appropriated and one being rejected (*ibid.*). Alignment between personal and social internal positions within the self can lead to more productive outcomes than otherwise may be the case. The idea of the 'third position' however allows for a productive outcome from two conflicting positions as a new position is created (Hermans, 2013). This theory brings to the forefront the prominent discourses within teachers' environments which Reeves and Forde (2004) concur shape individuals' personal sense making. Attention is paid to such influences throughout the following sections as various elements of teachers' professional ecologies are considered.

2.4.2 *Neo-liberalism*

This section begins by considering the nature of neo-liberalism (NL) before discussing how it affects teachers' achievement of agency. NL has become hegemonic on a global scale (Robertson, 2007), indicating a paradigm shift (Ball, 2016, cited in Kneyber, 2016). Although there is opposition to the term NL due to suggestions that it is reductive and encompasses too many elements to coalesce into a single phenomonen (Hall, 2011), there is plenty of literature which acknowledges it as a conceptual identity with defining features. Within a NL approach, both social relations and economic concerns are affected in pursuit of marketization (Shamir, 2008; Ball, 2016, cited in Kneyber, 2016) and the inseperability of education and its societal context (Persell, 1979) means the education sector is affected. Indeed it is suggested that NL has transformed how teachers and learners think and act (Robertson, 2007).

At its core, NL builds on the foundations of its forerunner liberalism whereby 'supreme value is given to individual autonomy, agency and property', over-riding concern with 'collective and welfare' (Robertson, 2007, p.3). However, the necessity of state intervention required to ensure market functionality (Roberston, 2007) means governments remain instrumental within a NL approach (Campos-Martinez, Possel, and Inzunza, 2015; Visser, 2016), despite promoting such reforms as deregulation. This duality (Ball, 2012) is embodied by both financial (Evers and Kneyber, 2016) and regulatory (Robertson, 2007) state intervention which ensures the limits of a semi-market. In practice, NL sees devolution and competition come hand in hand with central prescription and performativity demands (Whitty, 2006).

One example of this dichotomy is juxtaposition of the flagship White Paper (DfE, 2010) with the review of KS2 assessment (Bew, 2011, p.9), commissioned within the same parliament. The former positions teachers as autonomous professionals of the utmost importance and the latter summarises that 'external school-level accountability is important'. Bew's (2011, p.9) admission that this may lead to 'frustrating pressure and an unnecessarily 'high stakes' system' does acknowledge the tension between competing policy agendas (Reeves, 2008; Priestley and Drew, 2016), albeit whilst perpetuating it. It is argued that such tensions make teacher agency difficult to achieve (Priestley, Biesta and Robinson, 2015), despite the argument that the combination aims to meld the best of top-down and bottom-up approaches to curriculum planning and development (Priestley, Biesta and Robinson, 2012).

This example illustrates how teachers are exposed to a range of 'voices' (Wertsch, 1991) throughout their working lives. Kelly (2009, p.48) asserts that 'we are creations of the

[…] discourse to which we are exposed' and this takes on greater significance when the dialogic nature of agency (Emirbayer and Mische, 1998) is considered. Indeed, it demands a focus on the dominant NL discourse, conceptualised as de-regulation and re-regulation, which is explored in the following two sections.

2.4.2a ***A neo-liberal de-regulation***

With its committment to individual autonomy (Robertson, 2007; Hall, 2011), one significant outcome of NL reforms is the shift from governmentality to governance (Au and Ferrare, 2015). This essentially replaces one model of authority with another through 'moving away from a legalistic, bureaucratic, centralized top-down configuration to a reflexive, self-regulatory and horizontal 'market-like' configuration' (Shamir, 2008, p.3). Through a range of deliberate strategies including deregulation, a government downgrades its status to on par with private forms of authority and by doing so, reinvents itself as a facilitator, rather than a regulator (Shamir, 2008) or an 'agent of capital' (Au and Ferrare, 2015, p.5). Consequently governance facilitates creative, flexible and efficient 'best practice' solutions that leave 'the greatest possible amount of control in the hands of those closest to the problems' (Lobel, 2004, p.362). As a result, responsibilization takes centre stage, superseding the previous centrality of obedience within top-down bureaucracies (Shamir, 2008). That is to say, social actors are relied upon to assume responsibility for their actions through acting as autonomous, self-determined and self-sustaining subjects (*ibid.*). However, it is suggested that governance simply represents a shift in power, and as such, still manifests as a constraint (Edwards, 2002).

Such principles are apparent within current times as it is argued that this is a period of increased autonomy for the primary sector (Basset *et al*., 2012), evidenced by the downgrading of the government's status (Shamir, 2008) and the corresponding increase in devolved responsibility inherent in the creation of academy status (Academies Act, 2010). Considered to be a form of privatisation (NUT, 2017), academy status is heralded by the government as a flagship structural reform designed to deliver professional autonomy (Gibb, 2014). Correspondingly, the current tendency in UK curriculum policy is to explicitly acknowledge the importance of teacher agency and its positive impact on the quality of education (Goodson, 2003; DfE, 2010; Priestley, 2011). This is evidenced by a diminished government presence in curriculum matters, achieved by a raft of measures. These include the disapplication of academies from the NC (Academies Act, 2010), the publishing of a slimmed down NC with significantly less content than previously (DfE, 2013a) and non-statutory

guidance (DfES, 2006), which had been ubiquitous in schools, waning with no new material being forthcoming and existing documentation being archived.

This shrinking of the state could be seen to create opportunities for new forms of power, authority or governance (Au and Ferrare, 2015), legitimising new participants to fill the vacuum, such as commercial publishers, and has been evidenced by the growth of academy chains (DfE, 2015b). However, it may also necessitate collaboration (Au and Ferrare, 2015), potentially generating relational resources for teachers to draw upon to support their achievement of agency (Priestley, Biesta and Robinson, 2015). Indeed, a principle of governance could be argued to provide space for teachers to achieve agency regarding curriculum development, but the warning that autonomy does not equate to agency *(*Priestley, Biesta and Robinson, 2015*)* is important to heed. The following sections explore reasons for this, by focusing on the intertwined elements of teachers' professionalism, their agency and ultimately, their curriculum development.

2.4.2b *A neo-liberal re-regulation*

This section considers those NL principles and practices which are considered a form of 'controlled de-control' (Du Gay, 1996), resulting in not de-regulation, but a powerful, less visible regulation. This is important as whilst contemporary governments state they are committed to devolved power (Scottish Executive, 2004; DfE, 2010), they simultaneously dictate required outputs (Neave, 1988) which suggests a reticence to truly relinquish control (Whitty, 2006). The juxtaposition of teachers' autonomy and external accountability is the critical site of the clash between two key tenets of the NL paradigm, which contradicts, and perhaps diminishes, the positive manner in which NL could support teachers' autonomy and agency. This paradox is the epitome of the free market and strong state dyad (Gamble, 1988).

The NL belief in market competition and the prioritisation of economy which gears education systems towards producing workers for a globally-competitive free market (Robertson, 2007) leads to widespread use of accountability structures (Furlong, 2005; Whitty, 2006; West, Mattei and Roberts 2011). Indeed, this is judged to be a performative era (Troman, 2008), with Ball (2003), drawing upon Lyotard (1984), to define performativity as

> '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.'
>
> (Ball, 2003, p.216)

Performativity is a technology of power (Ball, 2000) and its intrinsic surveillance takes on a number of forms, including the reporting of children's attainment data and a rigorous inspection regime, which is supported by the use of the aforementioned quantitative attainment data (Priestley *et al.,* 2012). It is suggested that England 'stands out above most in terms of the intensity of its testing and assessment regime and the influence of its inspection services' (Sheerman, 2008, p.xiii). Indeed, the will of the DfE to strengthen market competition is exemplified by a raft of recent initiatives including the setting of more challenging floor targets (DfE, 2014b) and an increase in statutory testing, including Key Stage 1 (KS1) phonics screening (DfE, 2012b) and Key Stage 2 (KS2) times tables tests from 2017 (Morgan, 2016). A shift from criterion-referenced assessment to normative analysis of KS1 and KS2 attainment data (DfE, 2015c) seems to disregard the potential that increased co-operation within and between schools has for promoting higher levels of academic attainment (Adnett and Davies, 2003). Further, an updated framework (OFSTED, 2016) strengthens the way in which OFSTED is a 'powerful lever on schools' behaviour' (ATL, 2007, p.2).

Publishing both assessment and inspection data in the public domain seems indicative of the government's belief that the spirit of competition is a driver of raised standards (Bew, 2011; Evers and Kneyber, 2016). The government's commitment to this is evidenced by figures showing that over 80% of children living in the UK attend schools which publicly publish achievement data, compared with an average of 45% for children living in member countries of the Organisation for Economic Co-operation and Development (OECD) (OECD, 2012). The DfE's NL belief in market competition is justified by a perceived need to 'give parents the vital information they need about how their school is performing, in a range of new and different ways' (Gove, 2011). Despite this argument, publishing data simultaneously enables government to 'scrutinise and direct providers' (Whitty, 2006, p.4) and through the manner in which it influences the priorities of parents, it reinforces the pressure on schools to achieve government-determined outcomes (Adnett and Davies, 2003).

In summary, it seems that there is no real escape from the reaches of the terrors of performativity (Lyotard, 1984) for any English school (Ball, 2012) and there are a number of ways in which these constraints and requirements of 'performance' have a powerful impact (Keddie, Mills and Pendergast, 2011; Keddie, 2013; Ball, 2016, cited in Kneyber, 2016). For example, severe sanctions can mean that an increasingly narrow and conservative measure of attainment (Keddie, 2013) is positioned as a proxy for a good education (Alexander, 2010a; Priestley, Biesta and Robinson, 2015). Indeed, schooling as performance has emerged as a new meta-narrative (Ball, 2012) which monopolises schools' focus (Keddie, 2013). More broadly, the impact on teachers' achievement of agency also seems to be fairly significant.

Firstly, OFSTED do not seem to support positive teacher agency as there exists a paradox whereby this 'independent and impartial' agency (OFSTED, no date) generates an 'unhealthy culture of fear' within schools (VOICE, 2015, no page) by contributing towards the 'lived experiences of teachers who feel constrained by the output regulation' (Leat, Livingston and Priestley, 2013, p.235). Secondly, relationships are a suggested to be a key resource within the PE dimension to support teachers' achievement of agency (Priestley *et al*., 2015), yet the blend of 'co-opetition' (Adnett and Davies, 2003), which holds potential for raising standards, is negated as participative or network accountabilities that involve collaboration with others lack priority (West, Mattei and Roberts, 2011). Thirdly, in terms of curriculum, the framework for school inspection (OFSTED, 2016) focuses largely on breadth and balance, and children's access to it and progress across it. The implicit message could be perceived that the nature and planning of curriculum is of secondary importance. Indeed, it is clear to see how the tendency to evaluate schools and teachers at the expense of curriculum development minimises the professional role of teachers and their related curriculum expertise (Young, 2014). Fourthly, fear around a potential negative impact on test results can lead to an embedded resistance to curriculum innovation (OFSTED, 2008; Priestley, Biesta and Robinson, 2012; ATL, 2013); it represents a risk for both teachers and schools in terms of how they are judged against external criteria (Wood and Hedges, 2016). Indeed, the contemporary high-stakes testing is suggested to be a 'New Taylorism' (Au, 2011a); a scientific management approach which builds on factory line principles whereby managers' analysis of data identifies the most productive processes for workers to execute (Noble, 1977). Through such methods the government achieves its aims (Ball, 2012) and at the meso-level, school accountability processes employ this model as top-down control encourages desired behaviours (Moe, 2003). Doing so transfers power from the classroom teacher to the controlling bureaucracy level (McNeil 2000; Au 2009) and is an example of devolution and decentralization reforms which lead to teachers being positioned at the bottom of a long line of authority due to their accountability against measurable outcomes (Sachs, 2003). It leads to the alienation of teachers and students from their own creativity and intellectual curiosity (Au, 2009) and perfectly exemplifies the critical element of technical control by 'separating conception from execution' (Apple and Jungck, 1990, p.229). Thus, the 'mechanics of performativity' leads to 'ontological insecurity' whereby teachers are uncertain as to whether they are 'doing the right thing' and rely solely on performance indicators to know whether they are doing well (Ball, 2003). Indeed, the 'predominance of dataveillance is such that it can be argued to have led to the 'creeping demise of professionalism and the subsequent

proletarianisation of teachers' (Wood, 2014, p.225) whereby they are no longer required to have a rationale for practice, but simply produce a measurable performance (Ball, 2003).

However, it may be the case that such a situation provides some impetus for agency concerning curriculum development. Firstly, there is evidence to suggest that curriculum development work contributes towards raising standards as typically measured by Statutory Assessment Tests (SATs) results (OFSTED, 2008; Brundrett and Duncan, 2010), as well as other agenda of which schools need to be mindful, for example the drive for individualisation (DCSF, 2008a). In this sense, teachers' need to achieve may invoke them to engage with curriculum development. Secondly, in striving for acknowledgement from outsiders against their professional judgement, teachers may achieve agency by acting in discord with their views on education, indicative of the acknowledgement that not all agency is 'good' agency (Priestley, Biesta and Robinson, 2015). Thirdly, Ben-David and Collin (1966, cited in Basica *et al*., 2014, p.233) identify certain situations that mean 'teachers' limited status in the educational hierarchy actually compels them to take on curriculum innovation' in order to carve out a new intellectual identity.

Whilst these arguments may identify some positive relationship between performativity measures and teacher agency, in general, there seems to be support for the assertion that stringent output regulation has resulted in low capacity for agency in terms of curriculum development within modern educational systems (Biesta, 2004; Alexander, 2010a; Priestley, 2011), resulting in largely invisible curriculum innovation (Bascia *et al*., 2014:). However, Evers and Kneyber (2016, p.7) suggest that this may be a convenient rationale for teachers who use 'government pressures and regulations as a sort of 'safety blanket' to justify their lack of professional-ethical behaviour'. Similarly, but perhaps less stringently, Alexander (2010a, p.255) suggests that

> 'it is all too easy for professionals to blame government and national agencies for problems which, partly or even wholly, may have their roots in professional understanding, expertise and resourcefulness, not to mention school leadership'.

Nevertheless, the case is simultaneously made for less central prescription and micro-management (Alexander, 2010a) which tallies with a more widespread opinion that 'accountability systems will need to be subject to adjustment in order to encourage innovation' (Brundrett and Duncan, 2010, p.5). This is particularly important concerning curriculum which is inseperable from assessment (Alexander, 2010a), as in their current format accountability systems represent a systematic effort to extend central control over

schooling to the detriment of school-based curriculum development and its underpinning theory (Stenhouse, 1975; Clandinin and Connelly, 1992; Kelly, 2009).

In general, the situation suggests a controlled de-control (Du Gay, 1996) whereby a shift has re-regulated the system to result in a less visible regulation (Ball, 2003). The DfE's (2010, p.40) admission that the NC is 'weighing teachers down and squeezing out room for innovation, creativity, deep learning and intellectual exploration' seems to be a smokescreen as no action is forthcoming to minimise the truly limiting effects of other DfE mechanisms in place. Indeed, it may be the case that NL serves simply to 'advance conservative politics rather than as part of a process of democratization in education' (Au, 2011a, p.40).

2.4.3 ***Professional learning***

This section considers the nature of teachers' professional learning experiences and the impact they have on teachers' achievement of agency, particularly concerning curriculum development. Firstly, the period experienced prior to being a qualified teacher is explored, followed by the more general continuing professional development (CPD) which teachers may undertake throughout their career.

2.4.3a ***Pre-service period***

This section explores the nature of the pre-service period in current and recent times and considers how it may exert an impact on teacher agency. It is important as broadly, the pre-service period is part of the iterational dimension which informs teachers' achievement of agency (Priestley, Biesta and Robinson, 2013). More specifically it is the key influence upon novice teachers who tend to conform to whatever rules and procedures they are instructed to follow (Berliner, 2004). This section considers both the Teaching Standards (the Standards) (DfE, 2011a) and routes to qualified teacher status (QTS) in terms of their potential impact on teachers' achievement of agency.

It is important firstly to clarify the terminology as current usage is mixed; initial teacher training (ITT) is used within a range of documentation (DfE, 2010; NCTL, 2016), but so too is initial teacher education (ITE) (ACME, 2015; OFSTED, 2015). Indeed, the recent review of this pre-qualification period acknowledges this lack of consistency, clarifying that its particular use of ITT is due to its inclusion in its Terms of Reference (Carter, 2015). It could be argued that such a justification simplifies and disregards the contrasting implicit messages of the two terms. Training evokes visions of adhering to set criteria, whilst educating is of a wholly different nature, and due to this ITE will be used forthwith. It is

perhaps indicative of the true nature of the DfE's intentions that they subscribe to ITT as the acronym for the process by which students learn to become teachers (DfE, 2010), supporting the claim that teacher education is 'cloaked in state-mandated standardisation' (Edwards and Blake, 2007, p.34). This is exemplified by the process in which QTS is awarded following the attainment of a minimum standard of practice covering a range of skills, knowledge and understanding as set out in the Standards (DfE, 2011a). The nature of the Standards is discussed forthwith, but their very existence is considered first.

Alexander (2010a, p.415) suggests that the Standards constitute 'a framework for codifying not levels of development, but degrees of compliance'. Representative of a technical-rationalist approach, they suggest the purpose of teacher education to be 'the delivery of fixed competencies, skills and knowledge which teachers as 'operatives' then apply' (Edwards and Blake, 2007, p.37). Further, the Standards are suggested to be characteristic of regulatory discourses which encourage conservatism, privileging existing configurations of power and knowledge (*ibid.*). For new teachers particularly, the Standards absolve them of responsibilities for judgments, encouraging a dependence and inflexibility (*ibid.*) which is suggested to 'stimulate potential teachers to meet paper requirements rather than to gain understanding' (Valentine, 1938, p.222).Valentine's (1938, p.223) critique from nearly 80 years ago that such a system is 'calculated to damp out the initiative and dull the mind to acceptance' seems fitting in 2017, despite the argument that the Standards may be useful as 'many novices need rules and a bounded repertoire' (Alexander, 2010a, p.430).

It is important to note that the impact of the Standards reaches beyond ITE as they are the 'framework within which all teachers should operate from the point of initial qualification' (DfE, 2011a). This, suggests Alexander (2010a), demands that throughout their careers, teachers are expected to remain subservient to 'approved versions of what good teaching entails' (Alexander, 2010a, p.430). Indeed, the DfE (2016a, p.33) states that 'decisions about teachers' proficiency will continue to be made on the basis of the Teachers' Standards which clearly set out what good teaching looks like' which is problematic as they need to be free 'to operate autonomously, creatively and instinctively' (Alexander, 2010a, p.430). Whilst there is an emphasis on a reflective practitioner movement for beginning teachers (Pollard *et al.*, 2008) whereby student teachers are encouraged to construct their own pedagogical expertise, a tension becomes apparent as this is done with the assumption that 'effectiveness' is measured only in terms of performance in league-tables and NC indicators (Edwards and Blake, 2007). Essentially, there is a danger that reflective teaching sits within a technical-rationalist, positivist paradigm from which, ironically, it claims to offer emancipation (*ibid.*). The principles of performativity thus impact before teachers even join

the profession, meaning that their previously discussed consequences are felt even prior to qualification.

Ultimately, the Standards could be suggested to postulate that there is a right way and a wrong way to teach, fulfilling ‘a need for steadfast safety mechanisms in a precarious world’ as teachers strive to eliminate risk and evade failure (Edwards and Blake, 2007, p.44). As achieving agency in the PE dimension is reliant upon judgements of risk, it is clear how the Standards could be seen to constrain teachers’ potential achievement of agency. Overall, the Standards are suggested to position teachers as technicians rather than professionals, diminishing teacher autonomy and creativity (Whitty, 2006).

Attention now focuses on the content of the Standards. As they are used as the criteria against which a student is judged at the end of their ITE, it can be presumed that they demonstrate the DfE’s priorities for beginning teachers’ practice. The Standards’ short preamble references teachers’ accountability (DfE, 2011a), suggesting support for the previously discussed current preoccupation with the responsibility and culpability of teachers. However, other key DfE policies are not as robustly supported as following scrutiny for reference to issues of professional autonomy and agency, specifically regarding curriculum development, the Standards (DfE, 2011a) appear to be lacking. This is in contrast to the Professional Standards for Scottish teachers (GTC Scotland, 2012) which stipulate that teachers are expected to develop deep, critically informed knowledge and understanding of curriculum through enquiry as part of their career-long professional learning. Indeed, significant professional actions are identified as leading and innovating with regard to curriculum development. Essentially, within Scotland teachers are explicitly defined as professional developers of the curriculum (Priestley, Minty and Eager, 2014) and despite this typifying an emerging tendency for English schools’ curriculum policy (Academies Act, 2010; DfE, 2010a), there are no comparable statements within the English Standards (Twiselton, 2007). The only relevant reference that teachers should contribute to the design and provision of an engaging curriculum is within the Standards’ non-statutory guidance. Instead, the Standards (DfE, 2011a) delineate curriculum knowledge as planning for progression and knowledge of subjects to be taught only (Alexander, 2010a), indicating the extent to which the conceptualisation that teaching is divorced from curriculum development has manifested. It is apparent within the profession itself as Alexander (2010a) notes that the Cambridge Primary Review witnesses did not highlight matters relating to curriculum. It is also clearly indicated within an opening statement of the influential Carter Review of ITT when in the foreword Sir Andrew Carter (2015, p.3) writes ‘no matter how well organised or detailed the curriculum […] what really matters most in a child’s education is the quality of

the teaching.' In summary then, it could be suggested that the Standards (DfE, 2011a) stymie teachers' professional agency regarding curriculum development due to a failure to promote it as a key competency.

On a more positive note, within England the standards pertaining to Headteachers' performance contain at least two relevant statements. Firstly, Domain 2 refers specifically to curriculum when it identifies the ability to 'secure excellent teaching through an analytical understanding of […] curriculum design, leading to rich curriculum opportunities and pupils' well-being' (DfE, 2015a, p.6) as a key criterion. Secondly, Domain 4 requires Heads to 'challenge educational orthodoxies in the best interests of achieving excellence, harnessing the findings of well evidenced research to frame self-regulating and self-improving schools' (*ibid.*, p.7) which appears to facilitate the achievement of teacher agency. It is encouraging that some documentation could support the achievement of Headteachers' agency regarding curriculum development, although if necessary skills are not nurtured from the early career stage then it is potentially questionable as to how effective they will be when required within a headship role. Indeed, the achievement of agency is affected by teachers' past experiences (Priestley, Biesta and Robinson, 2015).

Despite the Standards (DfE, 2011a) remaining unchanged since 2011, in recent times there has been turbulence and instability within the ITE sector due to the introduction of new routes to QTS (Taylor, 2014) and it is to this that the focus now turns. New routes build on existing programmes such as School-centred Initial Teacher Training (SCITT) and Teach First, which was launched in 2002 (Teach First, no date). They embody the government's clearly stated commitment to 'continue to move to an increasingly school-led ITT system' (DfE, 2016a, p.28) and currently account for over half of trainee teachers (*ibid.*). This large proportion is due in part to the way the DfE exercises its power regarding allocations for ITE places. Those 'highest performing providers' (NCTL, 2016, p.7) are prioritised within the allocations process as, for example, they receive multi-year allocations which affords them greater security within the recruitment market. It is here where the impact of accountability measures permeates ITE too as performance is judged across a range of criteria, including providers' OFSTED grading (NCTL, 2016), intrinsic to which is students' attainment against the Standards (OFSTED, 2015).

One of the new school-based ITE programmes is the high profile School Direct (SD) (DfE, 2013a) which is employed within this section to represent the portfolio of similar routes. The DfE positions SD as one tool in the quest to improve teacher quality (Gove, 2010a), although the growing consensus amongst the education community suggests instead it

embodies a long-held government objective to remove ITE from the influence of higher education (HE) (Edwards, 2001; Ball, 2010; Hayes, 2011) and as such, power relations emerge as a key consideration. Whilst SD is officially an ITE partnership between schools and higher education institutions (HEIs), the increase in schools' responsibility, leadership and subsequent impact is a critical feature (Northcott, 2011; DfE, 2013a). Indeed, the embedding of students within schools, as is the premise of SD, appears to support the DfE's perception of teaching as a 'craft' best learnt through an apprentice model (Gove, 2010a). It evokes a sitting-with-Nellie approach (Noble Rogers, 2011) whereby trainee teachers simply mirror observed practice and engage with local discourse communities. Such practice is suggested to be void of prefacing activity with thought which is far preferable, whilst simultaneously disregarding the idea that 'activity is chiefly valuable intellectually as commotion analyzed in retrospect' (Valentine, 1938, p.222). Further, it prevents acess to the more general and powerful discourse communities to be found within HEIs (Edwards, 2001) as the rise in schools' influence correlates with the diminishment of elements of ITE programmes currently attributed to HEIs, such as the development of critical analysis and reflection, and professional reason and argument. This claim is supported by the reduction of the Post-Graduate Certificate of Education (PGCE), the academic element of ITE, to optional status within SD.

Essentially, it is suggested that SD could result in a weakening of teachers' abilities to challenge, (action) research, reflect, consider, evaluate, theorise, question and problem solve (Edwards, 2001; Hayes, 2011), contributing to deprofessionalisation, perhaps to such a degree that teachers are simply docile bodies awaiting instruction. Further, it is suggested that efforts to control the teaching cohort have been focussed on targeting trainees (Furlong, 2005), yet the ensuing deprofessionalised cohort of teachers will be impotent in the face of post-ITE mechanisms demanding compliance with government initiatives. The OFSTED framework (OFSTED, 2015) could be suggested as such a mechanism and links can be drawn to the issue of teachers working contrary to their professional beliefs as discussed earlier. The autonomy to make professional judgements may suffer erosion (Hayes, 2011) which, as an example of regulation and control of human thought and behaviour, a Foucauldian analysis may identify as biopower (Smart, 1988; Foucault, 1991a; Foucault, 1991b; Rabinow, 1991; Danaker, Schirato and Webb, 2002) being exercised by the DfE over trainee teachers. The range of this is far-reaching as the DfE (2016e) stipulate the identification of a colleague to work as a newly qualified teacher's (NQT) mentor. Indeed, in recognition of how helpful NQTs find this, a new standard for ITT mentors is being developed (DfE, 2016a). No great leap is required to envisage the types of mentoring typically emanating from teachers who

themselves are products of ITE as described. It may seem likely that more experienced colleagues would be appointed in the mentor role, but considering the high rate at which teachers leave the profession (Wilshaw, 2012), this cannot be guaranteed.

The impact of this discussion is predicted to be far-reaching as the influence of schools on ITE is set to grow as the HEI influence is set to shrink. Firstly, the stipulation of spending 120 days in schools within non-school-based routes (DfE, 2017b) represents both an increase and a significant proportion of the programme. Secondly, school-based routes seem destined to proliferate with the DfE (2016a, p.29) stating that 'we know that when teachers have extensive ITT in schools, they perform better.' Thirdly, despite fierce opposition resting upon accusations of falling educational standards (NASUWT, nd; NUT, nd), forthcoming changes to QTS, in their nascent state, seem to entirely place teachers' accreditation in the hands of schools (DfE, 2016a). Additionally, those for whom the ITE process is non-existent, such as individuals without QTS who are permitted to be employed as teachers in schools with academy status (DfE, 2012a), the impact may be considerably amplified.

In conclusion, it is clear to see how contemporary ITE could constrain teachers' achievement of agency across all three temporal dimensions (Emirbayer and Mische, 1998). Firstly, through affecting the key element of making judgements of risk which are central to the achievement of agency within the PE dimension (Priestley, Biesta and Robinson, 2015). In this way ITE could be seen as a socialization into a profession within which autonomous professional judgments are encroached upon by official prescription (Whitty, 2006). Secondly, by providing narrow experiences which fail to bloom into a resource upon which teachers can draw, it adversely affects the iterational dimension of agency (Priestley, Biesta and Robinson, 2015). Thirdly, through failing to support teachers' development of educationally sound aims, for either themselves as curriculum developers or children as unique learners, ITE works to inhibit the projective dimension of teacher agency (Priestley, Biesta and Robinson, 2015). Indeed, the concluding word could be that ITE should give greater attention to 'developing expertise in all aspects of the curriculum to be taught, and understanding the wider discourse of curriculum, knowledge and skill' (Alexander, 2010a, p.506).

2.4.3b *Continuing Professional Development*

The section aims to briefly consider the nature of teachers' CPD and its impact regarding teacher agency. Powerful CPD helps teachers thrive; it should be a right of all teachers (Teacher Development Trust (TDT), 2015) and is an important indicator of a high-

quality education system (DfE, 2010). CPD can constitute a significant professional event which gives contrasting experiences and generates knowledge and skills which support teachers to 'exercise their agency and utilise their professional autonomy' (Carse, 2013, p.320). In recent times, CPD has been high-profile due to the belief that the ‘single most important factor in delivering our aspirations for children is a world class workforce’ (DSCF, 2008b, p.10). Such a belief narrowed the aim to improving the quality and capacity of teachers, evidenced by funding to support teachers’ engagement with CPD (DSCF, 2008b; DfE, 2010; DfE, 2016f). In the early years of the 21st century, this was largely geared towards the drive to make teaching a Masters level profession (DCSF, 2008b). However, the attention paid to teachers neglects the importance of their ecologies on practice which the EATA (Priestley, Biesta and Robinson, 2013) posits is critical, as illustrated in Figure 3. Nevertheless, it is clear that individual teacher capacity is important regarding their achievement of agency (Priestley, Biesta and Robinson, 2013) and still this has been undermined by a shift towards CPD opportunities which are ‘largely focused on the needs of the school and its pupils rather than the individual teacher’ (Whitty, 2006, p.8). This is shown by the manner in which the DfE directs CPD, for example towards particular maths pedagogies (DfE, 2016f) and with the development of a new Standard for Teachers’ Professional Development (DfE, 2010).

Neo-liberal reforms have widened the choice of CPD providers as local education authorities, who had previously enjoyed their role as ‘principal external agents of locally-based, day-to-day school improvement’ (Rogers, 2013, p.6), are now challenged within a marketplace. However, there is a dearth of engagement with divergent, innovative CPD, due perhaps in part to reduced funding (Institute for Fiscal Studies, 2015) and the technology of performativity (Ball, 2003) which encourages convergence and efficiencies. This is particularly limiting as ‘if educational systems are serious about change they have to allow some licence for experimentation and to create scope for ‘border practices’ (Leat, Thomas and Reid, 2012, p.408). For curriculum development specifically, this is exemplified by a Scottish 'critical collaborative professional enquiry' (CCPE) course which specifically aims to ‘enhance teacher agency and ultimately lead to more meaningful curriculum development in schools' (Priestley and Drew, 2016, p.10). Its three inter-related structural elements, consisting of dialogic processes, taking action and engaging in reflection, aim to interrupt habitual ways of thinking and act as a powerful change lever (*ibid.*). Such outcomes are suggested to be particularly important as if teachers are to be change agents, opportunities for them to consider the change process and their role should be incorporated into CPD (Carse, 2015). Ultimately, this could contribute towards addressing the desperate need for critically engaged

teachers who can develop the curriculum in constructive ways, leading to better student outcomes (Priestley, 2015).

2.4.4 *School-level factors*

This section considers how at the meso-level, schools can affect the achievement of teacher agency through their structural and cultural frameworks. The particular focus is on relationships as a key factor of the PE dimension of teacher agency (Priestley, Biesta and Robinson, 2013), considering how relationships amongst staff members can affect teachers' achievement of agency, particularly concerning curriculum development. This section considers leadership as indicative of hierarchical relationships, and more horizontal relationships which exist independently of formal positions.

Headteachers are integral to curriculum development (Male, 2012; Priestley, Minty and Eager, 2014) and never more so than in the current era where there are opportunities to capitalise on the government's clear intention to shift power to the front line (DfE, 2010). Heads will need to play a significant role if such rhetoric is to affect practice, leading with 'dynanism and independence of spirit which give their staff the necessary confidence to break free of the culture of dependence and compliance' (Alexander, 2010a, p.225). Good curriculum leadership which develops a shared vision (Young, 2014) can be achieved through the implementation of distributed leadership (DLS); a model which can broadly be summarised as creating opportunities and networks so that all are able to productively contribute, and have access to leadership, regardless of their formal position within the staff hierarchy (Leverett, 2002). DLS exemplifies the belief that 'the power of one is giving way to belief in the power of everyone' (Southworth, 2009, p.94), perhaps supporting 'relational agency' (Edwards, 2005, p.172) which accesses the resources that others bring to bear as they all work on a central objective.

DLS could be termed the prominent model in English primary schools (Hammersley-Fletcher and Strain, 2011; Earley *et al*., 2012) as it has developed in status over the last ten years in British educational leadership (Harris and Spillane, 2008; Gronn, 2010; Grint, 2011) and is deemed particularly pertinent for new models of schooling, including academy chains (Chapman *et al*., 2010). The reasons affecting headteachers' enactment of DLS are discussed firstly, before the impact of DLS on teachers' achievement of agency is considered.

Concerning the implementation of DLS, the technology of performativity (Ball, 2003) is a key influence as headteachers are under relentless pressure (Hobby, 2013, cited in Richardson, 2013) from the 'increasingly pervasive preoccupation with accountability'

(Hammersley-Fletcher and Strain, 2011, p.871). It can manifest in Headteachers evading DLS as the fundamental personal responsibility felt makes it difficult for them to 'let go' of their control (Southworth, 2009, p.1) as they consider DLS as synonymous with abdicating responsibility (*ibid.*), rather than a strategy for school improvement (NCSL, 2011). Such a belief may be particularly influential in schools that have historically operated within a heroic leadership model (Parker, 2014). Conversely, as it is unsustainable for headteachers to assume sole responsibility for their school's leadership and management and instead, schools must develop leadership capacity among the wider school staff (Earley *et al*., 2012), accountabilitiy pressures may be a catalyst for a model of DLS.

The focus now shifts to the manner in which DLS can affect teachers' achievement of agency. The general suggestion that 'teacher-driven curriculum innovation is a highly social activity' (Bascia *et al*., 2014, p.233) and if done successfully, is reliant on a whole-school approach underpinned by effective communication (Edwards, 2005; OFSTED, 2008; Brundrett and Duncan, 2010) indicates DLS to be a germane model. Indeed, there is some evidence to suggest that DLS can be used by headteachers to support curriculum innovation (Priestley, Minty and Eager, 2014). As such, it constitutes one example of a social structure that could be 'propitious to the realisation of cultural alternatives to existing practice' (*ibid.,* p.207). Specifically, DLS can support agency regarding curriculum innovation as it effects systems to support curriculum change, for example, creating an environment which gives staff space, supports their creativity and permits mistakes, balanced with robust monitoring and communication systems (Matthews *et al*., 2014). Further, the intrinsic shared responsibilities of DLS encourage reciprocity between colleagues (Hammersley-Fletcher and Strain, 2011), and collaboration across schools for curriculum development is considered advantageous (Coburn and Russell 2008; Brundrett and Duncan, 2010). Indeed, productive relationships can enable staff to 'engage dialogically with and make sense of new policy' (Priestley, Biesta and Robinson, 2015b, p.33) which is particularly the case of horizontal, reciprocal, substantive working relationships (Priestley, Minty and Eager, 2014). This is important as professional agency can manifest as individual-level action, or else as practiced within and emerging from a collective enterprise (Stevenson and Gilliland, 2016). In the latter case, it can involve participation and collaboration within the work community (Eteläpelto and Lahti, 2008).

However, given that there is an issue of curriculum capacity with primary schools (Alexander, 2010a) it is perhaps the case that DLS, which implies a dispersed power network reliant upon a widespread depth of teacher knowledge and expertise, is inappropriate (Parker, 2014). For example, through 'commercial schemes of work forming the basis of curriculum planning, without thorough critique' (*ibid.,* p.3), DLS may allow scope for external agencies

to impact on schools without robust filtering (Hammersley-Fletcher and Strain, 2011). Further, it may be the case that DLS adversely affects curriculum development work due to a dearth of guidance from an expert, knowledgeable, confident leader (Parker, 2014).

Ultimately, the picture regarding DLS is mixed but what is clear is that headteachers can exert a real influence over the achievement of teachers' agency regarding curriculum development. They may have a predisposition to focus on compliance regarding the curriculum (Male, 2012) due to a perceived expectation that they align their vision with centralised expectations, resulting in any visionary rhetoric being supplanted by a prosaic reality (Hoyle and Wallace, 2005). However, it may be that this sits in tension with the view that curriculum renewal and innovation is central to their professional identity as a Headteacher, so welcome the commitment to a looser central control over the curriculum as a whole and the integral freedom to innovate (Brundrett and Duncan, 2010). Either way, it is argued that leaders have a responsibility to act as boundary filters regarding the relentless pressure upon teachers (Hobby, 2013, quoted in Richardson, 2013) and provide a context whereby it is possible to 'unleash the power of the curriculum by enabling teachers to be curriculum designers who create learning experiences that excite and engage the children' (Male, 2012, p.3).

2.4.5 *Conclusion*

The ecological conditions within which teachers work can be conceptualised as three interrelated policy technologies of the market, managerialism and performativity (Ball, 2003). Within these, there are clear-cut opportunities for teacher agency. However, there is also scope to further 'encourage innovation, strengthen commitment and empower schools themselves' (Alexander, 2010a, p.200). One example of this, suggested by the CPR, is the replacement of the NC with a 'broad statutory framework of aims and principles (decided by the government)' (*ibid.,* p.200) which leaves the fleshing out to be determined at school level. It seems as if change is required as currently, teachers' perceptions of their environment lead them to perceive agency as unobtainable, perhaps undesirable, and maybe even irrelevant. This means they find it difficult to fulfil any potential which raises the important of personal capacity regarding the achievement of agency. This is the focus of the next section.

2.5 Personal Capacities

This section considers the personal capacities of teachers which are important as it is their interplay with ecological conditions which affects the achievement of agency within the EATA (Priestley, Biesta and Robinson, 2013) which underpins this study. A focus on personal capacities acknowledges teachers' reflexivity (Archer, 2007) and the manner in which it 'allows people to make themselves' (Collins *et al*., 2015, p.381).

Personal capacity explains to a large degree the way in which teachers enact professional agency (van der Heijden *et al*., 2015), not least because acting as a change agent requires a personal vision (Fullan, 2003). It is suggested that general characteristics of agentic teachers include a receptiveness to lifelong learning, mastery, entrepreneurship and collaboration (van der Heijden *et al*., 2015). Regarding agency as curriculum makers specifically, it is suggested that teachers require positive attitudes, flexibility, evolutionary thinking, discretion and goal identification (Catling, 2013). Fullan (1993) distils capacities to personal vision-building, inquiry, mastery and collaboration and suggests that possessing change agentry skills is particularly important in the face of an education system which, from its training of teaching to its political decision makers, means sustaining the status quo is the most likely outcome (*ibid.*). This section begins with the consideration of teacher beliefs, before moving on to teachers' knowledge base.

2.5.1 *Beliefs*

'Beliefs form an important dimension of teacher agency' (Priestley, Biesta and Robinson, 2015, p.42) and whilst their formation often resides in the iterational dimension, they function within the PE dimension by affecting the ability to manoeuvre between repertoires (*ibid.*). Essentially, as 'a precondition of thought, of reason' (Edwards and Blake, 2007, p.40), beliefs influence the risk judgements that characterise the PE dimension (Priestley, Biesta and Robinson, 2015). They are also influential in terms of the projective dimension, contributing towards the formation of aspirations which affect a range of concerns from subject identity to teacher motivation (*ibid.*) and the mediation of policy (Osborn *et al*., 1997).

There is a shortage of research regarding whether teacher beliefs are fixed or mutable (Meirink *et al*. 2009), yet it is suggested that reflexivity about beliefs is an important aspect of teacher agency because self-awareness may lead to adaptation and development (van der Schaaf, Stokking, and Verloop, 2008; Miller, 2011). Kincheloe's (2003) notion of critical

ontology for teachers demands a focus on their belief systems and world views in order to connect to the world around them. The importance of this is heightened when it is considered that the influence of contextual factors means that beliefs and practices do not necessarily correspond (Olafson, Schraw and Vander Velt, 2010; Nishino, 2012; Rubie-Davies, Flint and McDonald, 2012). Indeed, it is suggested that the current preoccupation with output means that beliefs are resigned to an 'older, increasingly displaced discourse' (Ball, 2003, p.223). However, such perceived misalignment between belief and practice could be explained by a transitional phase of development which seeks to mediate between the influence of the context and the envisioning of ideal practice (Day and Hadfield, 1996). There is also research to suggest that older teachers specifically recognise that commitment to an ideological position remains possible even in the face of barriers to ideal practice (Olafson, Schraw and Vander Velt, 2010).

There are a range of ways in which the literature conceptualises teacher beliefs although this study focuses on beliefs about teaching and beliefs about the purpose of education which draws from seminal research into teacher agency (Priestley, Biesta and Robinson, 2015).

2.5.1a *Beliefs about the purpose of education*

The suggestion that teacher beliefs are formed in the iterational dimension (Priestley, Biesta and Robinson, 2015) offers an explanation for the impact of a working environment which culturally, is heavily influenced by externally imposed systems (*ibid.*) as described in section 2.4.2 which considers the prevalent NL discourse. The internalisation of policy discourse shapes beliefs, in this particular circumstance leading teachers to have an 'instrumental or fundamentalist engagement with the engagement of educational purpose' (Priestley, Biesta and Robinson, 2015, p.51), manifesting in short term aims and a focus on process rather than purpose and values. Teachers are concerned with the development of predetermined capacities and dispositions to equip children to live within the current manifestation of society, as opposed to enable them to become agents of change themselves. Ultimately, Priestley, Biesta and Robinson (2015, p.55) suggest that a problematic scenario emerges as many teachers 'struggle to locate their work within deep consideration of the purposes of education'. This is problematic as there is a failure to pay due consideration to the important axiology of education concerned as it is, with the values which give education direction, and which provide criteria for judging what we want it to work for (Biesta, 2015b). The argument that only once these two questions are satisfactorily addressed 'can we begin to

make decisions about relevant content and about the appropriate relationships' (*ibid.,* p.17) draws a clear link to curriculum planning. For Biesta (2015a), the axiology of education is a normative question which depends upon values and judgements and which needs to address both the aims of, and the balance between, the three 'telos' (domains of purpose) of education; subjectification, socialisation and qualification. If these considerations are absent from teachers' considerations as suggested, it is unsurprising that their scope to achieve agency is limited, particularly in terms of the projective dimension of agency, as 'purposes which are narrowly framed inevitably narrow consideration of what is possible and frame subsequent action accordingly' (Priestley, Biesta and Robinson, 2015, p.55).

2.5.1b *Beliefs about teaching*

Regarding beliefs about teaching, Biesta (2012) suggests there has been a paradigmatic shift from transmission models of teaching to a constructivist approach. This shift to 'learnification' is supported by Priestley, Biesta and Robinson (2015) who claim that teachers' beliefs about teaching are summarised by the shift from deliverer to facilitator of learning. This is expounded by Olafson, Schraw and Vander Velt's (2010) four quadrant scale which addresses the ontological and epistemological worldviews teachers hold and the manner in which they influence their curricular choices:

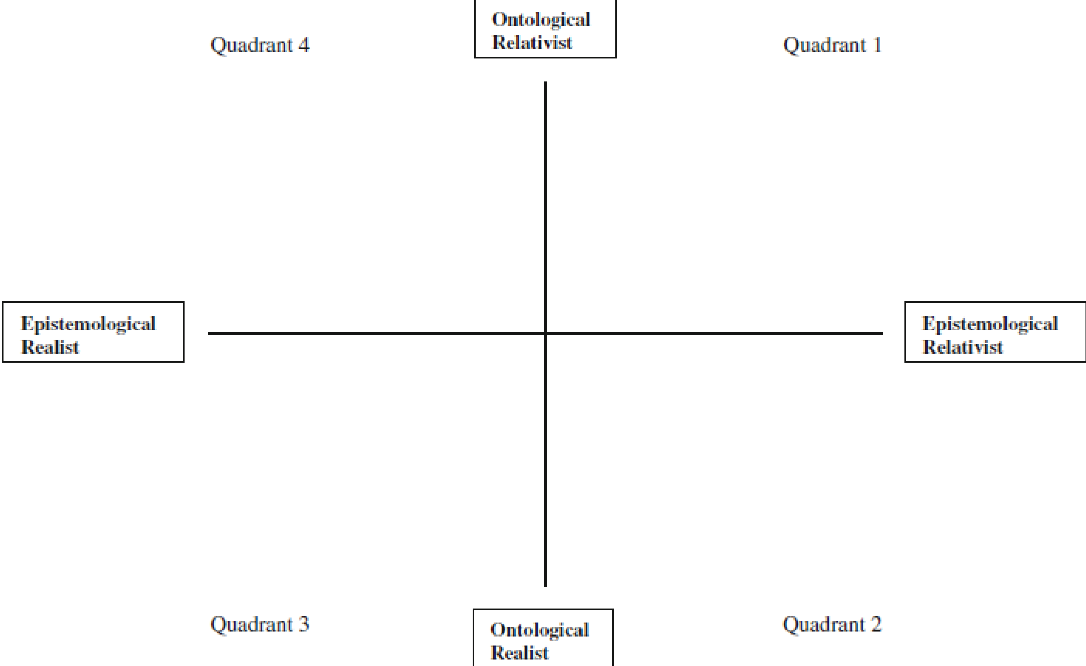

Figure 4: Ontological/epistemological quadrants (Olafson, Schraw and Vander Velt, 2010, p.249)

The horizontal scale ranges from epistemological realists who manifest as teachers who see curriculum as fixed, permanent and focused on fact-based subject matter, to epistemological relativists who would describe curriculum as changing and student-centred. Olafson, Schraw and Vander Velt (2010) suggest that a sophisticated epistemological world view is more likely to support a student-centred approach than a less sophisticated standpoint which is more likely to focus on a traditional curriculum and student testing, whilst acknowledging that preferences may be difficult to enact due to contextual factors.

On the vertical axis, ontological realists believe there to be one underlying reality that is the same for everyone, thus all children should receive the same type of instruction at the same time regardless of their individual circumstances, achievement or context. In contrast, ontological relativists understand realities to be constructed in social settings, thus variant between individuals. Such teachers present as co-participants in, and facilitators of, learning and work to meet the individual needs of students by denying the primacy of their own knowledge and emphasising students' independence. The role of critical thinking is also polarised between realists and relativists with the former dismissing it as unnecessary and the latter valuing it as vehicle to enhance understanding (Kuhn, Cheney and Weinstock, 2000).

Teachers sitting within quadrant 3 hold both ontological and epistemological realist views which are 'premised on a scientific view of knowledge which is held by 'experts' in the field' (Renowden, 2012, p.92) and often takes centre stage in public life (Gove, 2013a). Such beliefs, that reality is directly knowable and knowledge comes from an external source and is certain (Kuhn, Cheney and Weinstock, 2000), are suggested to result in learners' subservience to a curriculum with their aim to learn its content (Leat, Thomas and Reid, 2012). Compatibility with a positivist view of accountability and Lyotard's (1984) concept of performativity is due to the adoption of a common set of standards which can then be measured and judgements made against them (Renowden, 2012).

The relevance to teacher agency is apparent when considering the effect that concerns have on individuals' reflexivity (Archer, 2007). Essentially, it could be suggested that if good achievement against external measures is perceived as an important issue, it could be an influencing factor on teacher agency. This perhaps reinforces the earlier point that not all agency is 'good' agency (Priestley, Biesta and Robinson, 2015). Furthermore, an epistemological alignment between policy and teachers' beliefs could adversely affect agency (Leat, Thomas and Reid, 2012). For example, disapplication from the NC may be difficult for teachers to act upon if they hold realist views and are incognizant of different realities and ways of knowing. Curriculum development work could be considered nonsensical due to the existence of a NC which is 'an introduction to the essential knowledge that children need'

(Gove, 2013a, no page). Further, such a shift in focus from teaching to learning renders the answers to such crucial questions about content, purpose and relationships nigh on impossible (Biesta, 2012), potentially limiting the achievement of agency. Finally, despite a shift from teaching to learning, or to 'teachingandlearning' (Biesta, 2012, p.37), and the integral commitment of teachers to constructivist models of learning which put the learner at the centre, teachers remain unwilling to put themselves at the centre of curriculum development work. Several factors contribute to this, including feelings of anxiety, an over-riding deference to authority, a lack of willingness to take responsibility for issues seen to be the remit of those further up the chain and nervousness about being 'required' to be autonomous (Priestley, Biesta and Robinson, 2015). This is indicative of the belief that teachers are deliverers of curriculum, rather than innovators.

Teachers' beliefs about teaching are often rooted in moral purpose. Woods and Jeffrey (2004) state that during the 1970s and 1980s, the majority of teachers had an integrated and consistent identity based on two major sets of values – humanism and vocationalism. Humanism is concerned with 'holism, person-centeredness, and warm and caring relationships' (Woods and Jeffrey, 2004, p.223), whilst vocationalism summarises teachers who feel a strong emotional dedication to their work which underpins their total commitment to teaching. In the current context, the moral purpose of prominent academy chains is writ large on their web presence and proclaims to be their driving force. The focus is often on transforming life chances (Harris Federation, no date; Oasis Multi-Academy Trust, no date), contributing to communities and developing social responsibility (Academies Enterprise Trust, 2014). It is clear that academies' public persona has a strong moral rationale and similarly, the DfE (no date, no page) relies upon the lure of the moral good when attracting individuals into ITE as their advertising entices with the promise of inspiring future generations and supporting children's realisation of their ambitions, pledging that 'you can go home each day knowing you've made a real difference, giving all young people the chance to fulfil their potential'. Indeed, it is suggested that teaching is a moral profession (Fullan, 1993).

It is this commitment to the children they teach that may support teacher agency as pupils can invoke either the preservation of existing circumstances or change (McLaughlin and Talbert, 1993; Spillane and Jennings 1997). Regarding curriculum specifically, the potential

> 'mismatch with children's concerns, in a context of adult-led, inauthentic, dis-embedded, performative programmes, with preconceived content and objectives, and transmission modes of 'delivery', should give teachers pause for thought.'
>
> (Cox, 2011, p.146).

Ultimately, the moral purpose of teaching can act as a motivational force for agency, driving teachers' daily actions, however the powerful influence of the wider agenda can distort and frustrate the achievement of teacher agency (Fullan, 1993) and perhaps mean that their actions are contrary to their moral purpose (Biesta and Tedder, 2006).

2.5.2 *Identity and self-efficacy*

The EATA (Priestley, Biesta and Robinson, 2013) makes it clear that it is the interplay of teachers' personal capacities with their ecological conditions which affects their achievement of agency. Continuing to focus on teachers' personal capacities, this section begins by addressing teacher identity, which is closely intertwined with the exercise of individual agency (Eteläpelto *et al*., 2013), before considering the impact of the PE dimension on the development of identity.

Teacher identity, as an important professional identity, is not necessarily static, but evolves in response to pressures of the performative era (Troman, 2008) and the dynamic chemistry between personal, professional and political influences (Millar Marsh, 2002; Troman, 2008; Mockler, 2011). Certainly, within Archer's (2000) theory of agency, personal identity is seen to be produced through internal conversation with one's circumstances. It emerges from individuals' emotional commentaries on their concerns, originating from the natural, practical and social orders of reality and is assigned to oneself rather than assigned by others as social identity is, with which there may be discord (Woods and Jeffrey, 2004). However, teacher identity is proposed to be a tacit construct which is best explored through its representations, including self-efficacy (Canrinus *et al*., 2012) which is a measure of how people judge their capabilities to successfully effect a particular course of action (Bandura, 1977). Indeed, self-efficacy is suggested to be the most important factor explaining individual agency (Bandura, 2001) with weak self-efficacy relating to low agency and conversely, high self-efficacy relating to active agency (Bandura, 1977; Eteläpelto *et al*., 2013). Four reasons which justify the link between self-efficacy and agency are presented here.

Firstly, 'efficacy expectations are a major determinant of people's choice of activities' (Bandura, 1977, p.194) and as previously discussed, individuals' reflexive behaviour (Archer, 2007) and their capacity to 'choose between different options in any given situation' (Priestley, Biesta and Robinson, 2015, p.141) are indicative of their achievement of agency. It is important to acknowledge however that this may be difficult as if teachers are indoctrinated in existing systems, they 'may not recognise an obvious need for transformation' (Lanas and

Kiilowski, 2013, p.356). It may be an 'unknown unknown'. Secondly, self-efficacy is important to the achievement of agency as it affects effort levels and how long effort is 'sustained in the face of obstacles and aversive experiences' (Bandura, 1977, p.191). This is particularly important as agency 'always has to be achieved in concrete situations' (Priestley, Biesta and Robinson, 2015, p.35) and, as previously discussed, the primary sector is a pressurised, demanding environment for teachers. Thirdly, despite proclamations of a government desire to support teachers in remedying their excessive workload, characterised by unnecessary levels of detail, duplication and bureaucracy (Clegg and Morgan, 2015), curriculum development constitutes a project in excess of extremely time-consuming basic expectations. Indeed, it has been acknowledged that implementing a new NC is a substantial task (NUT, 2014) and for academies with the opportunity to plan and implement their own curriculum, it is incontestably a far larger project. Fourthly, curriculum development sits within a set of accountability measures which could be interpreted as promoting adherence to input regulation and disincentivising dissonance and innovation. Thus, to achieve agency within such a set of circumstances could be said to require substantial self-efficacy and it could be seen how low self-efficacy could lead to acceptance of the status quo and continued use of existing documentation (Priestley, Minty and Eager, 2014). Fifthly, a link between self-efficacy and the EATA (Priestley, Biesta and Robinson, 2013) becomes apparent through the identification of 'performance accomplishments', 'verbal persuasion' and 'vicarious experiences' as principal influences upon levels of self-efficacy (Bandura, 1977, p.191). This reinforces the central idea of the EATA that past experiences and teachers' working environments exert an influence on the achievement of agency (Priestley, Biesta and Robinson, 2015).

2.5.3 *The Knowledge Base*

The EATA (Priestley, Biesta and Robinson, 2013) makes it clear that it is the interplay of teachers' personal capacities with their ecological conditions which affects their achievement of agency. This section focuses on one element of teachers' personal capacities, namely their knowledge of curriculum by reviewing the literature to suggest what types of curriculum expertise may be required to support teachers' achievement of agency. This is of particular importance as without such 'curriculum theory', teachers are simply 'left with either their personal opinions or 'transmitting' what is laid down for them by others' (Young, 2014, p.48). Indeed, Alexander (2010a) identifies that a current problem is teachers' inability to talk about curriculum knowledgeably and analytically. Further, Priestley, Biesta and

Robinson (2015) suggest that ways of thinking, understanding and talking about the issues are an important resource which can support teacher agency.

The inclusion of a 'curriculum knowledge' category (Shulman, 1987) within an identified 'knowledge base of teaching' (Carnegie Task Force, 1986; Holmes Group, 1986) over thirty years ago established as important teachers' knowledge about curriculum. Exemplifying this are Dillon's (2009) three categories of curriculum questions which build upon Tyler's (1949) fundamental questions of curriculum.

(1) Nature of curriculum—*What is it?*
   (1a) Essence or substance—*What, at bottom, is it?*
   (1b) Properties or character—*What is it like?*
(2) Elements of curriculum—*What are the things that compose it?*
   (2a) Teacher—*Who?*
   (2b) Student—*Whom?*
   (2c) Subject—*What?*
   (2d) Milieu—*Where and when?*
   (2e) Aim—*Why? To what end?*
   (2f) Activity—*How?*
   (2g) Result—*What comes of it? Who learns what?*
(3) Practice of curriculum—*How to think and act it?*
   (3a) Action—*What to do?*
   (3b) Thought—*How to think?*

Figure 5: Curriculum Questions (Dillon, 2009, p.344)

Dillon's (2009, p.357) scheme of questions can be used 'principally to understand and to construct curriculum, and generally to practise it'. They can provide a structure to explore curriculum and as such, they provide the structure of this section. A complementary focus is on how the PE dimension exerts an impact on teacher agency as discussing various conceptualisations and theories of curriculum brings to light important discourse which plays a major part in determining how teachers think (Kelly, 2009).

2.5.3a ***Nature and Models of Curriculum***

This section considers the essence of curriculum by considering it in a broad sense before looking at definitions and then discussing a range of curriculum models. For some, curriculum is considered to be an enabling structure, a form of cultural capital (Apple, 2004), through which schools can move children beyond their experiences to date and support their acquisition of knowledge that is not tied to that experience (Young, 2014). That is to say, it is positively 'a feast of experiences that excites their imaginations and nourishes their

intellectual development' (Male, 2012, p.204). For others, curriculum is viewed as a tool with which education reproduces society's inequalities (Apple, 2004) and reinforces the ideology of dominant groups (Kelly, 2009), oppressing those disadvantaged by class, race and gender (Giroux, 1990). This discussion will be continued later, but for now the focus narrows to curriculum definitions.

There is perhaps merit in teachers holding a definition of 'curriculum' due to the clarity evoked from delimiting the concept, as well as the platform it provides for answering pertinent questions and thus further conceptual progress (Soltis, 1978). However,

> 'those who look for the definition of curriculum are like a sincere but misguided centaur hunter, who even with a fully provisioned safari and a gun kept always at the ready, nonetheless will never require the services of a taxidermist.'
>
> (Soltis, 1978, p.7)

Such futility is suggested to be resultant from either the lack of consensus amongst specialists (Jackson, 1992; Marsh, 2009; Au, 2011b; Young, 2014;), or 'the celebrated contestedness of the curriculum field' (Dillon, 2009, p.354), and it adds to the complexity of considering the essence of curriculum. Although curriculum is a contested concept set within a complex field, there is largely agreement about the distinction between the planned, enacted and experienced curriculum (Marsh and Willis, 2007; Alexander, 2010a). Au (2007) asserts this trilogy acknowledges the importance of three key issues; the subject matter content, the structure and form of how knowledge is organised (Apple, 1995), and the pedagogy which represents how the selected knowledge is communicated. The three models will be briefly explored here, with a focus on how the transition between them incorporates the concept of teacher agency. Subsequently, justification for the focus on the planned curriculum within this study is presented.

The planned curriculum, or 'prescribed curriculum' (Edwards, Miller and Priestley, 2009), is 'an explicit, conscious, formally planned course with specific objectives' (Kentli, 2009, p.83). As McKernan suggests that 'a curriculum is at base an educational proposal, or hypothesis, which invites a critical response from those who implement it' (1996, p.4), the planned curriculum presupposes the enacted curriculum (Snyder, Bolin and Zumwalt, 1992) which absorbs the impact of teachers' professional judgments in its implementation (Marsh, 2009). This is an expected, not problematic, outcome (Edwards, 2009), yet there may be conflict between the two (Campbell, 2006). Indeed, an external structure, such as the NC,

necessarily undergoes a process of interpretation through ‘a series of translations, transpositions and transformations’ (Alexander, 2009) in order to become a classroom reality, a process which provides space for teachers’ professional autonomy to flourish (Young, 1998; Alexander, 2009). Essentially, the curriculum could be viewed as a link between the ‘macro’ officially selected educational goals and content, and the ‘micro’ which is the actual act of classroom teaching (Westbrook *et al*., 2013) and in this sense, many people are involved in making, living and experiencing curriculum (Wood and Hedges, 2016). A succinct summary is that the enacted curriculum refers ‘to the choreographing of people and artefacts in the enactment of practices – cognitive, practical, communicative – designated as learning’ (Miller, Edwards and Priestley, 2008, p.1). The experienced curriculum refers to what actually happens in the classroom and, as a lived experience, defies complete description before or after it happens (Marsh, 2009). Additionally, the powerful ‘hidden’ curriculum, which affects students’ experiences by implicitly transmitting norms and values about schooling and education (Durkheim, 1961; Bowles and Gintis, 1976; Apple, 1982), constitutes an element of the experienced curriculum.

The planned, enacted and experienced curricula are suggested to combine to form a basic conception of curriculum (Au, 2007; Alexander, 2010a), yet this study’s focus is on just the planned curriculum. It could be argued that such a focus neglects two crucial aspects of curriculum (Au, 2007), but it is not that a narrow view of curriculum is taken by equating it solely with content (Harden, 2001) and justification for the focus follows. Firstly, the research question’s emphasis on teachers’ curriculum development necessitates a focus on the *planning* of a broad, balanced coherent curriculum (Alexander, 2010a). Secondly, recent criticism of the national ‘planned curriculum’, the DfE’s (2013b) draft NC, focused on its neglect of children’s critical understanding, creativity and abilities to think and problem-solve (Bassey *et al*., 2013), as well as outcomes of pupil disaffection and failure as opposed to achievement and a commitment to learning (Young *et al*., 2014). Such criticism suggests that the planned curriculum is truly the foundation of experienced and lived curricula and as such, merits its focus within this study. Thirdly, autonomy regarding the planned curriculum is the differentiating factor of current times. Teachers have always had power over the enacted and the lived curriculum (Posner, 1998) as since its inception, the NC has been designed to sit within a wider school curriculum (DfE, 2010) yet for the first time since 1988, the planned curriculum of academies is now officially subject to teachers’ autonomy. This identification of the planned curriculum as the key focus makes appropriate the henceforth attention given to a range of curriculum models found globally, namely an objectives-driven curricula, a content-driven curricula, a process-driven curricula, and an outcomes-based curricula

(Westbrook *et al*., 2013). Doing so adds detail to the knowledge base of teachers' curriculum development and design.

In these constrained circumstances, an objectives-led model, which seeks to precisely specify curriculum learning outcomes, is the dominant curriculum model (McKernan, 2008). This links to Bernstein's generic type of pedagogic practice, namely 'visible pedagogy' which puts the emphasis on the external product of the child (Bernstein, 2004). Such a curriculum is largely driven by utilitarian ideals as content is usually selected on the basis of its relevance to the workplace (Westbrook *et al*., 2013), fulfilling the aims of theorists who argue that schools should reproduce the work skills and attitudes needed for wider society and set objectives accordingly (Bobbit, 1918; Tyler, 1949; Althuser,1971).

There are similarities between the objectives-led model and a content-driven curriculum as within both, the teaching relationship is hierarchical and the student seen as 'ignorant with little status and few rights' (Bernstein, 2003, p.89). Furthermore, they draw upon the 'curriculum as fact' model (Westbrook *et al*., 2013) as essentially, there is strong framing within both models with little choice of what is studied and a passive role for students (Leat and Reid, 2012). At its foundation, a content-driven curriculum is an acceptance of a given selection, organisation, pacing and timing of knowledge (Bernstein, 1975). This provokes a conceptualisation of pupils as consumers of knowledge, potentially attributed to a positivist epistemology which sees knowledge as truth which can be fragmented, sequenced, transmitted and measured (Clayton, 2007). A consequence is a didactic (Leat, Thomas and Reid, 2012), transmission style of teaching where teachers are seen as a conduit (Clandinin and Connelly, 1992). Additionally, within a content-driven curriculum there is also strong classification illustrated by definitive boundaries between subjects, which is demonstrated within the NC (DfE, 2013a). Together, these strong framing and strong classification exemplify Bernstein's 'collective code'.

Process driven curricula are now the main alternative to the collection curriculum, privileging students to have more discretion over what is learnt (Westbrook *et al*., 2013). Drawing more heavily on the 'curriculum as practice' model, the term represents a range of different types of curriculum, from cross-curricular to thematic, which may or may not be integrated (Leat and Reid, 2012). This type of curriculum was embraced by the UK primary sector (ATL, 2009; ATM, 2009; Rose, 2009; TACTYC, 2009) following a recent independent review which recommended curriculum re-structuring into 'six areas of learning to enable children to benefit fully from high-quality subject teaching and equally challenging cross-curricular studies' (Rose, 2009, p.20). However, its full implementation did not come to

fruition due to a ‘pre-election legislative wash-up’ in 2010 (Alexander, 2010c). This tallies with the wider picture as ‘attempts at including integrated subjects/cross-curricular programmes may have had considerable merit but have not been able to secure a lasting foothold’ (Marsh, 2009, p.44).

Finally, outcomes-based curricula are structured around sets of learning outcomes that all learners are expected to be able to achieve successfully at the end of their learning experiences (Botha, 2002). In this way, they are similar to process-driven curricula as the priority is the child as the learner, as opposed to the teacher’s delivery of prescribed content. Outcomes-based curricula are considered to be inherently more democratic, thus more likely to produce life-long learners (Westbrook *et al*., 2013).

In summary, the way in which some curricular models privilege adults’ purposes over children’s needs can be linked to the contemporary demand for outcomes-driven evidence (Wood and Hedges, 2016), demonstrating that curriculum is affected by the context within which it sits. It is suggestive of the adage it is not what a school can do for a child, but what a child can do for a school. The common thread is that all the curriculum models embody a position on a range of important considerations which include aims, links between subjects and the relative positioning of children and teachers. These, and other elements of curriculum, are considered further within the next section.

2.5.3b *Elements of curriculum*

This section draws links between various elements of curriculum and teachers’ achievement of agency. It principally focuses on curriculum aims, ways of learning and the positioning of knowledge within a curriculum. Doing so adds further detail to the curriculum knowledge base of teachers, which in turn constitutes part of their personal capacity which is an important condition for the achievement of agency (Priestley, Biesta and Robinson, 2015).

The aims of a curriculum are an important element (Dillon, 2009). They underpin any justification for its content (Scott, 2014; Young, 2014) as the ‘means and ends in education are internally and intrinsically connected’ (Biesta, 2012, p.39). That is not to say that curricula should have predetermined goals towards which all decisions are directed (Pinar, 1980), but purpose is suggested to be ‘the most central and most fundamental educational question’ (Biesta, 2012, p.38) and Alexander (2012, p.1) contends that a curriculum should be ‘in pursuit of relevant and properly argued educational aims’. This expectation is of key importance as Kelly (2009) warns that without it, a limited concept of the curriculum can result; a curriculum which may be immoral as it limits pupils’ scope for criticism. Critically,

teachers should play a 'central role in engaging with the question [...] what is educationally desirable' (Biesta, 2012, p.39) and their grasp of 'a well-articulated educational philosophy related to the wider purposes of education is a necessary, but not sufficient, condition for the sorts of agency that might enrich or challenge the official discourses' (Priestley *et al.*, 2012, p.209).

Considering the aims of curriculum (Figure 5, part 2e) alongside another two of Dillon's (2009) elements of curriculum, activity (Figure 5, part 2f) and students (Figure 5, part 2b), seems to shine a focus on teachers' epistemological perspectives as an influencing factor acting on their conceptualisation of curriculum (Wheelahan, 2010; Au, 2012). This is first discussed within the Beliefs section (2.5.1) but developed here through the simple dichotomy of curriculum as practice and curriculum as fact.

The phrase 'curriculum as practice' (Young, 1998) represents a socio-cultural view of learning which holds that learning is situated in social practices, occurs through communities of practice and joint action and that all participants contribute to an ongoing construction and re-construction of knowledge (Cox, 2011). It fundamentally arises from a belief that 'knowledge is produced by people acting collectively' (Young, 1998, p.27) and is concerned with the learner making sense of their individual experiences and worlds as 'exploration, discovery [and] inquiry are drivers for learning and development' (Wood and Hedges, 2016, p.389). 'Curriculum as practice' is underpinned by a constructivist epistemology which essentially holds that when learning, humans are actively engaged in the process of constructing meaning and that their intent and the context are both influential factors (Benson, 1989). From this perspective, a curriculum might be 'construed as the social practices that have cultural significance in generating knowledge' (Cox, 2011, p.151). Complementary to this is the belief that it is important to enter into the community of those who practise those modes of enquiry, for example what is it to be a scientist or mathematician (*ibid.*).

Bernstein (1977) suggests that such an 'integrated curriculum' focuses on ways of knowing rather than states of knowledge and consequently privileges the status and perspective of the student. Such a 'process-driven' curricula gives more discretion over the learning to the pupils, and consequently less to individual teachers as there is a diminishment of a transmission style of teaching. Further, teachers are required to collaborate with colleagues in other disciplines as there is little strength in the boundaries separating categories of discourse, meaning such a curriculum has weak classification (Westbrook *et al.*, 2013). For a typical primary school, the effect of this on teachers would be negligible as one teacher is

responsible for a class' whole curriculum, but secondary subject teachers would feel it more keenly. The key feature of permeable divisions between subjects could suggest that curriculum-as-practice links to one of the DfE's (2013a, p.5) main aims, that a curriculum should prepare pupils 'for the opportunities, responsibilities and experiences of later life'. Such a socio-cultural view, with its emphasis on structure and pedagogy, may suggest issues beyond the remit of the planned curriculum (Au, 2007) although it could be argued that this is not necessarily the case as curriculum planning is the foundation for the enacted curriculum.

In contrast to 'curriculum as practice' (Young, 1998) sits a 'curriculum as fact', seen as 'a structure of socially prescribed knowledge', 'external to the knower, there to be mastered' (Greene, 1971, p.1). It could be seen to rely upon a commitment to a scientific orientation of developmental research, based on normative ways of understanding children (Wood and Hedges, 2016). It is certainly linked to Hirst's (1974) rationalist view which holds that there are a limited number of distinctive forms of knowledge and the curriculum's aim is to seek out the truth through different processes. Throughout the 1960s and early 1970s such an absolutist view of knowledge, where the principle aim was to discover and identify 'truths', held unshakeable sway within education theory (Kelly, 2009). However, wide-ranging objections to this perspective coalesced in a movement known as postmodernism (*ibid.*), believed to have gained wide currency from 1970 onwards (Efland, Freedman and Stuhr, 1996; Hargreaves, 2000).

A postmodern view of flexible knowledge manifests in a shift to a focus on developing pupils' awareness of the existence of many layers of interpretation, as well as creative thought (Efland, Freedman and Stuhr, 1996) which is suggested to deeply unsettle politicians. Indeed, Gove (2013a), when in post as influential Secretary of State for Education, clearly stated his belief in the importance of a cannon of knowledge forming the basis for the curriculum and one of the DfE's (2013a, p.5) main aims is that a curriculum should be 'an introduction to the essential knowledge that children need'. This is perhaps due to the security garnered from certainties intrinsic to an absolutist view of knowledge (Kelly, 2009) and the conviction that a lack of knowledge correlates with negative social outcomes and trajectories for young people (Milner, 2010). The question of knowledge has had a recent high profile (Wheelahan, 2010; Young *et al.*, 2014) and links to teachers' curriculum capacity are apparent as it is suggested that their discourse around knowledge is 'muddled and reductive' with knowledge 'grossly parodied as grubbing for obsolete facts' (Alexander, 2010a, p.493).

The very existence of a NC, as an embodiment of the knowledge deemed to be of 'most worth' (Marsh, 2009, p.3), assumes that there is 'universal' or 'better' knowledge for all children, regardless of their differing social and cultural experiences beyond school (Young *et al*., 2014). It seems to nullify ideological questions concerning what is legitimate knowledge and who defines it (Beyer and Apple, 1998) and 'whose knowledge is worth the most?' (Apple, 2004, p.28). Instead, it is through such means that the dominant group imposes its ideology on society (Kelly, 2009), leading to consent from the masses which Gramsci (cited in Bates, 1975) terms hegemony. As such, it is the existence of something truly total which is deeply saturating and for most people, corresponds to the reality of social experiences (Williams, 1980). Indeed, it is suggested that an education system does not stand apart from either society or the economy (Rothstein, 2004; Anyon, 2005) and that the curriculum can be conceptualised as a mirror reflecting the 'competing interests and value systems found in a modern society' (Young, 1998, p.9). Indeed, it is suggested that education and politics are inextricably linked (Ball, 2004) and 'politics of every sort and at every level of society affects the processes of curriculum' (Longstreet and Shane, 1993, p.93). More importantly, it is suggested that a political regime which embraces an absolutist view of knowledge is veering towards a totalitarian form of governance, and consequently away from a democratic form of governance (Kelly, 2009). This could be viewed as a fair summary of the way in which the DfE controls the education sector, through both input and output regulation for example. The way in which its actions jar with the public image it promotes through its rhetoric of the importance of teachers and their autonomy (DfE, 2010) may simply be evidence of efforts to veil sinister practices which must not become too apparent (Kelly, 2009). A careful weighing up of the impact of the two sides could indicate where the DfE's true values lie.

The influence of dominant groups who have political control, and therefore the most leverage over the content of the curriculum, affects the identification of high status knowledge, or powerful knowledge (as opposed to profane knowledge). This classification suggests that knowledge is never neutral, but its circulation forms part of the social distribution of power (Fiske, 1989) and the maintenance of a culturally conservative canon will be to the probable detriment of wider social mobility (Legg, 2012). Young *et al*. (2014, p.20) do suggest however that promoting social justice and greater educational equality has to begin with knowledge in order to enable children to 'access, engage with and influence society'. Further, a negative view of knowledge is deeply mistaken as by maintaining its central role within the curriculum, disadvantaged children are ensured access to knowledge which had previously been the sole domain of dominant groups (Wheelahan, 2010; Young *et*

al., 2014). Given access to knowledge, a curriculum should help children develop a critical approach so that they develop the key skills of being able to 'test and demonstrate its objectivity and truthfulness' (Wheelahan, 2010, p.39). A narrow view of knowledge which equates it with facts is a misapprehension which disregards its potential as a way of enquiring, making sense and understanding the flow of information (Alexander, 2010). Indeed, there is value in knowledge which can be applied, rather than simply reproduced (Westbrook *et al*., 2013). In this sense, 'curriculum change often goes hand in hand with and reflects social change' (Paechter, 2000, p.5), but in Young's earlier work he suggests that such a process is likely to be contested and resisted if the changes are 'perceived to undermine the values, relative power and privileges of the dominant group involved' (Young 1971, p.34).

2.5.4 *Conclusion*

Teacher capacity is undoubtedly important regarding teacher agency and high-capacity teachers are essential for an effective education system (Priestley, 2015). This section has outlined how teacher capacity encompasses beliefs, self-efficacy and curricular knowledge. These elements emerge from professional learning and working experiences and can alter over time. They can be strengthened, particularly if teachers are aware of them, yet the manner in which they are not solely sufficient for the achievement of agency pays heed to the importance of teachers' ecological conditions.

2.6 Conclusion

This chapter initially sets out the EATA (Priestley, Biesta and Robinson, 2013) which forms the theoretical framework for this study. By exploring its roots, it clearly explains how teacher agency is understood to be achieved by the interplay of personal capacity and ecological factors across the chordal triad (Emirbayer and Mische, 1998). Due attention is then paid to both aspects; ecological factors and personal capacity.

Firstly, the chapter shows how teachers' ecological factors technically provide space for agency through legislated autonomy (DfE, 2010; DfE, 2016a), but that tension with contrasting factors as a result of neo-liberal reforms largely negates their potential. Indeed, these neo-liberal reforms also tend to negate the power of personal capacity to achieve agency, meaning that despite an 'emerging tendency in education policy in the United Kingdom and elsewhere to acknowledge the importance of teachers' agency' (Priestley, Biesta and Robinson, 2015, p.1), teacher agency is limited. This contributes towards the

justification of the timeliness and worthiness of this study. It also supports the following research question, first stated in the Introduction (Chapter 1):

> ‘How do primary academy teachers’ personal capacities and ecological conditions interplay over three temporal dimensions to have a causative influence on their achievement of agency regarding curriculum development?’

The following chapter aims to expound the methodological principles and processes which this study followed in order to address this question.

Chapter 3. Methodology

This chapter outlines the aims of this study before the methodological considerations which inform it are set out and justified. This chapter aims to build on the theoretical framework identified within the Literature Review (Chapter 2) through considering its impact on the development of the methodology (Creswell, 2009; O'Mahoney and Vincent, 2014; Ritchie *et al*., 2014).

3.1 Research Aims

This study aims to address the following research question:

> 'How do primary academy teachers' personal capacities and ecological conditions interplay over three temporal dimensions to have a causative influence on their achievement of agency, regarding curriculum development?'

The research question's emergence from the literature is advocated as it means existing research has indicated the appropriate direction in which to look for relevant evidence (Yin, 2014). The question's bounded nature suggests it can contribute towards planning a feasible project which avoids being overwhelmed by too many propositions that must be addressed during the data analysis and reporting phase (Baxter and Jack, 2008). Further, its structure as a 'how/why' question is helpful as this research focusses on a contemporary set of events over which I have little or no control (Yin, 2014). Finally, the research question clearly draws upon the EATA (Priestley, Biesta and Robinson, 2013) which means the theoretical framework is both a driving force for this study, and a thread running throughout it. The EATA (*ibid.*) is particularly useful concerning the practicalities of this research as, due to the nature in which it facilitates an analytical separation (Archer, 1988) of the components shaping the achievement of agency, it is a 'methodological framework for empirical inquiry' (Priestley, Biesta and Robinson, 2015, p.29).

3.2 Philosophical considerations

Ontological considerations, which 'concern the very nature or essence of the social phenomena being investigated' (Cohen, Manion and Morrison, 2011, p.5), are essentially the 'philosophical stance lying behind the methodology' (Crotty, 1998, p.66) and as such, play an

exigent role in informing the theoretical perspective of research (*ibid.*). Further, it is suggested they give rise to epistemological assumptions (Hitchcock and Hughes, 1995). There is general agreement about the importance of a meta-theory, addressing both ontological and epistemological elements, to underpin empirical research due to its influence over subsequent methodological decisions, including for example, research methods (Scott, 2005; Newby, 2010; O'Mahoney and Vincent, 2014).

Traditionally, two opposing ontological positions have dominated the landscape; constructivism and objectivism (Bryman, 2008). Their understanding of the essence of social phenomena is where their contrast lies (Cohen, Manion and Morrison, 2011). The objectivist approach considers objects to 'have an independent existence and are not dependent for it on the knower' (*ibid,* p.6). Conversely, constructivism asserts that 'social phenomena and their meanings are continually being accomplished by social actors' (Bryman, 2008, p.692). However, from the 'paradigm war' between them (Denzin and Lincoln, 2011) emerges critical realism (CR), a third ontological perspective which draws upon key tenets from both as it holds that there exists an objective world consisting of subjective interpretations (Ritchie *et al*., 2014). This research subscribes to a CR ontology and the remainder of this section sets out what this entails and why it is fitting.

CR assumes that reality has 'ontological depth' (Dannermark *et al*., 2002, p.150) and disambiguates the levels into empirical, actual and real (Bhaskar, 1978) as shown by Figure 6:

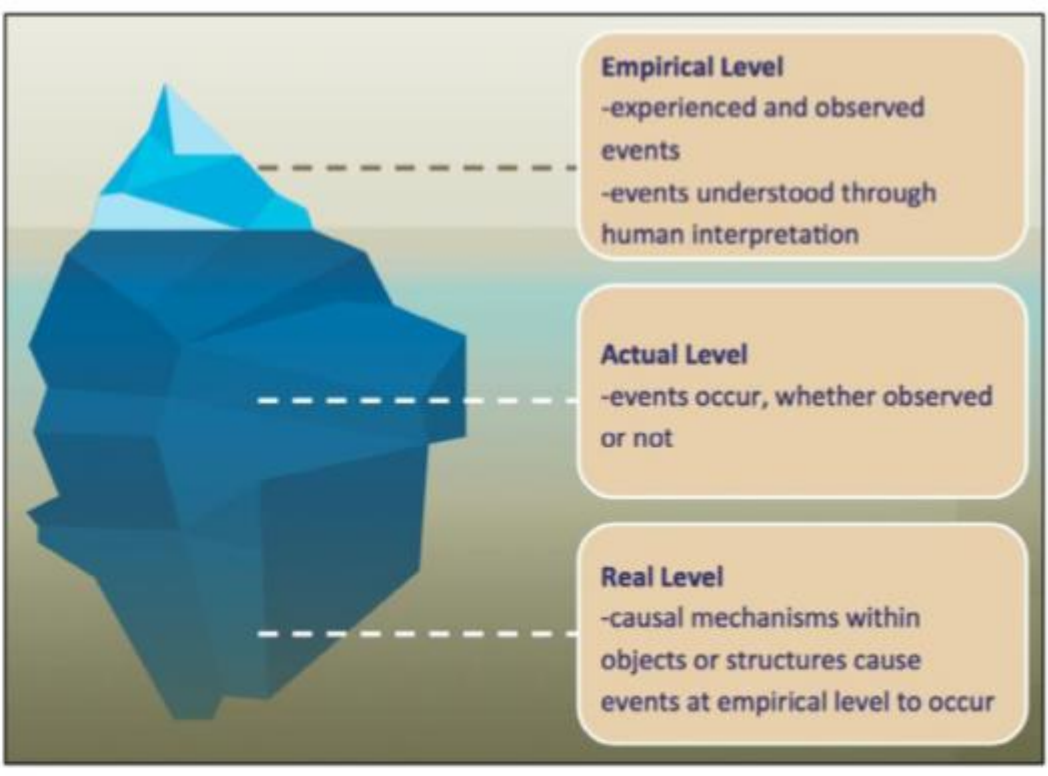

Figure 6: An iceberg metaphor for CR ontology (Fletcher, 2017, p.3)

Fletcher (2017) expounds her iceberg metaphor by explaining that the empirical level is where events are experienced, necessarily through a filter of human interpretation. The actual level is where events occur regardless of human interpretation. The 'process of interpretation that intervenes between the two domains' (Easton, 2010, p.123) accounts for potential differences between the empirical and actual levels. Finally, Fletcher (2017) explains that the real level is where inherent properties of social structures manifest as 'causal mechanisms'. However, these causal mechanisms are social products that can only 'exist within phenomena at the empirical level' (Fletcher, 2017, p.3). Fletcher (2017) pre-empts any misconceptions that Figure 6 may provoke by emphasising that the levels interact and are all equally 'real'.

This depth ontology is one reason for why CR is considered to enable a much more sophisticated representation of the natural and social worlds than offered by other positions (O'Mahoney and Vincent, 2014; Fletcher, 2017). Through considering what we perceive to be the case, events that occur (that may differ from perceptions) and contributing mechanisms and structures, CR's understanding of reality is 'more complex and multiply sequenced than may be apparent in 'raw' observations' (O'Mahoney and Vincent, 2014, p.10), with no single mechanism determining the whole result (Bhaskar, 1978). This means more useful research which is 'necessarily rich, explanatory and 'thick'' (O'Mahoney and Vincent, 2014, p.4) is enabled which, for contextually-based social world research such as this makes CR a fitting ontological perspective. A number of other reasons also support this claim.

Firstly, for critical realists the central relation of social reality is that between agency and structure (Scott, 2005) and this is also central to this study due to its focus on teacher agency within the context of curriculum development. The Literature Review (Chapter 2) culminates in the EATA (Priestley, Biesta and Robinson, 2013) which suggests agency to be socially situated and views its achievement as dependent upon the interaction, across time, between ecological conditions and individuals' capacities. Consequently, this study does not aim to find one ubiquitous 'truth' about teacher agency, but explore its achievement, at a particular point in time, from the perspective of each participant teacher. Such an aim is more appropriately addressed by CR than an objectivist position which 'implies that social phenomena confront us as external facts that are beyond our reach or influence' (Bryman, 2008, p.18). CR is also preferable to a constructivist perspective which considers social reality to be wholly determined by social actors (*ibid.*), thereby limiting the impact of structures.

Secondly, the underpinning model of agency for this study argues that agency exerts an influence on pre-existing structures which change as a result, but that both agency and structures have distinct properties and powers that cannot be subsumed into the other (Archer, 2010b; Priestley, Biesta and Robinson, 2015). This necessitates the choice of a methodology

which treats neither agency nor structure as epiphenomenal (Scott, 2005). As CR is based upon an understanding that 'entities, which ultimately interact to cause the events we observe, cannot be studied or understood in isolation from their environment' (O'Mahoney and Vincent, 2014, p.6), it demonstrably places importance upon structures. CR essentially ensures the ecological conditions relating to the achievement of agency are integral to the ensuing explanations. Key elements of the achievement of teacher agency identified within the literature, such as horizontal and vertical staff relationships (Priestley, Biesta and Robinson, 2015), are also central due to the importance CR places upon relations between different entities as part of a greater whole (O'Mahoney and Vincent, 2014). Ultimately, the achievement of agency based on the interplay between individuals' capacities and ecological conditions is the focus of scrutiny as CR enables an emphasis on looking for and establishing as correct, particular causal relationships and for understanding the necessary connections between these (Fleetwood, 2013; O'Mahoney and Vincent, 2014).

Thirdly, CR's 'search for causation' (Fletcher, 2017, p.181) focusses on theorising the mechanisms which generate empirical events (O'Mahoney and Vincent, 2014) to help explain social events (O'Mahoney and Vincent, 2014; Fletcher, 2017). In terms of addressing the underlying sociological aim of this research, such identification of causally efficacious generative mechanisms for events at the empirical level (Scambler, 2012) is important. Within CR, the aim of identifying causal mechanisms responsible for observed events is dependent upon the manner in which one ontological strata is emergent from another (Mingers, Mutch and Willcocks, 2013) and how real world conditions actualise these emergent properties (Dannermark *et al*., 2002) as either powers or liabilities (Fletcher, 2017). Ultimately, these causal mechanisms affect the observable impact at the empirical level (Fletcher, 2017) which Sayer's (2000) model (Figure 7) clearly illustrates:

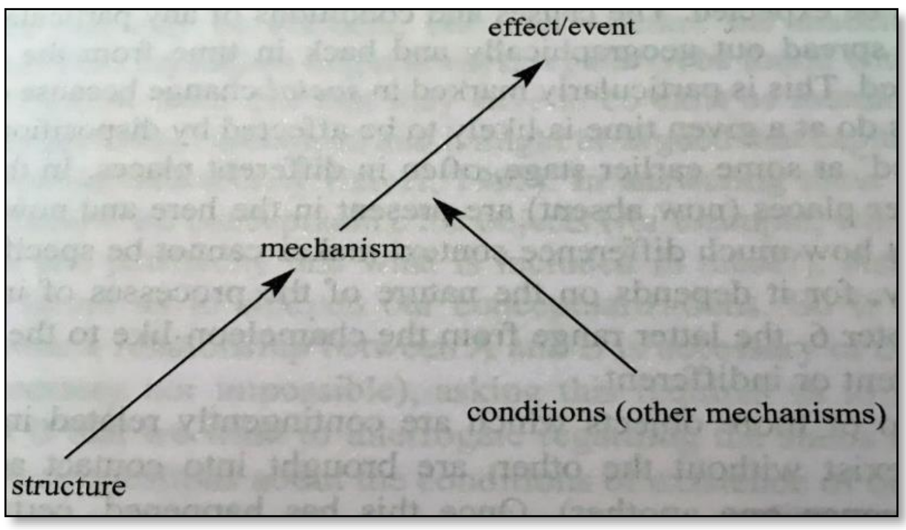

Figure 7 – A Critical Realist view of causation (Sayer, 2000, p.15)

Through ascribing importance to the effect of real world conditions, the CR search for causation honours a central tenet of the EATA, that teachers achieve agency by means of their environment (Priestley, Biesta and Robinson, 2013). This is further supported by means of the CR claim that the 'social world is an open system' (Scott, 2014, p.24) as entities are thus seen to interact to cause observable events and cannot be studied in isolation from their environment (O'Mahoney and Vincent, 2014).

Fourthly, the stratified ontology intrinsic to CR makes it possible to 'understand how we could be, or become, many things which currently we are not' (Sayer, 2000, p.12) which, as an eminently optimistic philosophy, offers possibility and hope. This engenders the suggestion of recommendations leading to improvements (O'Mahoney and Vincent, 2014; Fletcher, 2017) which aligns with the sociological foundation of this research to suggest 'what ought to be' (Sadovnik, 2011).

3.3 Critical Realism and Epistemology

This section builds on the previous section's concern with ontology as it is suggested that an ontological standpoint gives rise to epistemological assumptions (Hitchcock and Hughes, 1995). Critics of this assert that such a combination is logically contradictory (Smith and Deemer, 2000) and it is also suggested that CR prioritises ontology over epistemology (O'Mahoney and Vincent, 2014). Further, Lincoln and Guba (2000) describe an 'ontological/epistemological collapse' where any distinction is disregarded as they morph into reflections of each other. However, CR avoids this 'epistemic fallacy' (Bhaskar, 1998, p.27) as one of its most important aspects is that 'ontology is not reducible to epistemology' (Fletcher, 2017, p.2). The iceberg metaphor of CR's depth ontology (Figure 6) illustrates this, as well as how CR ontology and epistemology relate to 'human knowledge of reality' (Fletcher, 2017, p.3). CR positions what we know as being socially constructed (Sayer, 2000), thus an interpretivist epistemology focused on the *understanding* of human behaviour (Bryman, 2008) and a commitment to examining situations through the 'eyes of the participants' (*ibid.*, p.17) seems fitting. There are examples of researchers working with a CR perspective and an interpretivist framework (O'Mahoney and Vincent, 2014; Ritchie *et al.*, 2014) and this study follows such a tradition. The following section sets out why this is appropriate.

The previously stated aim of this research is not to find one ubiquitous 'truth' about teacher agency, but to explore its achievement, at a particular point in time, from the perspective of each participant teacher. Thus an interpretivist epistemology is appropriate due

to the manner in which it represents both a belief that the social world can only be understood by those immersed in it, and a commitment to understanding it from their perspective (Bryman, 2008; Cohen, Manion and Morrison, 2011). This is emphasised further when contrasted with positivism's mechanistic and reductionist view of nature (Cohen, Manion and Morrison, 2011). Furthermore, an interpretivist epistemology positions individuals' interpretations, perceptions, beliefs and attitudes as central to understanding their actions (Hammersley, 2012; Ritchie *et al*., 2014), giving credence to the theoretical framework of this study which positions individuals' capacity as a key element of their achievement of agency.

In general, an interpretivist epistemology is deemed apposite for educational researchers (Bassey, 2007; Cohen, Manion and Morrison, 2011; Ritchie *et al*., 2014) whereas the polarized approach of a positivist epistemology fails to account for the 'elusive and intangible quality of social phenomena' (Cohen, Manion and Morrison, 2011, p.7). As teachers are individuals and can be affected by any number of factors, it is only fitting that the research methodology is able to flex and react appropriately and Cohen, Manion and Morrison (2011, p.20) assert that an interpretivist approach appreciates the fact that 'situations are fluid and changing rather than fixed and static; events and behaviour evolve over time and are richly affected by context'. For these reasons, it is with confidence that an interpretivist epistemology underpins this study.

3.4 Qualitative Research

In pursuit of a coherent research design which exemplifies both the ontological and epistemological commitments of the study, a qualitative approach which 'affords detailed and deep understandings to be developed' (Amos, 2014, p.93) whilst 'preserving the integrity of the situation in which it is employed' (Cohen, Manion and Morrison, 2011, p.20) is deemed fitting. Indeed, there is evidence of such a qualitative, interpretivist approach in similar research such as Carse (2015) who investigates primary teachers as physical education curriculum change agents and Priestley, Biesta and Robinson (2015) who also use the EATA as a methodological framework.

A qualitative approach is preferable to a quantitative approach for this study firstly due to the former's CR-compatible focus on causal processes and developing an understanding of how things occur, and the latter's irreconcilable focus on the effect of independent variables on an outcome (Maxwell, 2005). Secondly, a qualitative approach is committed to analysing a range of data, rather than relying upon a fragmented evidence base (Newby, 2010) and O'Mahoney and Vincent (2014) assert that CR research can incorporate data of different sorts

with the main criterion being that the researcher, or participants, consider it worthy. This essentially supports the view that 'particular choices should depend on the nature of the object of study and what one wants to learn about it' (Sayer, 2000, p.19). Such a pragmatic perspective is important and aligns with this study's understanding that 'quality in research practice has more to do with choosing the right research tools for the task than with methods that are confined to specific traditions' (Ritchie *et al.*, 2014, p.22).

3.5 Case Study

This section presents the rationale for the case study design of this study. Case study seems the most fitting research design as its concern with the individual and understanding the subjective world of human experience (Stake, 1995; Cohen, Manion and Morrison, 2011; Yin, 2014), whilst not searching for general truths (Newby, 2010), neatly aligns with the study's philosophical viewpoint. Indeed, there is a tradition of qualitative case studies using a CR approach (Parr, 2015).

Cohen, Manion and Morrison (2011) suggest resonance between case studies and interpretive methodologies. Indeed, the way in which case studies focus on participants' perceptions of events (*ibid.*) means they excel at allowing researchers a rich understanding of the situation (Newby, 2010). Within case studies, participants are empowered to tell their stories due to the close collaboration with the researcher (Crabtree and Miller, 1999) and through listening to participants' versions of reality, the researcher is better able to understand participants' actions (Robottom and Hart, 1993). More broadly, the case study's facilitation of a detailed and intensive study (Hagan, 2006) means it aligns with my perspective as a social world researcher.

Case studies facilitate exploration of a complex current social phenomenon within its context (Baxter and Jack, 2008; Yin, 2014). Enabling a focus on a 'case', whilst maintaining a holistic and real-world perspective in order to understand a real-world problem, involving important contextual conditions, are key elements of case study research (Yin and Davies, 2007; Creswell, 2009; Cohen, Manion and Morrison, 2011; Yin, 2014). This is particularly fitting when scrutinising the achievement of agency which is understood within this study to be affected by ecological conditions (Priestley, Biesta and Robinson, 2013). Furthermore, case studies can explain, describe, illustrate and enlighten (Yin, 2014) which tallies with the CR aim of explaining causal relationships (Easton, 2010; Fletcher, 2017).

3.5.1 *The Case*

Case study is a flexible form of research (Savin-Baden and Howell Major, 2013), defined by interest in an individual case (Stake, 2008). Defining 'a case' is challenging as a wide range of foci can qualify, from accounts of a single classroom (Armstrong, 1980) to one specific interaction (Woods, 1993). However, Bogdan and Biklen (1982, p.58) suggest that 'a case study is a detailed examination of one setting, or one single subject, or one single depository of documents, or one particular event'. The size of the case is perhaps not of the utmost importance and instead, the bounded, specific and uniqueness of the focus is fundamental to its definition as a 'case' (Stake, 2008).

Within this study, both the case and the unit of analysis are primary academy teachers. This clear delineation 'bounds' the case which is important in order to determine a reasonable scope of data collection (Baxter and Jack, 2008), and to distinguish the subject from the context (Yin, 2014). This study fits Yin's (2014) model of a multiple case design with embedded units of analysis as it uses six primary academies as the source for the participants, and each academy yields between two and five participants (Appendix A). Using multiple case studies from multiple sites offers stronger evidence in support of the findings (Savin-Baden and Howell Major, 2013). Doing so also allows for the documentation of multiple perspectives, and such evidence is considered robust and reliable (Herriott and Firestone, 1983; Baxter and Jack, 2008).

This case study could be categorised as instrumental as the particular case has been purposefully selected in order to provide insight and facilitate understanding of the central issue (Stake, 2008). Indeed, the case must illuminate the research question which, as it is very specific, means it is more likely that the case study will stay within feasible limits (Yin, 2014). This instrumental case study quite decisively builds upon existing concerns of theorists and researchers and differs from an intrinsic design which aims to develop a 'thick description' of the case's own issues, contexts and interpretations (Stake, 2008). Ultimately, this research constitutes an explanatory case study (Savin-Baden and Howell Major, 2013) as it aims to explain teacher agency in terms of curriculum development, as a result of the interplay between participants' individual capacities and ecological conditions (Baxter and Jack, 2008; Savin-Baden and Howell Major, 2013).

3.6 Sampling

This section explains the sampling principles and processes of this study which are heavily influenced by its underpinning philosophy and driving aims. Due to the philosophical perspective and the integral commitment to exploring how individuals' experiences result from, and contribute to, their context, teachers themselves are the most fitting participants. Careful thought was given to the study context and primary academies were deemed the most appropriate as they are 'representative of both the issue and the context in which the issue is normally found' (Newby, 2010, p.59). Indeed, due to their disapplication from the NC (Academies Act, 2010), primary academies' localised ecological conditions could dispassionately be considered to support the achievement of teacher agency regarding curriculum development. This is certainly true in comparison to state maintained schools who are legally obliged to address the NC (DfE, 2013a), albeit within the context of a wider school curriculum of their own discretion. However, free schools, which technically hold academy status, and independent schools are both similar to academies as they are also disapplied from the NC. Ultimately, academies were selected as the source of participants as they comprise a rapidly growing sector (DfE, 2016b) at the heart of the DfE's current priority of developing a self-sustaining, self-improving schooling sector, evidenced, not least, by the threat of forced academisation for 'underperforming' schools (*ibid.*). As teachers' ecological conditions are a significant factor in this research, it was considered wise to gather data from a number of teachers within the same context as data would illuminate the same ecological conditions from a number of teachers' perspectives. Further, to some degree, ecological conditions would be stable within each site, therefore isolating the influence of other factors more fully.

From one perspective, this approach constitutes purposeful sampling which is 'deliberately and unashamedly selective and biased' (Cohen, Manion and Morrison, 2011, p.157), however, this is not wholly the case as following initial approaches to primary academies, the sampling became opportunistic. This was unsurprising due to the busy schedule of teachers and their unfamiliarity with research which may make them reticent to engage. Problems with recruiting participants were compounded by original specific criteria of teachers who trained in the early post-1998 era. This was considered ideal as it was when curriculum prescription was arguably at its highest due to the recent introduction of the NLS and NNS (DfEE, 1998; DfEE, 1999) but it rendered sufficient recruitment impossible, necessitating a more flexible approach whereby any willing teacher within a primary academy was recruited.

When recruiting participants, the recipient of the initial approach varied and at times was a gatekeeper (Savin-Baden and Howell Major, 2013), and at others, the intended participants themselves. For two academies, personal contacts meant I had the 'luxury' (*ibid.*, p.347), of immediate access to potential participants. The initial approach was either by email or letter, both outlining the study, its aims, the participants' involvement and their right to withdraw at any time (Appendix A). Contact details of my supervisor and myself were given in case of any further questions and the initial contact was followed up after a few days to gauge interest, answer any questions and make an interview appointment if appropriate. If no contact details were available for individuals, gatekeepers, such as school administrators, were contacted. In general, contacting potential participants directly proved preferable as gatekeepers tended to be obstructive, or ineffective whereby they displayed a poster (Appendix B) which garnered no interest. However, the opposite was true of two participating academies where supportive gatekeepers (a Headteacher and an Assistant Headteacher) were central to the data collection's organisation, critical to its success and indicative of literature which suggests initially consulting the gatekeeper is sensible as it is potentially advantageous if they are willing to endorse the proposed research (Hennick, Hutter and Bailey, 2011; Savin-Baden and Howell Major, 2013).

The sampling contrasts with Priestley, Biesta and Robinson (2015) who specifically selected experienced and effective teachers, due to their assumption that from a staff body, they would be the most likely to 'achieve high degrees of agency in developing the curriculum' (*ibid.,* p.14). Conversely, for this study, there was no pre-conceived notion of participants' capacity to achieve agency. The enforced widening of the sample proved beneficial as it led to the recruitment of a range of teachers, from NQTs to Assistant Headteachers, across a wide age range. Six academies and twenty-two teachers were considered an appropriate sample size to enable exploration and analysis in a depth appropriate for an interpretivist approach (Hennick, Hutter and Bailey, 2011). The sample size meant that the withdrawal of a small number of individuals would not be too damaging, that there were enough numbers to subsume any individuals' idiosyncrasies and that it was feasible for one sole researcher, thus it was deemed 'fit for purpose' (Cohen, Manion and Morrison, 2011, p.161), which, according to some literature, is the sole criteria.

All the primary academies were situated in suburban or urban areas and held academy status for varying lengths of time from a few months to over 5 years (Appendix C). Overall, in relevant terms, the participants were diverse, enabling a rich data seam to facilitate pursuit of a truly detailed understanding of the phenomenon in question (Creswell, 2009). Table 1

outlines key features of each academy and pertinent details about each teacher in order to contextualise the participants:

Academy information	Teacher Pseudonym	Teacher information
Apple Vale		
Apple Vale is a mixed primary school situated in a suburban, residential area. It has approximately 500 children on roll and is an 'academy converter', having converted in November 2013. The majority of Apple Vale's pupils are White British, the proportion of its pupils eligible for pupil premium funding is well below average and the proportion of its pupils with special educational needs is above average. Apple Vale's most recent OFSTED grade was 'good'.	CR	CR is a female NQT aged 21-30 years old. She completed a 3 year undergraduate BA (QTS) programme.
	DO	DO is a female NQT aged 21-30 years old. She completed a 1 year PGCE.
	JT	JT is a female teacher aged 21-30 years old. She has 6 years teaching experience and completed a 3 year undergraduate BA (QTS) programme with specialisms in Science and Geography. She is the KS1 leader and NQT co-ordinator at Apple Vale.
	LI	LI is a female Y5 teacher aged 21-30 years old. She has 2 years teaching experience and completed a 1 year PGCE. She is the Science leader at Apple Vale.
	SP	SP is a female teacher aged 31-40 years old. She has 7 years teaching experience and completed a 1 year GTP (with PGCE) at Apple Vale. She is an Assistant Head with responsibility for maths and KS2 (including assessment).
Zenith Academy		
Zenith Academy is a mixed primary school situated in a suburban, residential area. It has approximately 460 children on roll and is an 'academy converter', having converted in January 2014. The proportion of Zenith's pupils eligible for pupil premium funding is below average and the proportion of its pupils with special educational needs is also below average.	CD	CD is a female teacher aged 31-40 years old. She has 14 years teaching experience and completed a 3 year BEd (Hons) with specialisms in maths and PE. She is the Y5 and 6 leader and has responsibility for maths across the school.
	HO	HO is a female teacher aged 21-30 years old. She has 2 years teaching experience and completed a 1 year PGCE. She is the KS1 leader and has responsibility for ICT across the school.
	MA	MA is a female teacher aged 21-30 years old. She has 7 years teaching experience and completed a 1 year PGCE. She is the Science leader, and part of Zenith's technology team.
	TL	TL is a male teacher aged 21-30 years old. He has 3 years teaching experience and completed a 1 year PGCE. He is the lower KS2 phase leader and Acting English Leader.

<table>
<tr><th colspan="3">Longford Academy</th></tr>
<tr><td rowspan="3">Longford is a mixed primary school situated in an urban, residential area. It has approximately 520 children on roll and is an ‘academy sponsor-led’, having joined a large academy chain in September 2015. The majority of Longford’s pupils are from a wide range of minority ethnic backgrounds, the proportion of its pupils eligible for pupil premium funding is above average and the proportion of its pupils with special educational needs is above average. Longford’s most recent OFSTED grade was ‘outstanding’.</td><td>DA</td><td>DA is a male teacher aged 41-50 years old. He is an NQT and completed a 1 year PGCE.</td></tr>
<tr><td>KE</td><td>KE is a female teacher aged 21-30 years old. She is an NQT and completed a 3 year BA (Hons) (QTS) programme.</td></tr>
<tr><td>TR</td><td>TR is a female teacher aged 41-50 years old. She has 9 years teaching experience and completed a 3 year BA (Hons) (QTS) with English specialism.</td></tr>
<tr><th colspan="3">Dome Academy</th></tr>
<tr><td rowspan="2">Dome is a mixed primary school situated in an urban, residential area. It has approximately 450 children on roll and is an ‘academy converter’, having joined a large academy chain in September 2011. Dome’s pupils are from a wide range of ethnic backgrounds and almost half speak English as an additional language. The proportion of its pupils eligible for pupil premium funding is well above average and the proportion of its pupils with special educational needs is above average. Dome’s most recent OFSTED grade was ‘good’.</td><td>HR</td><td>HR is a female teacher aged 21-30 years old. She has 3 years teaching experience and completed a 3 year BA (Hons) (QTS) with RE specialism. She has had a rapid ascension through the school and is an Assistant Headteacher, leading on teaching and learning, with responsibility for KS1 and English.</td></tr>
<tr><td>JU</td><td>JU is a female teacher aged 31-40 years old. She has 11 years teaching experience and completed an Early Childhood Studies (QTS) 3 year BA (Hons).</td></tr>
</table>

Green Cottage Academy		
Green Cottage Academy is a mixed junior school situated in a suburban, residential area. It has approximately 270 children on roll and is an ‘academy converter’, having become an academy in April 2015. Green Cottage has a lower than average percentage of pupils from minority ethnic backgrounds and only a few pupils speak English as an additional language. The proportion of its pupils eligible for pupil premium funding is lower than the national average and the proportion of its pupils with special educational needs is similar to the national average. Green Cottage has a small special needs unit for pupils with severe and complex needs. Green Cottage’s most recent OFSTED grade was ‘good’.	JO	JO is a male teacher aged 21-30 years old. He has 5 years teaching experience and completed a 3 year BA (Hons) (QTS). He is Green Cottage’s PE co-ordinator.
	JA	JA is a female teacher aged 41-50 years old. She has 22 years teaching experience and completed a 3 year BEd (Hons). She is Green Cottage’s Literacy leader.
	SU	SU is a female teacher aged 21-30 years old. She has 5 years teaching experience and completed a 3 year BA (Hons) (QTS). She is the Head of Additional Resource Mainstream Setting at Green Cottage.
	SH	SH is a female teacher aged 31-40 years old. She has 11 years teaching experience and completed a 1 year PGCE. She is Gym and Dance leader at Green Cottage and works 3 days a week.
Garforth Academy		
Garforth is a mixed primary school situated in a coastal residential area. It has approximately 300 pupils on roll and is an ‘academy sponsor-led’, having joined an academy chain in April 2012. Most of Garforth’s children are White British and the proportion eligible for pupil premium funding is higher than the national average. The proportion of its pupils with special educational needs is similar to the national average. Garforth’s most recent OFSTED grade was ‘good’.	KA	KA is a female teacher aged 31-40 years old. She has 10 years teaching experience and completed a 1 year PGCE. She is the lower KS2 phase leader at Garforth, and is part of the Senior Leadership Team as she is the Maths Leader.
	RE	RE is a male teacher aged 31-40 years old. He has 11 years teaching experience and completed a 1 year GTP. He is the Lead Practitioner for Teaching and Learning at Garforth, and is also the Acting Vice Prinicpal.
	SA	SA is a female teacher aged 21-40 years old. She has 6 years teaching experience and completed a 4 year Bed (Hons.) She is the Reception/Y1 teacher at Garforth.
	SO	SO is a female teacher aged 21-30 years old. She has 2 years teaching experience and completed a 1 year PGCE. She is the Y5/6 teacher.

Table 1: Participant Information

3.7 Research Methods

This section explains and justifies the research methods within this study which are informed by the philosophical perspective, the case study research design and the research question. The focus is on the interviews as it is through these which all the data, including the supporting documents, was collected.

3.7.1 *Interviews*

This section details and justifies the interview process. It is important to make clear that two digital recorders taped the interviews, with the participants' permission, which garnered a 'complete and accurate account' (Savin-Baden and Howell Major, 2013, p.351) for subsequent analysis. Notes were taken using a Livescribe Echo Smartpen which electronically links written notes to specific points in the taped recording. This proved a useful function during data analysis as the valuable notes supplemented the interview transcripts (*ibid.*). Each participant was interviewed once and the average length was 45 minutes. The solitary interview is perhaps a weakness of this study as the way in which agency can vary over time and conditions suggests that 'agency needs to be investigated over time and across the individual's life course' (Etelapelto *et al.*, 2013, p.57). This limitation concerning the concept of change (Carse, 2015) is acknowledged, but was unavoidable considering available resources.

There is an argument that the interpretivist researcher should allow the study design to 'emerge as the researcher interacts with the study participants in the natural context and begins to understand and get a feel for important issues' (Appleton, 2002, p.91) and prior to meeting the participants, the interview process was piloted as this can lead to a higher standard of instrument (Creswell, 2009). Further, as interviewing is a craft 'learned through practice' (Kvale and Brinkmann, 2009, p.17), piloting can infuse the researcher with a greater sense of confidence, whilst also allowing any issues arising from specific questions to be addressed before working with participants (Bryman, 2008). Piloting led to the refinement of the non-negotiable questions within the interview schedule that would be asked if they had not previously been addressed during the course of the interview and it also allowed me to review the process with a particular awareness of the risk of a ubiquitous bias due to it being a solo project involving one researcher (Bell, 2010).

The interviews began with the completion of a personal information form (Appendix D) which gathered pertinent details. It continued with participants sketching a living graph,

charting time against career satisfaction and covering their entire teaching career (Appendix E). Mapping participants' professional biographies using living graphs and subsequently using them as a basis for discussion and exploration has been used with teachers in other research (Hryniewicz, Griffiths and Thompson, 2011). The use of such a visual method was slightly risky due to the general 'methodological and conceptual vagueness' (Pauwels, 2010, p.547) associated with them, as well as the inherent departure from social science's traditional reliance on language (Banks, 2001) which is often perceived as superior to visually based communications (Collier, 2001). However, as an exemplification of 'respondent-generated imagery', asking teachers to draw living graphs can 'yield valuable data for research' (Pauwels, 2010, p.554), not least because it requires their active involvement and causes pause for thought which can enable good quality recall and organisation (Hryniewicz, Griffiths and Thompson, 2011), particularly when compared with an immediate response to a question (Newby, 2010). Living graphs were particularly useful for this study as they led teachers to share important iterational experiences.

Following this initial activity, the teachers shared their current medium term planning (MTP) which acted as a memory prompt as they talked through its construction, revealing a range of ecological conditions and personal capabilities. In general, stimulated recall is a considered a useful method for gaining profound insight into the implicit theories and beliefs of teachers, and the relationship between beliefs and actions (Meade and McMeniman, 1992). It reduces the risk of inaccuracies due to poor recall (Yin, 2014) and Carse (2015, p.313) evaluates her use of stimulated recall to be a 'valuable line of enquiry to initiate the research process as it enabled me to establish the back story of the teachers and to build rapport'. However, it may be the case that the documentation was subject to 'biased selectivity' (Yin, 2014, p.106) as teachers may have only supplied planning they felt confident in, ultimately presenting a specific and perhaps limited 'reality' (Ritchie *et al.*, 2014). However, the non-judgemental nature of the process meant that teachers felt comfortable so I am confident the impact of this is negligible.

Essentially, as there are many variables operating in a single case (Cohen, Manion and Morrison, 2011), using a variety of data sources enables the issue to be explored through a number of lenses which allows for 'multiple facets of the phenomenon to be revealed and understood' (Baxter and Jack, 2008, p.544). As the strands of data are braided together, the convergence adds strength to the findings although to avoid being overwhelmed by the sheer volume of data, a systematic, well-managed process is necessary (*ibid.*). The manner in which this was achieved is detailed in section 3.10 which focuses on data analysis.

Following scrutiny of the MTP, the interview continued along a more traditional path as a semi-structured schedule of open questions (Appendix F) was followed. The schedule was based on the theoretical framework (Maxwell, 2005) and existing literature (Baxter and Jack, 2008). Heeding advice that wariness of prematurely imposing a process means that gathering rich data about the participants' true attitudes is more likely (Bryman, 2008), the schedule remained flexible enough to allow for a natural conversation (Savin-Baden and Howell Major, 2013) and the elicitation of individuals' particular stories.

It is suggested that 'interviews reach the parts that other methods cannot reach' (Wellington, 2006, p.71) which makes them apposite for garnering a deep insight into participants' perspectives, as fitting for an interpretivist epistemology. However, an inherent risk of relying upon teachers' self-reported stories is that they may filter experiences in a way which tallies with perceived expectations of the interviewer (Newby, 2010). This is reinforced by Clandinin and Connelly (1996) who suggest that lived stories of teachers are secret and that 'cover stories' are told in which they are experts whose practice adheres to expectations. Wary of this, I aimed for a 'neutral and non-judgemental' (Hagger *et al*., 2008, p.160) style of interviewing in order to develop an atmosphere conducive to gathering reliable data. Further, interviews were carried out in teachers' professional environments, meaning they were in familiar surroundings in which they could feel relaxed (Savin-Baden and Howell Major, 2013. The incorporation of a final 'very open sweeper question' (Drever, 2006, p.27) enabled participants to voice anything not previously raised.

3.8 Research Quality

In order to carry out a good quality empirical research project, two central concepts of validity and reliability need to be considered (Lindsay, 2010; Yin, 2014). Within this section, they are both discussed with reference to this study.

Validity can be sub-divided in construct, external and internal validity. Striving for construct validity is the first test Yin (2014) suggests as important for case study research, despite being challenging. Essentially, it is concerned with 'identifying correct operational measures for the concept being studied' (*ibid.,* p.46) so as to avoid subjective judgements which confirm a researcher's preconceived notion. This would suggest that measures of agency, regarding curriculum development, should have been delineated prior to data collection and analysis. However, this is not appropriate due to the way in which agency may be identified, when it is not truly present (Emirbayer and Mische, 1988). Certain behaviours may be agentic in one situation, but in another, for another individual, the same behaviours

may be habitual (Priestley, Biesta and Robinson, 2015). However, construct validity can be strengthened by drawing upon multiple sources of evidence (Yin, 2014) in order to confirm and improve the clarity of a research finding (Ritchie *et al*., 2014). By drawing upon living graphs, interview data and teachers' planning, this quality measure is addressed.

External validity is central to the quality of a case study (Flick, 2011) and can be summarised with the question; how far, beyond the situation in which they were produced, can the results be generalised? (Flick, 2011; Yin, 2014). Striving for external validity is integral to the research design phase and specifically the formulation of the research question which 'can help or hinder the preference for seeking generalisations' (Yin, 2014, p.48). For this research, external validity is supported by the 'how' research question and the replication logic integral to the multi-case study design which both mean it is more likely to be able to arrive at an analytical generalisation (Yin, 2014). Yin (2014) explains that analytical generalisation is the most relevant type of generalisation for case study research due to the number of cases being too small to constitute an adequately sized sample from which to make inferences about a population, as demanded by statistical generalisation. This study is generalizable in the sense that its analytical generalisations advance the theoretical concepts involved within the case study design, meaning its findings can reach beyond the setting of the empirical research (*ibid.*). External validity is further supported by the manner in which the concepts, and relationships between them, are fully grounded in the data (Ritchie *et al*., 2014). In conclusion, it is with confidence that the measure of external validity is addressed within this study. The next measure of quality to be addressed is internal validity which is independent of external validity, and there is no precedent that the judgements made are similar (Flick, 2011).

Internal validity is concerned with the 'extent to which causal statements are supported by the study' (Ritchie *et al.,* p.356). This is particularly important for this study due to its research question and CR approach, both of which elevate the importance of identifying of causal relationships. I have aimed to ensure internal validity through maintaining a transparent derivation from the data to the findings and interpretations (Cohen, Manion and Morrison, 2011). This should be apparent in the Findings (Chapter 4) which is characterised by 'rich and authentic detail' that 'reflects the language and meanings assigned by participants' (Ritchie *et al.,* 2014, p.357).

Reliability can be defined as 'the consistency and stability of a measurement, whether the results are replicable' (Hartas, 2010, p.71) and Yin (2014) positions this as one of the four tests for case study quality. However, there is a case which argues that for interpretivist research such as this, too strict an adherence to the measure of reliability can be unnecessary

(Thomas, 2009). I agree that the uniqueness of this study, specific to the time and pace of data collection, renders the need to consider whether it could be replicated in future, and lead to the same conclusions, redundant. However, checking the accuracy of transcripts, and initiating respondent validation (Ritchie *et al*., 2014), and ensuring coding is consistent throughout are two reliability procedures (Gibbs, 2007) which have followed as they can contribute to overall research quality. However, checks of the data by external reviewers were not possible.

Finally, I have aimed throughout to achieve an 'empathetic neutrality' (Ritchie *et al*., 2014) and have taken steps to avoid bias (Cohen, Manion and Morrison, 2011) including being reflexive about my role and the influence of my beliefs and behaviours on the process. I consider my experience of curriculum development to be a strength as it enables me to 'to participate in appropriate cultural processes and practices and to interact in a dialogic manner with the research participants' (Bishop, 2005, p.120). It enables me to see nuances and layered meanings during the interviews which could have been invisible with a lack of relevant knowledge and experience (Gubrium and Holstein, 2002).

Overall, I can claim to have demonstrated integrity within this research and it is this which is at the very foundation of research quality (Newby, 2010). This extends to the ethical way in which this research has been conducted as a further element of research quality project which merits its own section.

3.9 Ethics

This section sets out how adherence to an ethical approach contributes towards the quality of this research. In Spring 2015, prior to data collection, ethics clearance was granted via an online submission to Newcastle University's ethics committee. British Educational Research Association (BERA) (2011) guidelines also guided the development of an ethical framework for the study, essentially summarised as research 'conducted within an ethic of respect for the person, knowledge, democratic values, the quality of educational research and academic freedom' (BERA, 2011, p.6).

There are two reasons why ethical considerations are paramount to this study particularly. Firstly, it is suggested inevitable that qualitative researchers will encounter some ethical dilemmas due to close contact with participants (Robson, 2002; Denzin and Lincoln, 2008). For similar reasons, interviews are considered to potentially present a greater proportion of ethical dilemmas than other research tools (Kvale and Brinkmann, 2010). Consequently, steps were taken prior to contact with participants to ensure their dignity,

integrity and safety were maintained. These included adhering to the extremely important principle of informed consent (Robson, 2002; Ruane, 2005). Flick emphatically states that it is ‘a precondition for participation’ (2011, p.49) with BERA (2011, p.5) explaining it has been achieved when ‘participants understand and agree to their participation without any duress’. A more detailed analysis states that four elements of informed consent are competence, full information, comprehension and voluntarism (Cohen, Manion and Morrison, 2011). In order to meet this high standard, reiterating the research methods discussion (section 3.7), a comprehensive letter or email detailing the research and data collection processes was sent out as the initial contact (Appendix B). It shared contact details of myself and my supervisor for any further questions. In line with BERA’s (2011) recommendation, a clear statement about participants’ right to withdraw at any given time was prominent, as well as the fact that pseudonyms would protect anonymity (Delamont, 2012).

Furthermore, all participants were assured that data would be stored securely and potential risks pertaining to breach of confidentiality or data loss were minimised as data were stored on a private, password-secured computer and backed up in a password-secured cloud account. In the interests of maintaining a transparent process, participants were informed about the subsequent participant validation in order to preserve the accuracy of their data (Drever, 2006).

The second reason why ethical considerations are paramount to this study particularly pertains to the challenging period for primary academies within which the data collection took place. Many of the participants’ academies had recently acquired academy status, and the intrinsic disapplication from the NC alongside pervasive and high stakes accountability exerted pressure. Further, a new NC (DfE, 2013a) had recently been published. This contributed to a study deeply couched in a political context. Ethically, I aimed to maintain a delicate balance between avoiding adding to the pressure on teachers by enquiring into areas which potentially they had not considered, such as their academy’s disapplication from the NC, whilst simultaneously aiming to develop a deep understanding of their situation.

Despite concerns of deception and potential blurring of the boundary between ethical and unethical procedures within social research (Bryman 2008), I feel confident that these issues do not apply to this study as firstly, in-depth consideration has been given to a range of relevant issues prior to the data collection (Creswell, 2009). Secondly, the study was carried out in line with its stated aims, purpose and procedures. Indeed, I have confidence that this study was carried out in a truly ethical manner with no ‘detriment arising from participation’ (BERA, 2011, p.7). Furthermore, I feel that by bringing to the forefront a potentially buried

issue, a discussion about teacher agency and curriculum development may serve as a catalyst for improved future practice.

3.10 Data Analysis

This section sets out this study's data analysis process and justifies it by drawing links to its philosophy and methodology. A substantive approach to the data analysis was taken (Spencer *et al*., 2014) which treats 'data as windows on participants' social worlds' (*ibid.*, p.272). This is consistent with the ontological and epistemological underpinnings of this study that social reality is a subjective view of an objective world. This stands in direct opposition to a positivist epistemology which is more aligned with scientific research principles inappropriate for this kind of research (Cohen, Manion and Morrison, 2011) as it aims to test pre-stated hypotheses through deductivism (Bryman, 2008; Newby, 2010). Consistency with a CR view of causation (Figure 7*)* means demi-regularities (demi-regs), or rough trends, were identified, before the processes of abduction and retroduction (Fletcher, 2017).

The first process of identifying demi-regs was initiated by personally transcribing the interview recordings. This integral feature of the data analysis process (Gibson, 2010) enabled both full engagement with the data and key issues to be clustered (Bell, 2010). The interview transcripts were copied and pasted into NVivo 11 which is powerful qualitative data analysis software. Alongside this, I had requested copies of the shared MTPs during each interview. All teachers agreed and 73% (16 out of 22 teachers) gave me paper copies, or subsequently emailed them as attachments. 27% (6 out of 22 teachers) did not, despite subsequent reminders, meaning the set was incomplete. Nevertheless, this documentation was very useful as it allowed repeated scrutinisation of the planning as an example of the concrete outcomes of teachers' curriculum development. Further, reviewing the planning in conjunction with the interview recordings/transcripts opened a window into the construction process (O'Mahoney and Vincent, 2014), guarding against potential misunderstandings from inescapable differences between the depicted and the depiction (Pauwels, 2010).

Complementary phases of both deductive and inductive analysis (Ormston *et al.,* 2014) took place at the start of the analysis. NVivo is useful software regarding this as it alleviates the manual labour involved with coding, consequently expediting the process and reducing the margin for error (Bryman, 2008). It is important to note that NVivo does not assume responsibility for interpreting the data which remains with the researcher (*ibid.*).

The deductive phase, firstly, as a broad approach, employed thematic analysis due to its focus on 'discovering, interpreting and reporting patterns and clusters of meaning within the data' (Spencer *et al.,* 2014, p.271). Labels were developed using a priori concepts from the literature, initially guided by the EATA (Priestley, Biesta and Robinson, 2013). These labels were applied to the data in order to produce a meaningful account of the phenomenon in a systematic and transparent way, whilst addressing the research question (Spencer *et al.,* 2014). In practice, portions of the interview transcripts were highlighted and assigned to nodes within NVivo 11. This is conceptualised as 'lumping' the data (Saldana, 2009, p.19) whereby the essence of the extract is captured by a given code. Such an approach is supported by CR which aims to engage with existing theory to find the best explanation of reality (Fletcher, 2017). However, in keeping with CR epistemology and its understanding that existing theory is fallible and should be developed according to the empirical data (*ibid.*), it was understood that I might ultimately support, modify, or reject the theoretical framework to better explain the particular context of primary academy teachers' curriculum development experiences and emergent themes were also identified.

This principle led to an inductive (Newby, 2010) phase of data analysis, drawing upon grounded theory (GT). When utilised as a qualitative data analysis tradition (Ormston *et al*., 2014), grounded theory supports the 'generation of analytic categories and their dimensions, and the identification of relationships between them' (*ibid.,* p.271) by building on existing literature (Baxter and Jack, 2008). GT supports theory development (Spencer *et al.,* 2014) by accounting for themes arising from the data which do not slot into a preconceived theory or coding frame (Braun and Clarke, 2006). The manner in which this occurred during this research is exemplified by Appendix G. Appendix G is an extract from a working document which was used to track progress throughout the analysis as amendments were made to the initial list of labels. The evolving labelling framework was applied iteratively to the transcripts until it stabilised into a definitive version. Throughout this process, a natural process of 'splitting' the data (Saldana, 2009, p.20) occurred as a fine-grained analysis led to a proliferation of codes and their more nuanced application. In this manner, the deductive and inductive analysis combined in a complementary fashion to facilitate a thoughtful and careful analysis. Indeed, a truly inductive approach is suggested to be naive as researchers cannot free themselves from pre-existing understanding which may exert an influence (Amos, 2014). Taking such an approach also means that the theoretical framework (Maxwell, 2005) as the 'anchor' of the research is created from existing literature and developed throughout the data

analysis until it incorporates emerged themes and relationships between constructs (Baxter and Jack, 2008).

Following identification of demi-regs, the process of abduction is one of theoretical re-description (Fletcher, 2017). Essentially, abduction moves beyond thick description of empirical events to draw links with theory (*ibid.*). This involves devising overarching categories (Ritchie, Spencer and O'Connor, 2003) into which nodes are grouped. Appendix H shows a screenshot of one such category, 'school features', and its constituent nodes. This synthesising process (Saldana, 2009) was repeated as the initial categories were subsequently subsumed into three main themes (*ibid.*). As they were the iterational, PE and projective dimensions, clear links are apparent between the theoretical framework and the data analysis.

Through the process of abduction (Fletcher, 2017), differences in observed curriculum development were conceptualised as differing levels of agency. Two distinct groups emerged from this process, and consideration was given to the underpinning reasons. Drawing upon a CR approach, retroduction aims to shows how emergent properties from the real ontological level of reality can be actualised as powers or liabilities at the empirical level (Sayer, 2000; Fletcher, 2017). For this study, this meant focussing on those conditions which were particular to the two distinct groups and considering their impact. The aim was to link observed empirical trends with particular social conditions under which a causal mechanism takes effect (Fletcher, 2017). However, any new, plausible interpretation of a concrete phenomenon, potentially providing new insight, must be remembered to be fallible (Dannermark *et al*., 2002). The Findings (Chapter 4) details the outcomes of this.

3.11 Conclusion

This chapter sets out the research methodology by linking its philosophical underpinnings and operational phase. By doing so, a compelling case for its quality is made. Further support is to be found in other research which utilises similar approaches. For example, van der Heijden *et al*. (2015) in their research into teachers as change agents, used similar methods and data analysis approaches. Although some studies into agency use different methodologies, such as Biesta and Tedder (2006) who use narrative analysis and Priestley, Biesta and Robinson (2015) who take an ethnographic approach, it is with confidence that the choices made are presented. Despite some dissonance with the seminal research (*ibid.*) upon which this study draws, there are many similarities, including a consistent focus upon people through the use of interviews and attention paid to professional histories. There is further coherence regarding the identification of structures and processes,

identification of themes and the search for causal mechanisms. Perhaps the most prominent difference is the scale and scope of the projects and the manner in which Priestley, Biesta and Robinson (2015) were embedded in the schools, embodying the critical ethnographic factor that ‘the researcher spends a long and intensive period in the study environment’ (Newby, 2010, p.59) which was not feasible for this study. Despite this, in conclusion this chapter demonstrates how the aims of this research are facilitated through an appropriate methodology and the subsequent chapters which analyse the data aim to continue this coherence.

Chapter 4. Findings

4.1 Introduction

This chapter aims to present the empirical data in order to address the following research question

> 'How do primary academy teachers' personal capacities and ecological conditions interplay over three temporal dimensions to have a causative influence on their achievement of agency regarding curriculum development?'

This chapter is split into three main sections. The first section reports the participants' curriculum development at the empirical level. Through doing so, a distinction between the majority of the participants and one pair of teachers becomes apparent. JA and RE achieve agency differently in terms of general curriculum development and are referred to throughout. Doing so helps elucidate the nature of teacher agency, and the manner in which it is achieved. The second section is structured in accordance with the study's theoretical framework as it looks at participants' experiences across the chordal triad (Emirbayer and Mische, 1998). By beginning to consider how teachers' experiences within the iterational, PE and projective dimensions (Priestley, Biesta and Robionson, 2013) (Figure 3) contribute towards their achievement of agency, the second section aims to builds upon the first by beginning to explain the empirical events. This is the groundwork for the Discussion (Chapter 5) which begins to suggest causal mechanisms for teachers' achievement of agency.

The third section of this chapter sustains the same structure as the second, although its focus is narrowed as it presents one bounded example of curriculum development. It focuses on SP's mathematics curriculum development project which she initiated and manages. Regarding this project, SP achieves agency differently from the majority of participants and is strongly aligned with JA and RE. However, it is a notable exception as SP acts in alignment with the majority of the teachers across the rest of her practice. Again, the contrast of SP's practice with the majority's practice helps elucidate the nature of teacher agency, and the manner in which it is achieved.

4.2 Curriculum Development at the Empirical Level

4.2.1 *Introduction*

This section analyses the study's data from six different primary academies, prompting the following brief overview of pertinent elements of the Methodology (Chapter 3) to outline the research design and its underpinning philosophical perspective. Within each academy, between two and five teachers participated, ranging from class teachers to subject leaders to school leaders (Appendix A). Such a case study approach aims to develop rich understanding (Newby, 2010) of a social phenomenon within its context (Baxter and Jack, 2008; Yin, 2014). Qualitative data were gathered from individual, semi-structured interviews and relevant medium term planning was also collated. Both data sets are referred to throughout this chapter. They suggest that participants engage with limited curriculum development, although this does take a number of forms.

4.2.2 *Curriculum Development in Practice*

This section outlines the curriculum development work undertaken by participants. It begins by using data to illustrate how the majority of teachers engage with curriculum development work. Whilst included within this, the second section focuses exclusively on JA and RE as their practice extends beyond the majority's.

For all participants, ubiquitous use of the NC (DfE, 2013a) underpins their school curriculum. For example, several planning documents contain the relevant NC statements including HR's science (Appendix I) and DO's maths (Appendix J). Similarly, JA's maths planning (Appendix K) is guided by the aims of the primary mathematics NC. This is worthy of note as recent legislation disapplied academies from the statutory nature of the NC (Academies Act, 2010) yet, the fullest extent of any curriculum development work is mediating guidance and this is largely done under the premise of taking account of their children's needs:

> *'Different schools have different needs, so a lot of our curriculum is designed to support the needs of our kids. So a topic is the Seaside because we know a lot of our children haven't been to the seaside, so we take our Year 1s'* - HR

'I know that the way in which I've approached things and the way I've taught certain things has definitely changed between the two cohorts that I've taught in Year 5 to suit their needs. And that is important' - LI

'We were thinking about the area…so there's not that much mobility here so once they grow up they tend to stay here, coastal area. So we were thinking that we want to arm them, even at this age, with that window into what their future might look like, which is why we brought in the vocational side of it as well, so they can actually follow a passion that they might have.' - RE

The mediation occurs in three principal fashions. Firstly, the teachers make choices regarding the organisation of the guidance, which may focus on the pacing:

'there's a list of skills and knowledge and I had to segregate that into Year 1 and Year 2 so obviously it's open to interpretation so […] that enables you to be creative, and that was quite nice to say, right you can do that, and you cover this'- JT

It may also involve choosing specific content and the activities through which the content will be taught:

'to a certain extent, we do our own curriculum because we choose our own texts and our own skills'- DO

'*It's not like we're given, right, teach this here. It's more like, ok here's your theme, during this period the children should learn about 'past' and 'present', they should learn about a king and a queen, so then you think about, which king should we learn about?'* - DA

As shown, there are a range of motivations for this curriculum development. They can be quite personal as KA's travels in India resulted in her Summer 1 Experience overview entitled 'Rajasthan and Elephants' (Appendix L).

Secondly, the mediation occurs as participants draw cross-curricular links:

'So where we've done our science and English together, we've been able to fit in quite a lot of the science without the children even realising it, and particularly the writing side as well, some of them haven't realised they've done a science lesson as well!' - MA

'we do all our Shakespeare around the same time we're doing the Tudors because it's around the same time isn't it.' - LI

'our topic of Explorers was going to be taught through all our other lessons, so we don't have a Geography lesson or a History lesson, we just do Art which has a historical context.' - KA

Cross curricular links are evident within SA's initial brainstorming (Appendix M) which has a topic as its starting point, as well as JO's Summer Term topic mind map (Appendix N) which is centred around particular elements of British history. Further, cross curricular links are facilitated within Garforth's Learning Experience planning format (Appendix L) and their Academic Yearly curriculum overview (Appendix O) which both group subjects into four areas. The cross-curricular links made are not always particularly sound though as LI's curriculum overview (Appendix P) jigsaw layout gives the impression of interconnected subjects, but reading the detail suggests that each piece is largely a discrete silo.

Thirdly, the mediation occurs as participants use additional documentation which they choose, or are directed to use. This ranges from archived government guidance, such as QCA units of work and the NNS (DfEE, 1999), to commercial schemes such as the 'Power of Reading' and 'Collins Busy Ants':

'*I still take it from the [National Numeracy] Strategy. I like it. It's clear.*' - SO

'for maths we have a scheme called Mastery Maths that we follow so it's not the curriculum maths, but it has got all the curriculum objectives for each year group' - JU

'I've got Y4 science here which is literally lifted from the [county] scheme of work' - HR

Within HR's Curriculum Overview and MTP, reference is made to several schemes, including Read Write Inc., [Academy Chain] Music Programme and Nuffield Design and Technology pack. SH's Victorian Life plan (Appendix Q) is structured around a WOW moment and Learning Challenge questions which are key elements of the Focus Education scheme. Similarly, JO's Year 5 maths plan (Appendix R) and SH's Year 3 maths plan (Appendix S) are structured according to the categories of the archived Primary Framework for Mathematics (DfES, 2006). CD's Year 6 curriculum overview (Appendix T) states that its PSHE curriculum will equate to the archived Social and Emotional Aspects of Learning

(SEAL) materials (DfES, 2005). Garforth Primary uses an in-house scheme of work which is available online and used by all teachers (across their network of 32 primary academies) to plan their lessons. It was developed by staff across their academy chain, including KA:

> *'the maths team, [...], they got the NC objectives and mapped them and put them into units. [...] we were all allocated units that we went away and wrote, we submitted them and they were checked and all published'* - KA

At this juncture it is important to note that teachers' mediation of guidance is not necessarily consistent, as shown by the following two particular examples which suggest an absence of curriculum development whereby teachers 'follow routinized patterns of habitual behaviour with no consideration of alternatives' (Priestley, Biesta and Robinson, 2015, p.141). Firstly, MA recounts that her Y4 class studied a particular artist and visited a local picture gallery as the linked activities were detailed on existing plans, despite the gallery's closure of the relevant artist's exhibition. In a different academy, JO describes how the gunpowder plot was taught during the summer term despite its natural home being November, as '*due to curriculum rules we had to do this in chronological order'.*

The focus now shifts to JA and RE exclusively. As explained previously, their achievement of agency regarding curriculum development exceeds that of the majority of participants. Whilst their curriculum development similarly demonstrates the three strategies previously identified, it goes beyond them due to its school-wide approach and consequential support of colleagues' engagement with curriculum development. For example, two of RE's initiatives have resulted in changing colleagues' practice. Firstly, he organised Garforth's curriculum into four areas: academic, developing learning power and growth mindsets, Philosophy for Children (P4C) and a vocational element. He subsequently sub-divided the academic element by grouping the subjects into four learning areas, largely due to the influence of a Headteacher he found inspiring. This structure was rolled out school-wide and used to organise medium term planning (Appendix O).

RE positions it as:

> '*just an umbrella to group things in to make people think more about maybe their coverage of the broader curriculum so even if you're not doing some history for example, can you make sure you're thinking about geography or RE, develop something about culture within that topic'*

As his colleague reports, there has been a tangible impact:

> *'our teaching and learning leader RE, he came up with those [headings] and then we grouped the subjects as we thought they'd fit into those […] And actually what's happened, certainly in the last two half terms, we've tended to do a lot of those lessons as one lesson. So although we've got ideas for English, art and music, and we might have a topic idea, we've just taught a lesson that is the topic and the art and the music and the ICT – it's all kind of one lesson. So we've moved away from the stand-alone subjects a bit more.'* - KA

Despite this, RE is not satisfied and believes the impact to be limited:

> *'It's been ok, but we have looked at the fact that we don't think this particularly makes a difference. People still think about it in subjects'*

Secondly, in conjunction with local secondary teachers, RE wrote a skills overview for each subject (Appendix U) which is designed to underpin planning as he sets the expectation that *'if we walked into any classroom, they would be learning one of those skills.'*

Unlike RE, JA has not consciously created any whole-school structures or systems, yet she attains a whole-school impact with her topic-based approach. This approach began as a solo endeavour but now includes her year group partner as JA explains, '*the two Year 4 classes are doing something different to how the school teaches.'* She says *'we genuinely do teach by topic and the kids really are completely absorbed and all of our work springs from the literacy'* which contrasts with her colleagues who she perceives '*are actually doing subject based learning and making tenuous connections'.* JA's influence spread more widely when the Assistant Head returned from maternity leave, investigated and championed her approach through formal channels, including staff meetings, leading to its widespread adoption across the school. As JA comments:

> '*how the school teaches […] was more formal and formulaic I guess. I think that it looks like we've come to end of that.'*

This analysis is supported by her colleagues:

> *'All the stuff JA's brought in this year with her year group partner FA. You can't knock it, you really can't. It's an outstanding way of teaching […] – it's a whole different ball game to what we used to be doing.'*- JO

'Next year we're changing how we do literacy because JA does it in a slightly different way which we're all going to adopt because it is phenomenal.' - SH

4.2.3 *Conclusion*

The empirical data suggests little evidence of teachers achieving a level of agency regarding curriculum whereby they 'conceive and plan a broad, balanced and coherent curriculum in pursuit of relevant and properly argued educational aims' (Alexander, 2012, p.1). Instead, their agency is limited to mediation of the NC on its journey to the enacted curriculum and this transformation is where their professional autonomy manifests (Young, 1998; Alexander, 2009). The manner in which this is done reflects key discourses and concepts from within the primary education sector.

Firstly, it is possible to detect the elevated importance of the NC which had statutory status for all schools, excluding the private sector, from 1988 to 2010. Furthermore, non-statutory government guidance which was nigh on ubiquitous in schools between 1997 and 2011 with ninety thousand weekly users of National Strategies resources (DfE, 2011b) exerts a distinguishable impact. Secondly, a personalised learning approach is evident which, through its promotion by the incumbent government (Milliband, 2004), achieved influential status from 2000 (NCTL, no date). Thirdly, the cross-curricular approach seen was a key tenet of an Independent Review of the Primary Curriculum (Rose, 2009) which is deemed as 'epoch-making as the Plowden report' (Baker, 2008).

For most teachers, their agency is limited to small-scale action but there appears to be space for it to be more considerable and to occur at a school-wide level as demonstrated by JA and RE's work. Attention now turns to participants' experiences and aspirations within the chordal triad (Emirbayer and Mische, 1998) in an effort to explore influences which result in this empirical data.

4.3 Influences on the empirical curriculum development

This section aims to analyse influences on the empirical curriculum development detailed in section 4.2. This is enabled by the inherent analytical separation of agency and structure of the EATA (Priestley, Biesta and Robinson, 2013) and by exploring each dimension of the chordal triad (Emirbayer and Mische, 1998). Doing so lays the groundwork for identifying causal factors for agency within the subsequent Discussion (Chapter 5).

4.3.1 *Practical Evaluative Dimension*

4.3.1a *Introduction*

Agency is always achieved in the here and now, 'enacted in a concrete situation' (Priestley, Biesta and Robinson, 2015, p.30), and as such the PE dimension is 'a major influence on agency' (*ibid.*, p.33). For example, SA attributes great significance to her current academy for shifting her thinking about curriculum which, in turn as an indicator of her epistemological beliefs (Olafson, Schraw and Vander Velt, 2010), may affect her reflexive decisions and ultimately her agency:

GP: If you were asked to define curriculum, that word, what would you say?

SA: Now, I would say an opportunity for children to learn the world around them.

GP: When you say 'now', does that differ to what you would have said before then?

SA: Yes.

GP: Why, what would you have said before?

SA: A list of rules. A list of objectives.

GP: What, before coming to Garforth?

SA: Yes.

With regard to understanding the empirical events detailed in section 4.2, this section considers the cultural and structural aspects of the PE dimension (Priestley, Biesta and Robinson, 2013). Despite material aspects being a category of the PE dimension too (*ibid.*), these do not appear significant within the data.

4.3.1b *Cultural aspects*

Cultural aspects of the PE dimension are concerned with 'ways of thinking, understanding and talking about the issues and the situation' (Priestley, Biesta and Robinson, 2015, p.34). This discourse represents the teachers' 'tools for thinking', thus exerting an important influence on their potential to achieve agency. Further, it provides a window into their beliefs (derived from their iterational experiences), which similarly affect the ability to

achieve agency (*ibid.*). The relevant data illustrates the way in which teachers talk about curriculum, the NC and teachers as curriculum developers.

4.3.1bi *Curriculum*

Considering the data related to exploration of the fundamental question 'what is curriculum?' (Dillon, 2009, p.344) is illuminating as the teachers find this very difficult to address. Although it is acknowledged that curriculum is indeed a slippery concept to define (Au, 2011b; Young, 2014), the teachers struggle to summarise a fundamental tool of their trade (Young, 2014), exposing a lack of language and understanding, as represented by TL's response:

> *'Um, it's a hard one! What is curriculum? Ummm. Phoarrr. What is curriculum?'*

When pressed, participants express curriculum as the pathway to a pre-determined and sacrosanct entitlement which they hold a clear picture of and believe children have a right to, indicating a realist set of beliefs (Olafson, Schraw and Vander Velt, 2010). JO positions curriculum as the '*rules and regs [sic] of education*' which CR endorses, saying curriculum is:

> '*a set of rules that you have to abide by and make sure that you reach those targets, and that you're giving the children the education that they're supposed to be having.'* – CR

In contrast, RE hints at a more sophisticated understanding of curriculum saying:

> *'I think it's that balance between what is taught to them in terms of their academic skill set across a range of learning areas, and then also building their character and their social interaction skills as well, and that learning power and mindsets, growth mindsets. Those kind of things to make them learners beyond the walls of the school, for the future.'*

For the majority though, curriculum is synonymous with certain skills and knowledge they believe children need to know:

'…the things I need to teach them by the end of the year, the skills and, most of it's skills based, and the knowledge that I need to try and impart by the end of the year.' - DO

'a set of objectives, of skills and knowledge, that the children need to know by the end of a certain age range.' **-** JT

'a scheme of work is not the right word, the knowledge and skills that the children need to learn, um, learn and understand whilst they're in school.' **-** SP

Indeed, the extract from MA's science overview (Appendix V) clearly shows the prominence of knowledge and skills within the planning, and on the title page of HR's Curriculum Overview the following emboldened sentence presents as a type of mission statement;

'At [Dome Academy] we are committed to giving every pupil the skills and knowledge to fulfil their potential'

The general way in which teachers talk about curriculum as a set of rules designed to transmit a particular set of knowledge and skills could be suggested to concede influence and power, consequently reducing their capacity to achieve agency. However, these beliefs seem to 'function' within the PE dimension (Priestley, Biesta and Robinson, 2015) to lead to an enacted curriculum which is child-centred, responsive and personalised:

'I think the more we threw at them in terms of stimuli, they were inspired to say, well, what about this? And that prompted us to say, well that wouldn't normally have been in our curriculum but if it engages them, why not?' - SA

'You have to look at your AfL (Assessment for Learning), where the children are, you can't just go and plan something and expect someone to do that if you don't know where your children are so you need to know them and plan accordingly.' - JU

'So you drop in a, really you pre-empt the direction it might go, but you drop in a stimulus and work off it.' - RE

Indeed, teachers' discourse seems to reveal a tension in their thinking as alongside an understanding of curriculum which situates the teacher in a position of power, they also seem to hold epistemological and ontological beliefs which are largely relativist (Olafson, Schraw and Vander Velt, 2010):

'*It's quite hard to say, well your child's going to know this and that because every child is different so I don't think you can specify 'by the end of Year 1, your child's going to do this', because you don't know*' - CR

'If they're inspired about something, will feed it back to you. Then you can feed off them and you can say, right, what can we do now? What's the next thing?'- SA

These specific examples are similar to JA, but her perspective is more generic and analytical:

'*my ongoing focus has genuinely been how the children learn and how they seem to learn best and what makes them excited. And I've never, never, ever been anything other than amazed by the fact that whatever you do with a child, they see something new and they tell you something new and their interpretations are never the same.'* - JA

Attention now turns to the way in which teachers talk about the NC.

4.3.1bii *The National Curriculum*

Indicative of all the academies' adherence to the NC, the teachers equate the NC with curriculum and afford it a central position in their planning:

'So our big job for next year is aligning what we've got with the new curriculum' - HR

Through doing so, they fail to demonstrate an appreciation that the NC is but one version of curriculum. Instead, wholehearted trust in the DfE's version of curriculum is suggested, as TL says '*to come up with our own things of what we want them to know would be a bit odd'*. Indeed, the teachers frame the NC positively and view it uncritically:

'I think it's[NC] alright. I mean, I didn't see what was wrong with the old one.' - TL

They believe that the NC can ensure equality of opportunity and consistency:

'*… at least the government is giving you the guidelines so children will be given the same treatment, the same opportunities'* - CR

'*I think that there is a need, in some form [of a NC] […] Just so there is some consistency and everyone's being offered the same opportunities*' - LI

'*I think you need to sort of have that guidance because if the secondary school they're going to is going to follow the same curriculum and we've not taught them in*

> *preparation for that curriculum, then they're going to struggle in secondary school'* - JT

Fundamentally, the NC is viewed as a 'safety net' which ensures '*you know you're covering everything you need to, to get them where they're supposed to be*.'- DO

> '*It's [NC] nice, it's like a safety net in a way. There's something there for you to look at and you can put your own spin on it if you're like me, so yeah, it's nice like that*' - KE

Indeed, it is important to note that the teachers accept this practice and there are no complaints of feeling constrained. The NC is seen by SP as a '*skeleton*' upon which '*we continue to develop our curriculum*' which is corroborated by others:

> '*it's [NC] not actually too prescriptive and I'm not actually just teaching from a piece of paper that somebody else has written, I can be creative as I like*.'- TR

> *'I think it's nice to have the guidelines and then, cos it's nice to have what, something set out for you, because your actual plans are your ideas'* - CR

In summary, the teachers feel afforded sufficient ownership within a safe framework as SH's analogy suggests:

> *'… they're [NC objectives] like coathangers. You can dress it up however you want. You can put whatever you want on it but the coathanger is like your objective, the thing that gives it the shape and the frame.'*

Indeed, the only common criticism of the NC is that it lacks detail:

> *'the new NC, it was almost like they shifted the objectives around and made everything come down a year but didn't really give any guidance and I also, it wasn't really broken up. It was just a few pages that had, this is what it is, kind of do what you want with it*' - KA

> '*the new curriculum only outlines one page for PE – it just wasn't clear enough*' - TR

However, RE holds a contrasting viewpoint saying, '*I'm not a fan. There's too much content*.' JA agrees as she rails against the imposition of certain elements, but even she is not immune to pressures to conform:

> *'there's the statutory and non-statutory list [of vocabulary in the NC] and I thought that was absolutely outrageous but I have kind of made sure I've been covering those things because I have kind of, as well as liking to ignore things, I do also feel duty bound and another point of view, I do feel, even if I say I don't agree with anything, I do toe the line secretly.'*

The general accepting way in which teachers talk about the NC and their view of it as the definitive curriculum seems to suggest a concession of influence and power and consequent reducution in their capacity to achieve agency. This is further suggested by the way in which they talk about teachers explicitly.

4.3.1biii *Teachers*

The belief that the NC provides necessary guidance for teachers automatically positions them as deliverers of a curriculum (Trowler, 2003):

> *'I'm just there to facilitate their learning, what they need to know, I'm not there to decide what they need to know – that comes from the government I suppose who set the rules for schools'* - DO

This discourse diminishes teachers' personal capacity for agency and positions the prospect of moving away from the NC an enormity hard to envisage, with MA representing the feeling by saying *'I wouldn't know where to start!'* JO shares that he would be '*shit scared'* [sic] of planning a curriculum, and others concur:

> '*I wouldn't feel comfortable planning a curriculum but that might be because of my own worries about doing a bad job.'* - DO
>
> '*I think going from scratch would make me feel quite overwhelmed and daunted if I didn't have something to check I was on the right lines*'- LI

There is evidence of poor self-assessment regarding teachers' capacity and trustworthiness:

'There are teachers who would just teach art based things, and just teach history' - SO

'*I think you need a programme to make sure that I am, especially at my stage [NQT], you know, if I was told 'teach whatever', we might be doing a lot of lessons on superheroes! We just wouldn't know what to do'* - DA

JA and RE stood out by embracing the option of engaging with far more significant levels of curriculum development, including planning their own curriculum from scratch:

'I think that would be exciting, very exciting and I would hope to be in a big place to impact that and help it along the way.' - JA

'It would be great. I'd say, that's fine with me!'- RE

RE is passionate about creating curriculum and contrasts this with his experience of colleagues:

'I like thinking, I like getting in the heads of children, thinking one, what would inspire me and two, what would be great skills for children to learn? I like that, that's the best part of teaching for me and then presenting it to children in an interesting way [...] the more I've worked and the more different settings I've worked in, that for other people, and it doesn't always matter when they trained, they like to be almost told what it is they've got to teach then they focus on the pedagogy of how they're going to get that across. Whereas for me, the less restrictions the better.'

The way in which the majority of participants talk about teachers as facilitators rather than planners, ill-equipped and fearful of exerting an impact on curriculum, is suggestive of an 'ontological insecurity' whereby teachers are uncertain as to whether they are 'doing the right thing', perhaps due to the omnipresent 'mechanics of performativity' (Ball, 2003). Their discourse seems to concede influence and power and consequently reduces their capacity to achieve agency. This is particularly evident when juxtaposed with the way in which JA and RE talk about teachers as confident and enthusiastic curriculum planners and strive for greater agency which plays out in their actions.

4.3.1biv *Cultural Conclusion*

Due to the dialogic nature of agency (Emirbayer and Mische,1998), voices to which teachers are exposed play an important part in their achievement of agency. For the participants, it seems as if the ideological hegemony of the education sector affects their limited discourse which is extremely important as vocabularies and discourse can be considered the ''material' teachers think *with*' (Priestley, Biesta and Robinson, 2015, p.59). It is therefore suggested that the way in which the participants talk about curriculum is indicative of their personal capacity to achieve agency. For the majority, a lack of 'tools for thinking', which could otherwise support their achievement of agency regarding curriculum planning, is perhaps indicated.

The voice of government seems to heavily influence teachers' discourse around curriculum, apparent in frequent use of key phrases such as 'skills and knowledge' (DfE, 2013a). Indeed, it is suggestive of ventriloquation (Bakhtin, 1981) whereby the voice of another is appropriated for one's own use. The voice of the DfE is apparent too in teachers' understanding of particular terms. For example, their conceptualisation of knowledge as information which can be accessed and stored is deemed a simplistic understanding (Alexander, 2010a) which undervalues its true value of promoting critical thinking (Wheelahan, 2010). Tellingly, such a definition aligns with the former Secretary of State for Education's view (Gove, 2013a).

However, only certain elements of governmental discourse seem to be influential as it is interesting to note that the DfE's recent seminal policy which disapplies the statutory nature of the NC for academies (Academies Act, 2010) does not feature in teachers' discourse. It is conspicuous by its absence as it was high-profile and celebrated (DfE, 2010) and intrinsically holds potential for supporting the achievement of agency. Neither are wider professional discourses apparently impactful, including concern about curriculum capacity (Alexander, 2010a). The extent to which participants' thinking is engrained with a particular selection of wider discourse perhaps meets 'a need for steadfast safety mechanisms in a precarious world' as they strive to eliminate risk and evade failure (Edwards and Blake, 2007, p.44). A side effect is that participants do not envisage alternatives and are content with the status quo. Indeed, for the majority of the teachers, the result is that a perceived professional responsibility to deliver the NC (Trowler, 2003) prevails in spite of strong beliefs which could enact contrasting practice, for example commitment to a curriculum as practice model. This means that the impact of participants' curriculum development is limited to their enacted curriculum, rather than the planned curriculum. However, JA and RE's more detailed

discussion of curriculum correlates with greater agency which is evidenced by more significant curriculum development.

4.3.1c *Structural aspects*

Structural aspects of the PE dimension are concerned with the 'social structures and relational resources that contribute to the achievement of agency' (Priestley, Biesta and Robinson, 2015, p.30). Regarding this, three themes are apparent within the data and contribute toward the exploration of influences leading to the empirical events detailed in section 4.2. These are academy-specific systems, wider contextual features and relationships which are now explored in turn.

4.3.1ci *Academy-specific systems*

There are a number of systems in place across the academies within this sample which affect the teachers' potential to achieve agency regarding curriculum development. Firstly, every single academy within this sample maintains a policy that its school curriculum adheres to the NC. One of the participants admits surprise that this is not a statutory requirement:

> '*so are you saying that an academy technically doesn't have to do any of the NC?'* - TL

Many of the teachers do not know why, despite their curricular freedom, their academy uses the NC. This suggests they were not involved in the relevant decision-making process, however several senior leaders offer explanations referring to potential consequences of not following the NC:

> *'I think what we did was we thought about the people that work here, and we thought if that [the NC] was taken away from people, that might be too big a step.'* - RE
>
> *"I think to move away from the NC and try to develop our own would be difficult for us to get support in terms of making sure that what we had was robust enough."* – SP

Further to the academies' decision to use the NC, additional guidance and structures also influence teachers' curriculum development. This includes school-wide use of non-statutory guidance, school/academy chain-generated, government-published and commercial:

'So they've bought into this thing called Focus Education [...] Well, that's not the [National] curriculum, but it's the curriculum resources that schools are buying because they're frightened about not following the new [National] curriculum' - JA

'we basically get this thing at the beginning of the year which showed the topics for each year group and gave us cross-curricular links, you could do this in this lesson, this in art.'- KE

'we do a Creative Learning Journey (CLJ) which is trying to teach the curriculum in a creative way, so we don't separate the subjects too much.' - SP

The timetabling structure is also a factor affecting teachers' curriculum development:

'*sometimes you get the NQTs coming in who have great ideas and are really enthusiastic, but you're kind of saying, right, that's brilliant but we've only got an hour*!'- SH

'*we do one lesson a week for our topic and RE and Science and then at the end of every half term, we still do maths, but we don't do 'Power of Reading' for that week, so all the other time is for all the Challenge Week activities*.' - JU

'Actually breaking away from a really traditional timetable has been a real challenge but has been brilliant and all of us found it to start with, we naturally wanted to be, well, this is a geography lesson so this is what we do. But in some ways coming away from that structure has really helped, and it has really helped the children.' – KA

There are general school systems which also have an impact on teachers' curriculum development:

'*Yes, the rule is in the school that they all need to have the same opportunities [...] So each class [within the year group] has to do exactly the same thing*' - DO

'*It's historical in that we've been doing the CLJs for as long as I've been here, they started when I joined, so most year groups have got at least one wheel, which will last a whole term, which they've had for however many years.'* - SP

'*The problem with that is that we've picked up plans from the previous teacher who is still in our year group, so LR and I haven't felt that we could necessarily change it which we've felt a bit frustrating*.' - SH

For most of the teachers, the existence of these systems and structures limits their potential to achieve agency. However, for JA, the perceived conflict between school systems and her beliefs results in her behaving agentically to uphold both:

> *'you get these plans which literally give you your Learning Challenge Question (LCQ), so there's nowhere for the children to go […] it's literally LCQ1, LCQ2 and before everything starts you have a WOW moment which you're given. […] and of course that takes away any creativity or autonomy in staff to go, well, I don't quite know what my kids need to find out in that area yet. Well, I'm happy to do Ancient Romans, but I don't know what they'll want to find out and I don't know what they already know.'*

RE also acts similarly, but a consequence is the creation of a school-wide structure which encourages teacher agency. His skills overview (Appendix U) relies upon teachers' mediation because each subject is reduced to one set of skills, applicable to all year groups within KS1 and KS2. This obviously requires teachers to mediate them and decide how they will manifest within their particular year group.

In general, academy-specific systems constrain teachers' achievement of agency through imposing frameworks which they feel unable to break free from. However, the possibility to do so is demonstrated by JA and RE who adhere to requirements, but manoeuvre within them to stay true to their beliefs.

4.3.1cii ***Wider contextual features***

Broadening to consider structural aspects affecting teachers from outside their particular academy, it appears that teachers do not, or are not able to, take advantage of explicit opportunities for agency. Specifically, despite its design as a structural reform to deliver professional autonomy (Gibb, 2014), academy status seems to have minimal impact on the teachers. It is interesting to note that there seems to be no link between the length of time that academy status has been held, which ranges from two full academic years to just a few months (Appendix A), and the level of curriculum development work. Indeed, when reflecting upon their school's conversion, teachers indicate little or no impact:

> *'Not really, no, there haven't been any changes at all really'* - HO

'To be honest, it had no effect. I knew it was an academy and had recently converted but didn't see any differences with my other [ITE] placements which weren't academies' - CR

'I went through it all at Priory so I'd been through it all already and because it didn't affect anything at Priory, I didn't think it would affect anything here.' - SH

There is no mention of any freedoms emerging from academy status. Conversely, two teachers refer to subsequent higher levels of support and control from their academy chain:

'we've had much better support and I've led the maths here and we've had much better maths support than when we were county.' - KA

'I think, since being an academy I feel we have got less opportunities to build up our own curriculum, core and non-core, because it is all written down for us.' - HR

Even JA who demonstrates commitment to achieving agency and driving change, eschews the concept of academies:

'I don't like the idea of academies but if I was going to go back to teaching in [borough], every school had to be an academy by this year so there wasn't a choice on that score'

Only RE identifies academy status as an opportunity from which to develop curriculum:

'I wouldn't want to be in a state school, sorry, one that's not an academy that's following it [the NC] quite religiously because I think I'd find that very difficult as a teacher.'

Other contextual features can be examined to perhaps explain the nullified effect of academy status and the general manner in which teachers' achievement of agency is constrained. Firstly, despite from the 2010 start of DfE rhetoric focussing on teachers' autonomy alongside the weakening of some important input regulation (DfE, 2010), key output regulatory processes have been a consistent feature for the entire career of all participants (Appendix X). Indeed for all, such output regulation seems to be important:

'*if you didn't follow the NC, you'd be setting yourself up to fail*' - HR

‘*if they’re all sitting the same tests then they need to learn the same things anyway*’ - DO

This seems to manifest within some planning as adherence to non-statutory input regulation upon which the statutory output regulation is based. For example, there is a column on SH’s science lesson plan (Appendix W) which contains the relevant NC attainment target level descriptors for the lesson. Indeed, despite the proclaimed march towards devolved power at the front line (DfE, 2010; DfE, 2016a), it seems the desired ‘high levels of accountability’ (DfE, 2010, p.3) are suffocating. As SH succinctly says:

‘*if they change the way OFSTED or SATs are done, maybe they would be giving back some more ownership to teachers*’

A consequence of the accountability agenda is that certain subjects are automatically afforded a high profile within the curriculum:

‘English and maths take priority, because of the targets and pressure we’re under to get to them, especially in Year 2’ - JU

‘I think the focus is on English and maths, and I think it always will be. I think if you personalised your own curriculum, English and maths are always going to be at the top’ - CR

Some teachers accept this as inevitable, whilst others view it more critically:

‘*Obviously English, maths and science are core so they have to be done so they still take priority in the curriculum setting, maths and English particularly’* - RE

‘Maths and English take up a lot of time, but that’s a given, that’s really important.’ - KE

‘It’s very much English and maths which is a shame sometimes’ - MA

Secondly, teacher workload is acknowledged to be a major challenge for teachers (DfE, 2016d). In terms of curriculum capacity, it seems that teachers’ excessive workloads (*ibid.*) result in more urgent matters being prioritised over curriculum development:

'*it's partly that with all the other things we're doing, it [adapting plans written by the Headteacher] just gets left and then it's a bit too late and you think, oh*' – JU

'It's just, right quickly, we'll find this scheme and we'll use that for the term. And you can't be creative if you don't have time basically.' - TL

There is often insufficient time for teachers to reflect within their busy working lives (Priestley, Biesta and Robinson, 2015) and shared planning is seen as time-saving for busy professionals:

'*So the first term was a term they've done in previous years so we've taken it*' - DO

'*they wanted to use the plans from last year and in all honesty cos [sic] LR and I were new to the class and she was just back from maternity leave, we said ok, fine, we'll use that*.' - SH

Indeed, the incomplete state of some of the planning (which was collected in June 2015) suggests that teachers struggle to prioritise it amongst their workload (Appendix Y; Appendix Z).

Overall, within the wider context, opportunities regarding teacher agency are vitiated by pressures exerted by accountability measures and workload which contribute towards the 'lived experiences of teachers who feel constrained by the output regulation' (Leat, Livingston and Priestley, 2013, p.235). Again, there is further evidence of the 'ontological insecurity' whereby teachers rely solely on performance indicators to know whether they are doing well (Ball, 2003).

4.3.1ciii *Relationships*

Relationships are an important factor of the PE dimension (Priestley, Biesta and Robinson, 2015), and there are a number of ways in which they both support and limit the achievement of teacher agency regarding curriculum development work. In general, relationships can support the achievement of agency through the relational resources they generate:

'there were three teachers in that year group, and we really felt that we got everything and we got on with each other and we developed good topics and inspired the children so that was a really high point' - RE

> *'it was quite good working with someone else. Particularly the person I'm working with at the moment because they, our approaches are quite different, so, because we look at things in a different way, we come up with different ideas, it's good'* - LI

This is not limited to within a school as RE suggests:

> *'Ultimately, it's Head Teachers and now Teaching School Alliances. People working together on 'what do good curriculums look like?'*

Indeed, within RE's school there is some evidence of the impact of collaboration on curriculum development as SO's Exploring Shape plan (Appendix AA) emerged from a working party 'consisting of the [academy chain] central mathematics team, specialist leaders of education, subject leaders within our academies and external colleagues' (AET, no date). Another example from Garforth includes a project driven by meeting 'secondary-ready' demands (Laws, 2013):

> *'as a staff we sat down and met with staff from [...], our secondary school, and said what would you like our children to know by the time they come into you in Year 7? They fed it back and we then created a skills based curriculum'* - SA

Individuals' accessing and engaging with wider discourse communities is anomalous, but has quite an impact for RE:

> *'I read a lot. I'm on Twitter and blogs. That's where I've got most of my ideas from. They come from reading books, pretty much. [...] It's the awareness, that's the thing that I don't sometimes remember when I'm working with people. I don't think, of course they're not going to think this is a good idea because they haven't heard about Steve Jobs schools, because why would they have? They're so busy doing other things, so I just think that self-development is the thing that makes the difference.'* – RE

The relationship with school leaders can support teacher agency in a number of ways. Firstly, leaders can encourage staff to experiment with their curriculum as shown by this data from Garforth teachers:

> *'[The Headteacher] just said, you've got some freedom. Teach what you want to do.'* – KA

‘I think that because [the Headteacher] is very good at saying, right if you’ve got an idea, go with it, sell it to me, what do you want to do? I’ll let you go with it, we can put it into practice, we can assess it, video it, get others to review it and then see what works and it just gets better and better and I think it really does help having a supportive leadership that helps to nurture you and see your potential, but also backs off and lets you do it yourself as well.’ - SA

This may be formally organised:

‘as SLT we’ve divided ourselves up so we can work with different groups of people for the curriculums that need focus.’ - HO

Secondly, leaders can act as a boundary filter:

‘he [The Headteacher] came in and was like, enough inspection, enough moderation, enough monitoring, just let’s just do our job, and do it really well and gave us the tools to do it.’ - KA

However, relationships can serve to constrain the achievement of agency in a number of ways. Firstly, the manner of collaboration is important and the data suggest it perpetuates existing practice and focuses on ‘logistics’ rather than supporting a ‘re-thinking’ which is important to drive improvement (Horn *et al*., 2017):

‘We’ll each take a different aspect and get the resources ready but actually, by the end of our [planning] afternoon, we’ve got all the resources photocopied for the week ahead, so our weekends actually, we don’t do any planning which is really, really good.’ – KA

‘I also lead on English so every half term I go to the [academy chain] subject leaders’ meetings and we talk about curriculum and we’re all doing different things, some doing the ‘Power of Reading’, some doing ‘Read Write Inc.’, ‘Language and Literacy’, ‘Pie Corbett Talking Writing’’ - HR

HR continues to say of this collaboration that *‘there are lots of people doing different things and it quite nice to hear about that*’ which suggests she does not group the use of schemes as homogenous, but sees the range of schemes indicative of divergent practice. Such analysis

could lead to satiation and negate any need to look elsewhere for broader practices, leading to a perpetuation of a narrow range of 'voices' in her landscape.

Secondly, relationships can serve to constrain the achievement of agency as collaboration tends to manifest in checking whether colleagues are teaching their subject correctly, as opposed leading meaningful subject-centred curriculum development:

> *'I was history co-ordinator, and geography, so we broke all of that down into objectives and we made sure that everyone knew what they were doing in each year group'* - HO

> *'At the time I was geography co-ordinator so I unpicked the new curriculum and saw that obviously in KS2 they had to cover a certain country or area of the world so sort of mapped it out to make sure that, what we did was that in each term we stated what the teacher would have to cover'* - JT

For receiving teachers, such tight control can be limiting and their achievement of agency can be limited by the power exerted from the hierarchical relationships:

> *'This was done by the geography and history co-ordinator and they told us what questions each year group needed to teach'* - MA

> *'She [the Headteacher] gives us the topics and objectives we have to do, there's not really much scope to change that'* - JU

> *'[The Headteacher] would rather give them [class teachers] a pre-made MTP and they use their time to adapt it to suit the needs of their class, to spend the time they would filling out a rigorous plan to create a school trip to link to that to give them different experiences, or to source different resources that will help their teaching of it, to get to grips with the context'* - HR

However, for SP this was an uncomfortable experience, necessitated by time constraints:

> *'as a maths subject leader, although I did put these together in the end, I didn't want people to think 'oh, SP's giving us the MTPs'. I wanted people to have ownership of it.'*

In general, the data support the assertion that relationships can affect the achievement of agency. There is some evidence that relationships function as a resource for teachers to

draw upon to achieve agency, but largely they serve to limit it as formal leadership positions enact centralised systems which stymie it.

4.3.1civ *Structural conclusion*

In general, structures and systems within teachers' ecologies limit the achievement of agency. Those aspects which could promote the achievement of agency, such as the space afforded by an open curricular framework within which teachers are theoretically able to develop and exert their agency, are nullified by the overpowering contrary aspects.
This supports the notion that it cannot be automatically presumed that autonomy equals agency (Priestley, Biesta and Robinson, 2015*).* Instead it is the case that the extent to which freedoms will be taken up by schools is limited by accountability measures (Thomas, 2012) and unless there is capacity for agency, the status quo may persist in contradiction to the goals of curricular policy (Priestley, Biesta and Robinson, 2015). However, it is also evident that amongst the structures and systems, some teachers are able to achieve agency, and indeed contribute to it in a way which supports the agency of others. This begins to suggest that it is the manner in which structural aspects are perceived which is important, rather than the aspects per se.

4.3.1d *Practical Evaluative Conclusion*

In conclusion, structural aspects of the PE dimension can limit the achievement of agency, attributed in some degree to the strong voice of the government. Indeed, certain aspects of the neo-liberal discourse have taken prominence and there is a

> 'prevalence of beliefs that are strongly orientated towards the here and now and that are also strongly influenced by current and recent policy rather than by more encompassing orientations about the wider purpose and meaning of schooling'
>
> (Priestley, Biesta and Robinson, 2015, p.57)

The voice of the DfE seems extremely influential. Despite the commitment to individual autonomy (Robertson, 2007; DfE, 2010; Hall, 2011), the simultaneous dictate over required outputs (Neave, 1988; DfE, 2016c; DfE, 2016g; OFSTED, 2016), conveyed via a stringent technology of performativity (Ball, 2003), is overpowering. This 'controlled decontrol' (du

Gay, 1996) voices a reticence to truly relinquish control (Whitty, 2006) which is heard by the majority of the participants who comply (Leat, Livingston and Priestley, 2013) and thus achieve only limited agency. However, there is evidence that two teachers are able to manoeuvre within this context to achieve greater levels of agency. The manner in which they are able to do this is worthy of note and within the next section potential reasons for this become apparent.

4.3.2 *Iterational Dimension*

4.3.2a *Introduction*

This section explores the teachers' iterational experiences which influence their limited achievement of agency as detailed within section 4.2. The quality of iterational experiences is important as they form habits and beliefs upon which teachers may act, and frame how they may respond to dilemmas (Priestley, Biesta and Robinson, 2015). Indeed, even with the opportunity offered by academy status (Academies Act, 2010) LI draws upon both the new NC (DfE, 2013a) and the old, more familiar version (DfEE, 1999b) as she intertwines both sets of objectives within a new science skills continuum (Appendix AB). Other participants explicitly acknowledge the long-reaching effect of past experiences:

> *'I've been in a few meetings where I've said exactly that – you do know we're free from these constraints and restraints now? I just think that there's a mindset which is going to take longer to change. It's not going to change overnight. It's going to take time.'*- JA
>
> *'Even if you said, throw that out! We're going to do our own curriculum! Teachers are so ingrained, they wouldn't be able to come away from it. You would still do, let's start with place value, let's do some partitioning...oh look! It matches! We need to do some shape. Oh look, it matches the maths one! So I don't think that you could come away from it.'* - SH
>
> '*Part of it would be where do you start?! I don't think I could do it without knowing what's in there now. How could you erase what you know? I think that would be quite difficult.*' - DO

This section begins with a focus on professional learning, including ITE as an important delineated developmental period in the teachers' professional history (Priestley,

Biesta and Robinson, 2015). Throughout, the context of sustained deprofessionalisation within which the participants' careers sit, is considered. The impact of career length is also explored.

4.3.2b ***Professional Learning***

This section focuses firstly on ITE, before widening to consider in-service CPD. It considers how these key iterational experiences impact participants' achievement of agency.

The participants qualified via a range of ITE programmes (Appendix AC) yet despite this, their experiences of curriculum development were very similar. The fullest extent was planning from given documentation:

> '*We were given some sort of MTP and we would have to plan a set of lessons and activities around that, that's basically what we did at uni.*'- KE

> *'in placements I don't think we had much opportunity to make a MTP, it was more, this is our topic and these are our objectives and we would plan lessons for it'* - JU

> '*we always had something to go from. I think one of the ones we looked at in quite a lot of detail was the International Primary Curriculum, in terms of a creative approach.*' - LI

> *'On my placement, I was told 'stick to the NC', 'don't go left field''.* - DA

However, RE gained some rich experiences by virtue of the particular school he was placed in for his Graduate Teacher Programme (GTP):

> *'I was in a school where the curriculum was everything…And I think that was a big thing because I always think, well, what if I was in a school where it was nothing like that? Or even if it followed QCAs [non-statutory schemes of work], it wouldn't have been like that. And so I think that placement year was really important and I've stuck to that ever since.'*

RE's awareness of the importance of this experience is in marked comparison to the majority of the teachers who consider their experiences sufficient, as LI says:

'I think the PGCE made you aware that there were different approaches so we had sessions where it was following the NC, or I think we even looked at the NLS, but we also had sessions where they said, this is your topic, what could you incorporate into this? They were quite good at doing that for us, I was quite lucky in that sense.'

Indeed, she was grateful that her ITE tutors '*never left us in the lurch with nothing*' as she '*would have found that very daunting*'. It seems that engagement with big curriculum questions (Dillon, 2009) is not considered necessary as proficiency with a provided curriculum is sufficient. The analysis is not that ITE experiences were lacking but instead, acceptance and satisfaction:

'*it [ITE] could have had elements of it [curriculum planning], but it wouldn't be a big focus for them as they're preparing you for life as a teacher. Whereas, the curriculum's always changing, so if they taught you to think in one way, the curriculum's always going to change.'* - CR

'you go through the curriculum and the curriculum at the time, but I mean, I finished uni with one curriculum and within a couple of years there was a new one so in that sense it's null and void.' - JO

Reflecting in this manner, as primary academy teachers who now have official permission to develop their own curriculum, could suggest that curriculum development is a low priority.

In summary, as a seminal period of learning, ITE provides very little for teachers to draw upon in terms of developing their own curriculum. Apparent parallels between ITE experiences of organising the curriculum and their current curriculum development work detailed in section 4.2 seem to illustrate the way in which novice teachers tend to conform to whatever rules and procedures they are instructed to follow (Berliner, 2004). Within their ITE, teachers are not introduced to critical curriculum development principles, required to grapple with educational purposes (Priestley, Biesta and Robinson, 2015), nor inculcated with a sense of importance about two such important issues. Instead, experiences such as meeting the agenda set by external agencies seem indicative of the way in which the Teaching Standards (DfE, 2011a) constitute 'a framework for codifying not levels of development, but degrees of compliance' (Alexander, 2010, p.415). It could be suggested that their experiences are in direct opposition to the recommendation that

> ‘programmes of professional development should focus on interrupting habitual ways of thinking about schooling and to encourage an innovative and questioning mindset’
>
> (Priestley, Biesta and Robinson, 2015, p.31)

These experiences are largely reflected within teachers’ CPD which tends to be focussed on efficiency and convergence:

> *‘I actually feel really equipped to teach ‘Power of Reading’ because I’ve been on six different INSET days, and I’ve been given these books, and I’ve been given sequences of lessons.’* - TL

In contrast, JA and RE have iterational experiences which have been divergent and characterised by important relationships with others, retrospectively emerging to be seminal learning experiences which have influenced their thinking. JA remembers her 2009-2011 postgraduate study as ‘*a real high’* and *‘just so inspiring’* which prompted a change in sector to gain a very positive experience working as a university ITE lecturer (2011-2014). This widened her experiences further and she comments particularly on her appreciation of her Higher Education colleagues. Similarly, RE credits his NQT mentor and former colleagues with instilling an interest in self-development and research:

> *‘He [NQT mentor] was quite inspiring and read a lot and came up with ideas and thought a lot and I think it came from there. And we met another couple of people when we were [teaching] abroad who were also interested in finding out more.’* - RK

He also specifically links his current curriculum development work with former projects:

> *‘I was part of a formative assessment research team, Shirley Clarke’s, one of her research teams in [county] in the second or third year of teaching so AfL became the backbone to everything that I did and I’ve just done loads of work trying to get people to think about the specific skills and then success criteria that links to those skills.’*

It is clear that there is a real contrast between the iterational experiences of JA and RE and the rest of the participants. The parallels between JA and RE’s iterational experiences and achievement of agency within the PE dimension is also clear. Most teachers replicate the curriculum development work which is faithful to the NC, whereas JA and RE seem to have at their dispensation resources to draw upon to challenge official school discourse (Priestley *et al*., 2012).

4.3.2c *Career Length*

The length of the teachers' careers is an interesting factor regarding their agency concerning curriculum development. Nearly 60% of the participants have five years or less teaching experience (Appendix AD) and generally, curriculum development is conceived of as a non-essential aspect of the early years of such a demanding role:

> *'because I'm so new, and I'm a swimmer in choppy waters, I'm just happy to keep my head up rather than sort of, you know, in a couple of years' times you might come and I'll have much stronger views, but right now because I have to keep my focus, because it's a job that sort of expands. You know, tomorrow I've got to teach phonics, and this sound. So I'm just trying to keep my focus limited.'*- DA

> '*I think because I'm so new to it I'm actually quite happy to go along with everything that I'm told to do.*' - SO

Conversely, JA credits her twenty-two years of experience with giving her the confidence to follow her own path:

> *'that's where again, being further into teaching, and having a mind which is really genuinely for what I see happening in the children. [...] But that probably has freed me from ever thinking I've got to follow something in a particular way.'* - JA

Interestingly, the less experienced the teacher, the more legislated autonomy they have experienced (Appendix X). However, this does not seem to have had an impact as any freedom seems negated by the stringent output regulation that remains and it is this which diminishes the power of the context to support the achievement of agency.

4.3.2d *Iterational Dimension Conclusion*

The teachers' iterational experiences can be summarised as curriculum development which is limited to mediation of a given curriculum. This is indicative of a general belief that teachers are responsible for the continuation of conventional practices, rather than as agents of change who affect a system in need of reform (Pajares, 1992). By failing to equip teachers with the necessary skills and motivation, their iterational experiences diminish their personal capacity to achieve agency. Fundamentally, teachers are not privy to the essential experiences required to support deviation from standard practice (Priestley, Biesta and Robinson, 2015).

However, JA and RE represent a pocket of teachers who are able to identify powerful professional learning experiences within their past practice which make a difference in the here and now. These experiences include their ITE, Master's level study and informal, self-directed CPD and which seem to act as 'performance accomplishments', positively impacting levels of self-efficacy, and therefore agency (Bandura, 1977). For these teachers, the data tally with recent research which positions CPD as a significant event which gives teachers contrasting experiences and encourages them to exercise their agency and utlise their professional autonomy to develop curriculum within their own school context (Carse, 2013).

It is important to note that the majority of teachers who did not report such seminal iterational experiences may have experienced them, but they failed to 'stick'. Further, it is suggested that teacher agency can also be supported by personal iterational experiences which lie outside their professional lives within education, for example their own schooling and other professional experiences (Priestley, Biesta and Robinson, 2015). This study did not explore this with teachers which is perhaps a weakness.

4.3.3 *Projective Dimension*

4.3.3a *Introduction*

The projective dimension concerns teachers' long term and short term aspirations with respect to their work as the achievement of agency is orientated towards these aims (Priestley, Biesta and Robinson, 2015). It is suggested that aspirations are 'invariably largely rooted in teachers' prior experiences' (*ibid.,* p.32). This is borne out for the participants whose aims are articulated as success as judged against externally imposed performative criteria, mirroring their previous experiences which, as the sections concerned with the PE (4.3.1) and iterational (4.3.2) dimensions show, are largely concerned with a particular type of achievement and convergence.

4.3.3b *External Measures*

Most of the teachers' aspirations are 'narrowly instrumental' (Priestley, Biesta and Robinson, 2015, p.32), as they are concerned with achieving against external measures. This represented by a focus upon children's attainment and adherence to curriculum documentation, which have both previously been addressed within this chapter. In this sense it is clear to see how projective aspirations are informed by the PE dimension (*ibid.*).

However, the teachers do hold broader aims too:

> *'We should be preparing them for a life beyond school. You're preparing them, you're giving them the experiences so that they might know that, ok, I'm good at art so I might become an artist or architect. Or I'm good at this. You want to give them a wide range of experiences so that they can think, what am I good at?'* - DA

> '*we would want them to learn independent skills, to be autonomous learners, to take ownership of their learning, to learn skills within the school as well'* - SH

Often, these aims are positioned in opposition to pressures exerted by the performativity culture of the primary sector:

> '*I think the curriculum has got to be broad and balanced. I think in this school we do so much English and maths and sometimes there's no time left to do our topic. But I think it's really important, a curriculum should have those things in and you should make time for them, especially things like PSHE and RE because it makes a whole child really. You can't have a child who's really clever in maths but can't get along with others, or doesn't respect other people's cultures.*' - JB

> '*I think you need to, we need to be thinking about the child as a whole not just constant literacy, maths, literacy, maths which they do need to know that. Obviously it's vitally important that they leave school with good mathematical skills, good literacy skills, but sometimes I think we forget about the broader things. […] if we want to develop children to be well rounded people, we need to make sure that they're leaving school understanding that I've got to have manners, I can't go around hitting people because I'm not going to get anywhere in life. I need to be polite'* - HC

The way in these wider aims support teachers' achievement of agency is limited due to the perceived level of risk they pose with the PE dimension. DA is a clear example of this as within this section he indicates purposeful aims, but in section 4.3.2c is quoted as considering curriculum development not to be his responsibility as an NQT.

In contrast, JA and RE have clear aims which are concerned with the purposes of education and with children's learning. For example, RE wants learning to be focussed on skills and result in mastery as evidenced by the guiding instructional statement within his skills overview (Appendix U). JA aims for learning which is slow, immersed, literacy-based and deep:

'I don't have anything against the Mayans! I do have something against being told when my kids are so engaged and there's so much more, and the learning outcomes will be the same, why change topic just because I've been told I've got to change topic?'

JA contrasts her commitment to a child-centred approach with external assessments which she does not believe are fit for measuring what is important:

'you do what you do for the children, and the results and the children might not necessarily show in the way the results show they do, whatever's going to happen with the end of key stage tests, goodness only knows. But the growth of children and the development of children can't be seen in those kind of results can they'

Similarly to the rest of the teachers, it could be suggested that JA and RE's aspirations stem from previous professional experiences.

4.3.3c *Projective Dimension Conclusion*

For the majority of teachers, some strong aspirations align with dominant features of their professional ecology. This synergy means some aspirations serve to support the maintenance of the status quo and diminish teachers' achievement of agency. A specific example is because the teachers aim for children to gain 'knowledge and skills' throughout their primary education, there is no perceived need to deviate from the NC as this provides a natural route to success. Fidelity to the NC is further embedded as its provenance is reassuring and fulfils the teachers' aim of 'doing the right thing'. However, the teachers also hold purposeful aspirations which jar with performativity pressures prevalent within their professional environment. For the majority however, these are nullified by the risk they are perceived to pose within the PE dimension. In contrast, JA and RE demonstrate that it is possible to draw upon such aspirations instead of capitulating to opposing forces. Indeed, JA and RE sustain and work towards their aims as they perceive a manageable risk within their PE dimension.

4.3.4 *Influences on the empirical curriculum development conclusion*

This section aims to draw together sections 4.3.1, 4.3.2 and 4.3.3 which address the teachers' PE, iterational and projective dimensions respectively. It aims to consider how teachers' experiences across these three temporal dimensions affect their achievement of agency as detailed in section 4.2.

As the EATA (Priestley, Biesta and Robinson, 2013) posits, the interplay of experiences across the chordal triad with personal capacity affects the potential achievement of agency. For the majority of the teachers, their iterational experiences comprise of factors which could be considered to stifle the achievement of agency. The way in which they dovetail with their PE environment means, due to a lack of capacity and experience, teachers are vulnerable to the influence of constraining elements of the professional environment. This is evidenced by the flourishing influence of the DfE whose 'voice', unchecked, seems ingrained at the very core of teachers' practice. Indeed, 'linear progression by age and stage, fixed conceptions of knowledge, primary emphasis on outcomes measurement' (Baumfield *et al*., 2010, p.58) are key features within teachers' concepts of curriculum. This is not surprising given the view that 'the type of teacher agency emerging in schools today has been significantly shaped by the past two decades of managerialism in education' (Priestley, Biesta and Robinson, 2015, p.33). The effect of this exerts itself within the PE dimension where actions are judgments of risk (*ibid.*) and for these teachers, anxieties loom large. Reassurance is sought and, comforted by fidelity to the National Curriculum (DfE, 2013a), teachers achieve circumscribed agency (Priestley *et al*., 2012).

A dearth of appropriate iterational experiences means firstly, teachers 'may not recognise an obvious need for transformation' (Lanas and Kiilowski, 2013, p.356) which diminishes any conscious effects to achieve agency. Secondly, it means the teachers perceive the PE dimension as limiting and are thus unable to challenge the status quo (Priestley, Biesta and Robinson, 2015). Essentially, synergy between the dimensions means there is limited agency around curriculum development. Further, it is likely that this situation will be sustained for two reasons. Firstly, current experiences which are largely non-agentic will become the iterational experiences of the future (*ibid.*), whereby they will similarly fail to be a rich resource for teachers to draw upon to achieve agency. Secondly, as the iterational and PE dimensions both contribute towards the projective aims, not one dimension is likely to provide a driving force for the achievement of agency.

The difference for JA and RE lies in apparent dissonance as, for example, their iterational experiences clash with key discourses of the PE environment. Resultant is a sense

of dissatisfaction, vocalised by RE:

> '*I just personally feel that education is not, is quite, um, is not really fit for purpose in many ways in this country.'*

Rather than culminating in low levels of professional satisfaction or even desertion of the profession, both of which are prevalent amongst the current cohort of teachers in England (ComRes, 2013), such dissatisfaction manifests as a driving force for agency as demonstrated by JA:

> '*that's not how I offered to come back [into school], that I was going to be put in a place where I was going to be regurgitating meaningless, so I thought, and by then I'd met the parents and they were all on side and talking about what their children were doing so you've suddenly got a lot of power, if you like, again [...] to say, we're not doing it like that in my class.'*

Essentially, JA and RE draw upon their iterational experiences to perceive the PE dimension differently. It is this which opens up opportunities for them to achieve comparatively greater levels of agency regarding curriculum development.

In conclusion, teacher agency is heavily dependent upon the way in which teachers perceive their ecology. For some teachers, rich iterational experiences mean they are able to see opportunities to achieve agency within what is commonly agreed to be a deprofessionalised environment. For others, a lack of these powerful iterational experiences means their perception is that it is not possible to achieve agency within their working environment, although this may not be a recognised, articulated belief. Correspondingly, the former group exhibit higher levels of agency than the latter.

The next part of this chapter focuses on one participant who aligns with the former group within the maths curriculum solely. Regarding the rest of the curriculum, her practice aligns with the latter group. One element of her practice, which demonstrates high levels of agency, and its underpinning reasons, are explored in depth.

4.4 SP and the Gattegno Project

4.4.1 *Introduction*

This section of the Findings chapter focusses upon SP and one particular example of her curriculum development – the Gattegno Project. The project is introduced by SP who says '*in KS1 at the moment we have a maths project where we're following, alongside the NC, some work developed by Caleb Gattegno'.* It is deserving of its own section within this chapter because of its importance as a bounded example of a teacher achieving agency. Furthermore, it helps elucidate other data which it stands in contrast to as SP bridges the gap between the majority of the teachers and the outstanding pair as previously reported, JA and RE. In many respects, SP's practice aligns with the majority. For example, her curriculum practice is largely based upon existing practices:

> *'It's historical in that we've been doing the CLJs (curriculum learning journey) for as long as I've been here, they started when I joined, so most year groups have got at least one wheel, which will last a whole term, which they've had for however many years.(…) It's just always been Year 6 do Victorians, Year 5 do Tudors.'*

In general, the voice of the DfE can be detected through SP's concern with the secondary-readiness of her children (Gove, 2010b; Laws, 2013) and within her definition of curriculum which incorporates the knowledge and skills dyad employed within the NC (DfE, 2013a):

> *'I would say the curriculum is, a scheme of work is not the right word, the knowledge and skills that the children need to learn, learn and understand whilst they're in school.'*

Her curriculum development is largely confined to mediating the NC, for example choosing texts for English and using a planning tool called Maths Map. She is open about her reliance upon guidance:

> *'I think that for me personally, as a, I have a subject that I lead, if I didn't have that curriculum to fall back on, whether I follow it or not, it's there to give me an idea and a benchmark and I think that if I didn't have that, where would I start?'*

However, SP's practice also aligns to some extent with JA and RE as she initiated and has led the Gattegno project for two academic years. The project is evident in the complementary way in which NC statements and the Gattegno guidance are intertwined in her planning (Appendix AE). To showcase its divergence from the standard school planning, it can be set alongside an extract from some KS2 maths planning at the same academy (Appendix J). However, unlike JA and RE whose curriculum development is wide ranging, this anomalous project significantly impacts the teaching and learning in one curriculum area solely; SP's curriculum development does not extend beyond her mathematics domain.

In order to understand the divergent behaviour which leads to the implementation and management of the Gattegno project, SP's experiences across the chordal triad are explored. Mirroring section 4.3 of this chapter, this section is split into three sub-sections reflecting the chordal triad (Emirbayer and Mische, 1998). This structure is used in order to begin to explain how SP achieved the agency which resulted in the initiation and implementation of the Gattegno project.

4.4.2 *Iterational Dimension*

This section considers two of SP's key iterational experiences; her ITE and a post-graduate professional qualification course. Throughout, due attention is paid to the wider context of her career. Firstly, SP's ITE was a school-based GTP completed during 2006/7. She reflects that it did not prepare her at all for curriculum development work which could be seen to be limiting in terms of agency, however she considers this unproblematic:

> *'And I don't think at that stage in my career, I would've been able to cope with that. I mean, just lesson planning is challenging enough at that stage'*

The intrinsic positioning of teachers as curriculum deliverers (Trowler, 2003) seems to be apparent, perhaps due to the manner in which the GTP allows government influence to flourish (Noble Rogers, 2011). It necessitates trainee teachers mirroring observed practice and engaging more fully with local discourse communities such as schools, rather than with the more general and powerful discourse communities to be found within HE (Edwards, 2001). This is of particular note as SP was a student teacher during a data-driven era of deprofessionalisation for teachers (McCulloch, Helsby and Knight, 2000; Abbott, Rathbone and Whitehead, 2013; Wood, 2014). During this time, both the NC and curriculum advisory materials (DfEE, 1998; DfEE, 1999a; DfES, 2006) were firmly embedded in schools and used

on a widespread basis (DfE, 2011b). ITE was focused on trainees' attainment of the Standards (TDA, 2007; DfE, 2011a) which, as an example of centralized competencies, is considered detrimental to teachers' autonomy (Hall and Schulz, 2003; Furlong, 2005). In general, it is clear that the 'voice' of the government is significant within this experience.

SP's second key iterational experience is the Mathematics Specialist Teacher (MaST) Programme, a two year Masters level qualification, designed to improve the effective learning of mathematics (Walker *et al.,* 2013). SP attributes her developed understanding of maths curriculum to the MaST programme, supporting the claim that such extended professional development programmes are perceived by teachers as having an impact upon their practice and beliefs (Askew *et al*., 1997). Additionally, the MaST programme seems to have supported her achievement of agency in two main ways.

Firstly, it was SP's chance meeting with Professor Ashton at a professional event which led to him bringing his expertise to Apple Vale Primary and providing critical support for the Gattegno project's implementation. It could be suggested that the MaST Programme motivated SP to build this relationship due to improved collaborative working skills (Walker *et al*., 2013). Secondly, SP justifies her choice of introducing the proven Gattegno way of working (Benson, 2016) to Apple Vale by comparing it to an alternative option which, in contrast, was unproven in terms of results. The MaST programme engenders teachers' engagement with theory (Walker *et al*., 2013) and a greater appreciation of the impact of research on practice may have been a contributing factor.

Despite the rich iterational experience of the MaST programme, it could be the case that earlier formative experiences of following external guidance remained influential for SP as fundamentally, the Gattegno project similarly requires teachers to follow instructional books. Nonetheless, it seems as if the MaST project opens up space for another 'voice' to influence SP (Hermans, 2013), that of Professor Ashton, which seems to lead SP to take on an I-as-curriculum-developer position (*ibid.*).

In conclusion, SP's key iterational experience of ITE is suggested to be lacking in terms of furnishing her with resources to draw upon in terms of future curriculum development skills and attitudes. More generally, it may have developed an understanding of a teacher's responsibility to be convergent, rather than innovative and independent. However, a later period of intense professional learning within the MaST programme seems to have contrasted and contributed to SP's establishment of a significant curriculum development project.

4.4.3 ***The Practical-Evaluative Dimension***

This section considers factors within SP's current ecology which contribute to her achieving the necessary agency to set up and sustain the Gattegno project. This is important as the PE dimension exerts a 'major influence on agency, powerfully shaping (and often distorting) decision making and action, offering both possibilities for agency and inhibiting it' (Priestley, Biesta and Robinson, 2015, p.33).

SP's decision to launch the Gattegno project with Year 1 children in 2013/4 was a response to the two-fold pressures she felt as maths leader. Firstly, the improvement of KS1 SATs results was a priority as they showed less good attainment than both the school's EYFS baseline assessment and the end of KS2 results. Secondly, the new NC (DfE, 2013a) increased expectations and the challenge was to address the more complex and abstract KS1 content. It is suggested that the impact of such performativity measures is often to 'seriously diminish teacher agency' (Priestley, Biesta and Robinson, 2015, p.124), but SP's typical concern of teachers to comply with accountability measures (Brundrett and Duncan, 2010) contributed to her agentic response of initiating the Gattegno project.

It is worth noting that the Gattegno project commenced prior to Apple Vale's conversion to academy status, suggesting that official disapplication from the NC was not a driver for the project. However, support from Apple Vale's Headteacher in terms of permission for the project served as a supporting factor for SP's agency. Priestley, Biesta and Robinson (2015) suggest that actions within the PE dimension are always judgements of risk, and for SP the Gattegno project represented a risky endeavor:

> *'I feel as if I've had a huge responsibility introducing it to the school – has it worked? Have I made a huge mistake?'*

However, analysis of outcomes related to the aforementioned pressures has been positive. She judges the children's conceptual understanding to have improved as a result of the project:

> *'They can use brackets, they're quite confident with the <> signs, equation, equivalence, they're really confident with that language.'*

She believes the project to exceed the NC demands, and describes children's understanding in terms of the 'big ideas' of primary mathematics (Morgan, 2013). SP's focus on such 'jewels in the curriculum' indicates that she has designed a curriculum dedicated to 'threshold

concept mastery' (Cousin, 2006), suggesting that her aims are wider than simply for children to attain well in national tests. However, she concurs that '*I think we had to be realistic in that that's [SATs tests] what we're measured against*' and acknowledges the importance of achieving against external measures by further developing the curriculum to ensure this:

> *'When they have to do things [in the SATs] like 'colour in ¼ of the apples' they don't know what to do because we haven't shown them it in that simplistic way so we've had to go back and dumb down a little bit some of the work they've been doing.'*

The success SP has experienced within the project can be conceptualised as a 'performance accomplishment' which, through contributing towards high levels of self-efficacy (Bandura, 1977), seemingly further supports her agency and sustains the project. For example, she cites it as her '*greatest achievement'*, saying:

> *'It's unbelievable. My son is in Y1 [at Apple Vale] and some of the conversations I have with him about maths are mind blowing for a 5 year old! You just think, if I had Y6 children with that conceptual understanding, it would be pretty amazing!'*

SP's agentic actions seem to positively impact on others and contribute to a culture where teachers are happy to engage with new initiatives. By creating optimal conditions within the PE dimension such as time for professional dialogue, expert input from outside authorities, committed leadership and policy changes such as the introduction of a new calculation policy, deemed necessary due to the central use of Cuisinaire rods within the Gattegno project, SP altered the PE ecology to support colleagues' engagement with the project. Indeed, her achievement of agency could be conceptualised as developing conditions for colleagues to also achieve agency. This perhaps suggests a realisation of the MaST programme's aim that its teachers act as the conduit by which more widespread improvement will occur (Walker *et al.,* 2013). Indeed, SP's colleagues began to engage with the Gattegno project and thrive, particularly one teacher who had previously been vocal about her perceived lack of mathematical understanding, with SP surmising:

> *'Actually for her, it's been amazing, absolutely amazing in the way she's taken it on and run with it and I can quite honestly say it's really improved her maths understanding.'*

The Gattegno project requires teachers to engage with its instructional materials and research its pedagogical approach, something that SP deems to be out of the ordinary for colleagues and burdensome in terms of workload. Informal processes support this as due to a dearth of designated funding SP and her Y1 colleague rely upon '*emails or texts or conversations in the corridor'* to maintain momentum. SP's formal leadership position may have been influential in garnering the crucial commitment from colleagues needed to run the project, although horizontal rather than vertical relationships often provide greater relational resources for the achievement of agency (Priestley, Biesta and Robinson, 2012). As an example, SP draws upon the 'relational resource' (Priestley, Biesta and Robinson, 2015) of Professor Ashton.

In conclusion, it is clear how the day to day environment contributes towards SP's achievement of agency. Two stand-out issues arise from this temporal dimension, firstly SP's ability to positively harness performativity pressures which typically stifle the achievement of agency. Secondly, the manner in which her own achievement of agency supports others to do the same. Both will be discussed further within the subsequent Discussion (Chapter 5).

4.4.4 *The Projective Dimension*

This section considers how SP's projective dimension contributes, through the visualisation of other futures and the development of aspirations (Emirbayer and Mische, 1998), towards her achievement of agency with the Gattegno project. It is a short section as there is much overlap with sections 4.4.2 and 4.4.3 and repetition has been avoided. Regarding the iterational dimension (section 4.4.2), there is repetition because aspirations are 'invariably largely rooted in teachers' prior experiences' (Priestley, Biesta and Robinson, 2015, p.32). Regarding the PE dimension (section 4.4.3), there is repetition because the prominent aspect of performativity dominates and external pressure to perform can affect teachers' aspirations (Priestley, Biesta and Robinson, 2015). Indeed, rather than considering long term educational purposes and values (Salomon, 1992), SP's aspirations are short term instrumental goals driven by performativity (Biesta, Priestley and Robinson, 2015), within which the 'voice' of the DfE weighs heavily. SP's aim of performing in a particular way, as defined and measured by external actors (Shore and Wright, 2000) was the driving force; namely coverage of the KS1 NC content and improved KS1 SATs outcomes. In this sense, SP's aims provide direction for action and influence the problems she chooses to engage with, thus providing the genesis for the Gattegno project. However, it becomes clear that SP's pride

in the way in which children's conceptual understanding has developed due to the project crystallises another broader aim and this looks likely to provide drive as the project continues.

4.4.5 *The Gattegno Project Conclusion*

This overview of one curriculum project at Apple Vale is an isolated incidence of curriculum development. It was initiated by the maths leader SP who was inspired to do so by means of positive iterational experiences. Elements of the PE domain further supported her achievement of agency, as SP perceives them to be more influential than those which she considered to pose a risk and act as constraints. Further, through her achievement of agency, SP alters the ecology to support colleagues to do the same. This is an example of cultural elaboration by means of a morphogenetic cycle (Archer, 2010b).

4.5 Findings Conclusion

This concluding section aims to draw the Findings chapter together by focusing on two key ideas, firstly the type of agency achieved by participants, and secondly, the reasons for it. Through doing so, it categorises the participants into one main group and a sub-group.

To some degree, all teachers within this study achieve agency regarding curriculum development. For this reason, they are all considered one group. However, their curriculum development ranges from small-scale, local action whereby the majority of teachers make professional choices within their own classroom, to three teachers who implement new initiatives and effect quite wide-ranging, significant changes. Therefore it seems fitting to group JA, RE and SP as a sub-set as their commonalities mark them out as different to the majority. The main group is termed Group Y, and the sub-set Group Y+, to reflect both the similarities across all participants, as well as the more advanced nature of the sub-group's agency.

A commonality is that all teachers' actions are circumscribed to some extent by the way in which they feel constrained within their working environments by three interrelated policy technologies of the market, managerialism and performativity (Ball, 2003) which over time have deprofessionalised teachers (McCulloch, Helsby and Knight, 2000; Abbott, Rathbone and Whitehead, 2013). Group Y feel very constrained and thus achieve more limited agency. Conversely, Group Y+ have an altered perception of the working environment which allows them to interpret some conditions as supporting the achievement of agency. This is the tipping point which allows for the achievement of fuller agency.

The contrast in perception of the PE dimension can be principally attributed to teachers' iterational experiences. Specifically, it is important to note that Group Y+'s iterational experiences are in contrast to those types of practices which conform to the constraints of the PE dimension. Such iterational experiences demonstrate that other options are possible and as such embody the 'performance accomplishments' and 'vicarious experiences' which are posited as principal influences upon levels of self-efficacy (Bandura, 1977, p.191). This high self-efficacy relates to active agency (Bandura, 1977; Etelapelto *et al.*, 2013). Figure 8 models this conceptualisation by showing Group Y and its sub-set, Group Y+.

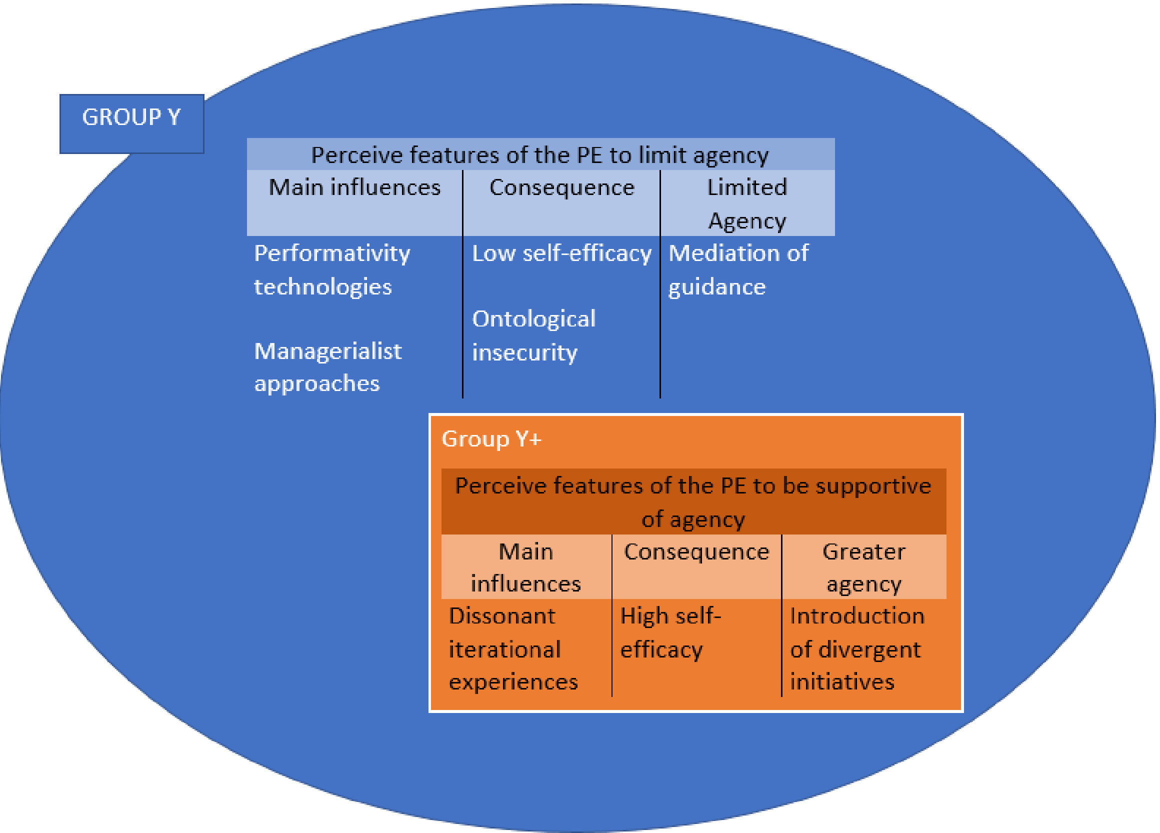

Figure 8: Group Y and sub-group Y+

In general, the data reported in this chapter reinforce the central idea of the EATA that past experiences and teachers' working environments exert an influence on the achievement of agency (Priestley, Biesta and Robinson, 2015). The following Discussion (Chapter 5) builds upon this and continues to explore the nature of teacher agency and the reasons for it in greater depth.

Chapter 5. Discussion

5.1 Introduction

This chapter aims to expound the findings presented in Chapter 4 with a focus on the following research question

> 'How do primary academy teachers' personal capacities and ecological conditions interplay over three temporal dimensions to have a causative influence on their achievement of agency regarding curriculum development?'

Drawing upon the EATA (Priestley, Biesta and Robinson, 2013) which forms the theoretical framework of this research, a critical realist (CR) approach is taken and causal mechanisms of teacher agency are suggested. Throughout, contributions towards the under-theorised area of teacher agency (Vongalis-Macrow, 2007; Priestley *et al.*, 2012) are identified through juxtaposing the discussion with existing research. The final section suggests recommendations borne out by the chapter.

5.2 A critical realist analysis

The CR analysis begins to move away from the thick empirical description which characterises the Findings (Chapter 4) to focus on causal mechanisms and suggest solutions for social change (Fletcher, 2016). In order to clarify this strategy, the CR approach detailed in the Methodology (Chapter 3) is initially revisited.

A CR approach tenders that three levels of reality (Figure 6) engender a nuanced understanding of social events (O'Mahoney and Vincent, 2014; Fletcher, 2016). The potential of this is that a CR analysis can explain social events in a sophisticated manner and suggest recommendations which ultimately lead to improvements (O'Mahoney and Vincent, 2014; Fletcher, 2016). In practice, observed empirical events are explained through a focus on related causal mechanisms (Sayer, 2000), a process which involves several steps.

The first step is to search for trends, or demi-regs, within the empirical data (Fletcher, 2016). Section 4.2 of the Findings (Chapter 4) elucidates these through reporting examples of teacher agency concerning curriculum development work. The subsequent process of abduction in which 'empirical data are re-described using theoretical concepts' (Fletcher, 2016, p.8) is the focus of the following section (5.2.1). The subsequent section (5.2.2) details the process of retroduction by considering how emergent properties of structures

(Dannermark *et al*., 2002) at the real ontological level are influenced by particular social conditions (Sayer, 2000; Fletcher, 2016) and actualised into powers or liabilities resulting in causal mechanisms, the results of which can be observed at the empirical level.

5.2.1 *Abduction*

Re-describing the empirical data using theoretical concepts through the abduction process (Fletcher, 2016), leads to the proposition that all teachers achieve contractual agency (Reid, 2014). For this reason, all participants are classified as Group Y. This seems a fitting conceptualistion due firstly to observed characteristics at the empirical level and secondly, due to the manner in which agency is achieved at the actual level. However, as these characteristics and their underpinning reasons are further expounded, a sub-set who demonstrate greater levels of agency emerges. This group is labelled Group Y+ to illustrate its place within the main group, as well as its members' more advanced level of agency (Figure 8). Although the groups are not homogeneous and within them the pockets of curriculum development are quite disparate, particularly within Group Y+, there are overriding similarities within the groups regarding the levels of contractual agency achieved which means it is appropriate to group participants in this manner.

In its original form, the term 'contractual agency' (Reid, 2014) conceptualises the weakened 'pseudo-enquiry' evident within a project aiming to improve teachers' use of enquiry within lessons. Parallels with this study are evident as at the empirical level, data suggest little evidence of teachers achieving a level of agency regarding curriculum whereby they 'conceive and plan a broad, balanced and coherent curriculum in pursuit of relevant and properly argued educational aims' (Alexander, 2012, p.1). Neither Group Y nor Group Y+'s actions acknowledge official permission to develop curriculum granted via their academy status. Rather, their curriculum development work also emerges in an under-developed form (Reid, 2014), although it does range across a spectrum and, as suggested, there are differences in observed levels of contractual agency achieved between the two groups.

Group Y comprises the large majority of teachers who engage in limited curriculum development as evidenced by their low-key modifications of the NC, for example:

> *'we choose our own texts and our own skills'* – DO (Group Y)
>
> *'there's a list of skills and knowledge [in the NC] and I had to segregate that into Year 1 and Year 2 so obviously it's open to interpretation so as you said, that enables*

you to be creative, and that was quite nice to say, right you can do that, and you cover this' – JT (Group Y)

'we do all our Shakespeare around the same time we're doing the Tudors because it's around the same time isn't it.' – LI (Group Y)

Such contractual agency is suggestive of morphostasis whereby structural reproduction occurs (Archer, 2010b). In contrast, the smaller Group Y+ of three teachers (JA, RE and SP), engage with more significant, impactful curriculum development. This includes RE's school-wide planning format (Appendix L) which organises the school curriculum into four areas, and JA's innovative approach which she says means *'we genuinely do teach by topic and the kids really are completely absorbed and all of our work springs from the literacy'.* This work is similarly indicative of 'contractual agency' as it sits within, and is affected by, the framework of the NC and accountability demands. For example, SP's project intertwines NC objectives with the Gattegno approach (Appendix AE) and was galvanised in part by the need for improved KS1 SATs results. However, in contrast, it is suggestive of morphogenesis as there is structural elaboration (Archer, 2010b) whereby change occurs which acts back on the culture and structure, contributing to subsequent transformation.

Conceptualising the teachers' agency as contractual (Reid, 2014) is perhaps a risk as the term is not within published literature as yet, instead confined to an unpublished doctoral thesis. However, the appositeness of it renders any inherent risk worthwhile. As shown, it accurately theorises the way in which teachers achieve only limited agency and provides a platform from which deeper interrogation is possible. For this, concern now shifts to the manner in which contractual agency is achieved. This necessitates a focus on the 'actual' level (Sayer, 2000) as analysis aims to move beyond what can be observed and consider underpinning reasons.

It is suggested that contractual agency is achieved due to the way in which teachers perceive their capacity to mediate their social and cultural context, cognisant as they are, of structural dimensions of power and dominance (Reid, 2014). This allows the way in which the teachers within this study perceive power and control within their working environment to be held by higher authority to be positioned as an explanation for the observed events, giving due attention to the central role of teachers' reflexivity (Archer, 2003). It also grounds teachers' achievement of agency within the here and now, harmonising with the theoretical framework of the EATA which highlights that teachers work by means of their environment (Priestley, Biesta and Robinson, 2013). In practice, this is evident for both Group Y and Group Y+, and

largely influenced by the strict output regulation representative of the technology of performativity (Ball, 2003), for example:

> '*if they're all sitting the same tests then they need to learn the same things anyway*' – DO (Group Y)

> *'English and maths take priority, because of the targets and pressure we're under to get to them, especially in Year 2'* – JU (Group Y)

It is clear that any curriculum development work undertaken is a result of manoeuvring within teachers' perceived constraints regarding permissions and control within their context (Reid, 2014). However, it is the varied way in which this occurs which differentiates between Group Y and Group Y+. Group Y seem to easily yield to perceived authority and surrender any claim on making an impact. They seem to have a low capacity for critical reflexivity (Swartz, 2002) and present as fractured reflexives and communicative reflexives (Archer, 2003) due to the way in which their internal conversations 'intensify distress' and require ratification from external sources prior to action. For example:

> *'I'm just there to facilitate their learning, what they need to know, I'm not there to decide what they need to know – that comes from the government I suppose who set the rules for schools'* - DO (Group Y)

> '*I think going from scratch would make me feel quite overwhelmed and daunted if I didn't have something to check I was on the right lines*' - LI (Group Y)

In contrast, Group Y+ express confidence in their capacity to mediate the power and dominance perceived within their context (Reid, 2014) which enables their engagement with curriculum development. They appear to have high levels of self-efficacy, which is related to active agency (Bandura, 1977). For example, enthusiasm at the prospect of planning their own curriculum is evident:

> *'I think that would be exciting, very exciting and I would hope to be in a big place to impact that and help it along the way.'* – JA (Group Y+)

> *'It would be great. I'd say, that's fine with me!'* – RE (Group Y+)

Group Y+ seem to have relatively greater capacity for critical reflexivity (Swartz, 2002) as they 'project their actions based on the articulation between personal concerns and the conditions that make it possible to accomplish them' (Caetano, 2015, p.62). Indeed, they

present as autonomous reflexives (Archer, 2003) as they are able to act directly upon bounded, internal conversations. They do not rely upon others. Futher, Group Y+ demonstrate features of meta reflexives as they are able to preface action with critical evaluation of internal conversations, for example :

> *'It's the awareness, that's the thing that I don't sometimes remember when I'm working with people. I don't think, of course they're not going to think this is a good idea because they haven't heard about Steve Jobs schools, because why would they have?'* – RE

> *'we genuinely do teach by topic and the kids really are completely absorbed and all of our work springs from the literacy'* but my colleagues '*are actually doing subject based learning and making tenuous connections'* – JA

The concept of contractual agency suggests that it is teachers' personal values and beliefs which support them in achieving agency, in the face of dominant constraining structures (Reid, 2014). In this respect, I flex its parameters by suggesting that personal values and beliefs constitute part of a broader set of factors that are important in this sense. The following sections expound this.

5.2.2 *Retroduction*

5.2.2a *Introduction*

Retroduction is the final stage of a CR analysis and its aim is to 'identify the necessary contextual conditions for a particular causal mechanism to take effect and to result in the empirical trends observed' (Fletcher, 2016, p.9) (Figure 7). Causal mechanisms exist as inherent properties of objects or structures at the real level of CR's depth ontology (Fletcher, 2016) and for both Group Y and Group Y+, these manifest as issues of power and dominance within their working environments. For Group Y and Group Y+, the effect of particular professional learning experiences on these causal mechanisms critically influences how they manifest to affect the achievement of agency (Fletcher, 2016). It is here where the interplay of the iterational and PE dimensions becomes significant, in alignment with the EATA (Priestley, Biesta and Robinson, 2013). The data seem to indicate that certain learning experiences within teachers' professional histories can be conceptualised as conditions which

actualise emergent properties from the PE dimension as powers for some, but liabilities for others. This means it becomes possible to suggest a rationale for Group Y and Group Y+'s differential achievement of contractual agency as the actualisation leads to comparatively high levels of contractual agency for Group Y+ and lower levels for Group Y, as illustrated by Figures 9 and 10 respectively:

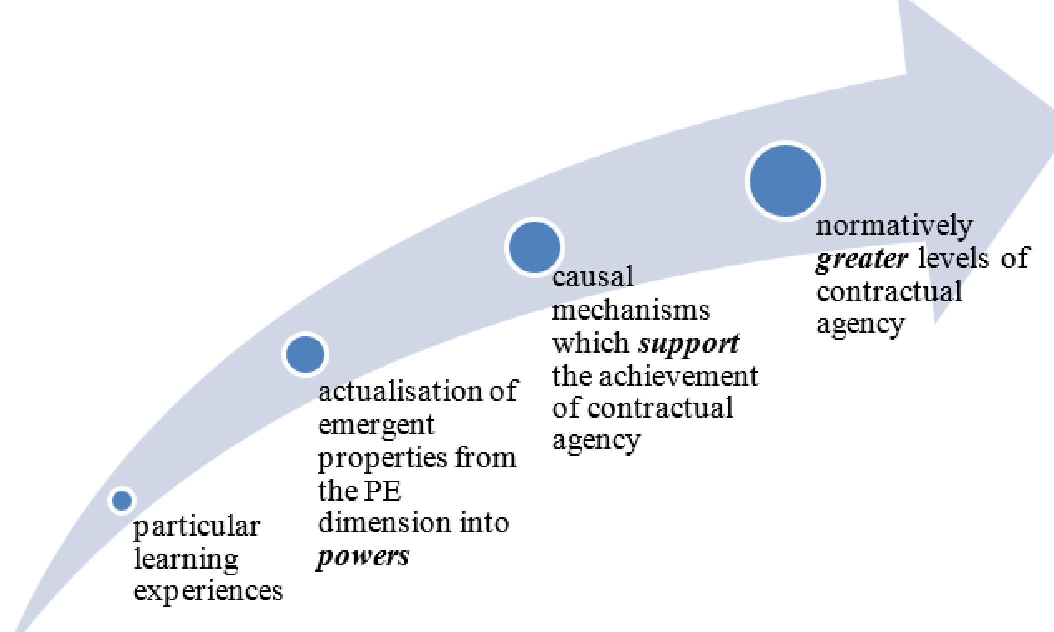

Figure 9 Achievement of agency, Group Y+

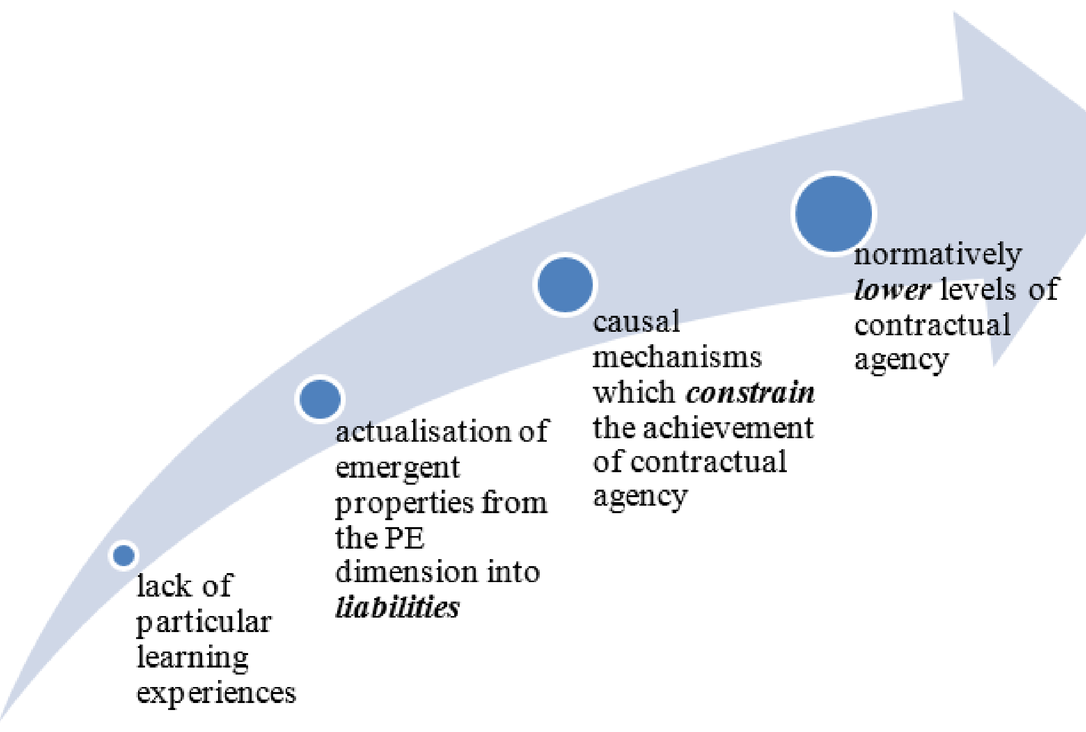

Figure 10 Achievement of agency, Group Y

Sub-sections 5.2.2b and 5.2.2c aim to unpick Figures 9 and 10 by considering the nature of the particular learning experiences and discussing the generic manner in which they affect the emergent properties. Discussion concerning the specific way in which the conditions affect particular emergent properties follows in sections 5.3 and 5.4.

5.2.2b ***Learning Experiences within the Iterational Dimension: Nature of the conditions***

The importance of iterational experiences concerning teacher agency is evident within the literature (Priestley, Biesta and Robinson, 2015). However, this study's suggestion that the particular learning experiences referred to within Figures 9 and 10 are confined to being within a career departs from literature that highlights the importance of experiences prior to teaching (Priestley *et al*., 2012). It is important to note that such a differentiating factor may simply highlight a weakness in the breadth of this study.

Group Y+'s data reveal their particular iterational learning experiences to be characterised by thinking and as supporting divergence, typically involving collaboration with professionals, which exemplifies the social nature of learning emphasised within sociocultural theories (Moje and Wade, 1997). Indeed, it is suggested that dialogue with colleagues is a significant part of teachers' iterational experiences (Priestley, Biesta and Robinson, 2015). For example, RE credits his NQT mentor and former colleagues with instilling an interest in self-development and research:

> *'He was quite inspiring and read a lot and came up with ideas and thought a lot and I think it came from there. And we met another couple of people when we were abroad who were also interested in finding out more.'* - RE (Group Y+)

However, the experiences can also be of an expansive nature, drawing from outside the immediate school context:

> *'I was part of a formative assessment research team, Shirley Clarke's, one of her research teams in [county] in the second or third year of teaching so AfL became the backbone to everything that I did'* - RE (Group Y+)

Collaborative experiences may evolve from formal learning environments, for example for SP and JA they took the form of M-level study:

'I used to go to [university] during my PPA (planning, preparation and assessment release time). I used to [...] do this session and just be reading all the way home because it was just so inspiring.' - JA (Group Y+)

A critical element of these learning experiences is the incorporation of voices which lie outside the narrow dominant discourse, offering dissonance which may specifically demonstrate the potential range and depth of curriculum development. RE demonstrates some awareness of this as he reflects upon his school-based ITE setting:

'I was in a school where the curriculum was everything….And I think that was a big thing because I always think, well, what if I was in a school where it was nothing like that? Or even if it followed QCAs [non-statutory schemes of work], it wouldn't have been like that. And so I think that placement year was really important and I've stuck to that ever since.' - RE (Group Y+)

The absence of such importance learning experiences within Group Y's iterational experiences is important as it means that conversely, Group Y's curriculum development is couched in structured support for which they are grateful. Their experiences seem limited to those which suggest low key adaptations of guidelines are commensurate with being a good teacher:

'*In [ITE] placements I don't think we had much opportunity to make a MTP, it was more, this is our topic and this is our objectives and we would plan lessons for it' – JU (Group Y)*

'They [ITE] never gave us that approach, we always had something to go from. I think one of the ones we looked at in quite a lot of detail was the IPC, in terms of a creative approach. But no, they never left us in the lurch with nothing. And I think I would have found that very daunting.' –LW (Group Y)

Indeed, Group Y's early learning experiences are characterised by convergent experiences focussed on improving efficiencies, as defined by performative technologies (Ball, 2016, cited in Kneyber, 2016). Such a monologic voice is also present within their day to day working environment concerning CPD opportunities:

'I actually feel really equipped to teach 'Power of Reading' because I've been on six different INSET days, and I've been given these books, and I've been given sequences of lessons.' – TL (Group Y)

The omnipresence of high-stakes accountability processes leads to an ontological insecurity (Ball, 2003) whereby Group Y teachers are reliant upon external measures to reassure them of their competence:

'And each half term we have monitoring visits from [academy chain] where another headteacher from [academy chain] will come in with an OFSTED inspector just to do a mini-OFSTED just to see what it would be like. And we had a really good one and my phase was, we were all outstanding at that point which was really good for me to see that the planning I'd done with them was really helpful' - HR (Group Y)

'It's horrible to say, but you kind of do teach to the test, which isn't the way it should be but you've got to get the children to a certain standard to be considered a good teacher.' – CR (Group Y)

The focus now shifts to the manner in which these experiences affect teachers' practice, specifically how they affect how teachers actualise emergent properties of their PE dimension.

5.2.2c *Learning Experiences within the Iterational Dimension: Effect of the conditions*

It is integral to the theoretical framework of this research that iterational experiences exert an important influence on the achievement of agency (Priestley, Biesta and Robinson, 2013). Nevertheless, this research can contribute to the theorising concerning how teachers' iterational experiences exert an impact, and the extent of this. Firstly, existing literature suggests that iterational experiences are important because of the manner in which they inform projective aspirations, which are subsequently drawn upon to achieve agency within the PE dimension (Priestley, Biesta and Robinson, 2015). There is a clear link to Bourdieu's theory of habitus which positions actors as 'strategic improvisers who respond in terms of deeply ingrained past experiences to the opportunities and the constraints offered by present situations' (Swartz, 2002, p.62). I argue that for this cohort of teachers instead, the principal importance of iterational experiences lies in the way in which they contribute towards personal capacity (Priestley, Biesta and Robinson, 2015) and how this affects teachers' actualisations of the emergent properties of their ecology. Particular iterational experiences seem to constitute both 'vicarious experiences' and 'performance accomplishments' which heighten self-efficacy (Bandura, 1977), leading to an enhanced personal capacity to achieve

agency. This can take the form of greater capacity for more effectual types of reflexivity (Archer, 2003).

This theoretical development is strongly rooted in the current literature as it has been discussed that the achievement of contractual agency (Reid, 2014) is dependent upon envisaged possibilities of mediating issues of dominance and power. Through this lens, it is possible to see more clearly why the achievement of agency is affected by the ecological conditions of the working environment (Priestley, Biesta and Robinson, 2012; Priestley *et al.*, 2012; Priestley, Biesta and Robinson, 2013; Priestley, Biesta and Robinson, 2015; Priestley and Drew, 2016). However, the suggestion that the personal capacity of these teachers is the defining factor in achieving agency moves on from current research, as does the causal link drawn to their' iterational experiences. Further, this research departs from the literature on teacher agency within which there is no agreement on any comparative levels of importance between the three temporal dimensions, despite the fundamental basis that any one of the three may predominate in any given case (Emirbayer and Mische, 1998). Some research hints at a bias, by focussing on one element of a particular temporal dimension. For example, Priestley, Minty and Eager (2014) suggest that particular features of the PE dimension support a purposeful, positive interpretation of the dominant curriculum policy, which in turn supports the achievement of agency. However, this study goes a step further and argues that for these teachers the effect of the iterational dimension, due to the way in which it contributes to the formation of teacher capacity, is more powerful than that of the PE dimension. The design of the study makes this possible as explained next.

All participants are employed within the south of England in primary academies which have converted to academy status within the last five years. This lack of variation equalises, and therefore levels, any major impact of the wider PE dimension. Nonetheless, it was not possible to fully ensure parity regarding localised structure and culture and across sites, there are small variations, for example in leadership styles:

> *'she [the Headteacher] likes to keep hold of the curriculum and guide where it's going to go, but she relies on our feedback'* - HR (Group Y) (Dome Academy)

> *'[the Headteacher] just said, you've got some freedom. Teach what you want to do.'* – KA – (Group Y) (Garforth)

However, as any variation is consistent within each site (2-5 teachers were interviewed within each primary academy), this study suggests that changes in localised PE dimensions do not

exert a particular effect on the achievement of agency. This is borne out by the dispersal of the three Group Y+ participants across three primary academies, and the Group Y teachers across all six sites, dispelling any isolated causal link between ecological factors and agentic behaviour. Instead, teachers' personal capacity is prioritised and there is clear evidence that 'courses of action are produced through the reflexive deliberations of agents who subjectively determine their practical projects in relation to their objective circumstances' (Archer, 2003, p.141).

In general, the effect of these particular iterational experiences means that Group Y+ see themselves as holding power and control and, rather than succumbing to the PE dimension and its dominant discourse, are thus able to mediate their working environment. They have a more positive *perception* of their capacity to mediate structures and conditions within the PE dimension. They are better able to consciously exercise their reflexivity to seek out, and capitalise on, opportunities to achieve agency within the PE dimension. Through envisaging practical steps which embody their possibilities, Group Y+ are better able to harness the power of their projective aspirations to support their achievement of agency (Priestley, Biesta and Robinson, 2015). This embodies teachers' achievement of contractual agency (Reid, 2014) as it centres on a shifting perception of their capacity to manoeuvre between repertoires within their particular ecology (Priestley, Biesta and Robinson, 2015). In short, Group Y+'s rich, wide-ranging, dialogical, dissonant iterational experiences mean they are better able to actualise the emergent properties of their ecology as powers to result in causal mechanisms which support the achievement of agency. In this sense,

> 'it might then be plausible to suggest that change is dependent upon the existence of a plurality of (partial and sometimes incompatible) discourses and irreconcilable desires which depend for their meaning upon their contrast or difference to other discourses.'
>
> (Edwards and Blake, 2007, p.42)

This seems to lead to morphogenesis whereby cultural elaboration occurs (Archer, 2010b) and the status quo is challenged.

For Group Y, the data suggest a lack of these important learning experiences. However, it is important to note that this may be fallible as firstly, it may be the case that Group Y do have wider, alternative iterational experiences, but that they fail to 'stick' to function in the present. It would be possible to posit a number of explanatory reasons for this, but ultimately

it is only possible to say that it is a limitation of this study that none can be presented here with confidence.

What does seem apparent is how the unopposed voice of Group Y's narrow, analogous iterational experiences dominates to diminish the power and control they perceive they can exert over their working practices. The lack of dissonance serves to amplify, reinforce and strengthen the dominant discourse which they are subsequently less able to engage with critically (Priestley, Biesta and Robinson, 2015). Further, a dearth of confidence concerning their capabilities means any projective aspirations remain abstract, unable to bloom into practice, rendering dormant any potential support for achieving agency (*ibid.*). In short, Group Y's monologic, repetitive iterational experiences mean they are more likely to actualise the emergent properties of their ecology as liabilities to result in causal mechanisms which constrain the achievement of agency. This seems to result in morphostasis whereby cultural reproduction occurs (Archer, 2010b) and the status quo remains unopposed.

This general discussion is now applied to specific emergent properties of the real ontological level and the specific manner in which they are actualised to create causal mechanisms for the achievement of agency. Section 5.3 is concerned with teachers' beliefs, values and tools for thinking and section 5.4 with teachers' relational resources.

5.3 Beliefs, discourse and tools for thinking

This section firstly focuses on teachers' beliefs and discourse as emergent properties of the PE dimension and conceptualises them as tools for thinking. Secondly, consideration of the manner in which they are actualised as causal mechanisms for the achievement of agency by particular learning experiences, or the lack of, allows the discussion to unpick the differential levels of agency observed in Group Y's and Group Y+'s practice.

Teachers' beliefs and discourse are intrinsically intertwined as the latter operationalise the former (Priestley, Biesta and Robinson, 2015) and literature (*ibid.)* supports the assertion that they are emergent properties of the real ontological layer (Sayer, 2000). Moje and Wade (1997) suggest that particular tools are available to teachers in connection with their sociocultural contexts, paying particular attention to how both ITE settings and working environments assume and enact certain beliefs, norms and values which affect the manner in which teachers think and learn about their role. This is supported by Hermans (2008, p.192) who suggests that 'individual voices are deeply penetrated by the culture of institutions, groups, and communities in which they participate' and Wertsch (1991) who suggests that in

utterances, the voices of groups and institutions are heard. Indeed, 'many beliefs seem to echo current policies and trends', perhaps as a result of the 'internalization' of policy discourse (Priestley, Biesta and Robinson, 2015, p.57). The degree to which this can occur varies, but can be quite significant as Akkerman and Mejer (2011, p.314) suggest by saying that the elevation of others' voices to 'a more structural part of thinking and reasoning' means they may become 'part of who I am', and form an I-position (Hermans, 2008). Indeed, the dialogical self is social in the sense that 'other people occupy positions in a multivoiced self' (Hermans and Hermans-Jansen, 2001, p.250). As a succinct summary, Priestley, Biesta and Robinson (2015) suggest that the formation of both teachers' beliefs and their discourse is impacted by their professional environment, which aligns neatly with a key tenet of the EATA that teachers work by means of their environment (Priestley, Biesta and Robinson, 2013).

The importance of teachers' beliefs, values and discourse concerning their achievement of agency is well documented within the literature (*ibid.*). Vygotsky's sociocultural approach claims that action is mediated by tools and signs (Wertsch, 1991) which are used to make sense of experiences (Moje and Wade, 1997) by controlling internal mental processes (Wegerif, 2008). Indeed, discourse is the material with which teachers think (Priestley, Biesta and Robinson 2015). Tools and signs can both empower and constrain action (Wertsch, del Rio and Alvarez, 1995), and range from the concrete to the abstract and include dialogue, discourse, experience, theory, ideology, issues and images (Moje and Wade, 1997). A good understanding of tools that are used to make sense of teaching is important as it may support their development, in turn helping teachers explore and challenge their beliefs and assumptions about teaching and learning (*ibid.*).

Due to the nature of the data collected for this study, the main emphasis is on teachers' discourse; a central part of their set of tools for thinking (*ibid.*). Similarities are apparent between Group Y and Group Y+ as both seem to exhibit ventriloquation (Bakhtin, 1981) of the dominant discourse, for example:

> *'I think the curriculum has got to be broad and balanced.'* – JU (Group Y)
>
> *'[Curriculum is] a set of objectives of skills and knowledge that the children need to know by the end of a certain age range.'* - JT (Group Y)
>
> *'I would say the curriculum is [...] the knowledge and skills that the children need to learn [...] and understand whilst they're in school.'* - SP (Group Y+)

'Obviously English, maths and science are core so they have to be done so they still take priority in the curriculum' – RE (Group Y+)

However, Group Y+'s discourse also seems to reflect a dialogic context and the appropriation of a wide range of voices:

'I read a lot. I'm on Twitter and blogs. That's where I've got most of my ideas from.' – RE (Group Y+)

As a result, Group Y+'s discourse could be suggested to imply a more sophisticated and nuanced set of tools (Priestley, Biesta and Robinson, 2015). The cascade effect of this is two tiered as it affects how Group Y+ talk about curriculum, learning and teachers. The subsequent effect is how this discourse empowers them to mediate their PE dimension and achieve contractual agency (Reid, 2014). Both issues are discussed forthwith.

Differences between how Group Y and Group Y+ talk about curriculum, learning and teachers are quite tangible. For example, Group Y+ position curriculum (Section 4.3.1bi) as a flexible framework which encompasses wider aspects of school life. They talk about knowledge as constructed which, as an important distinction to knowledge as fact, affects action. They subscribe to an educational approach which is focussed on learning and positions children as subjects in their own right (Biesta, 2012). For example, JA (Group Y+) says:

'whatever you do with a child, they see something new and they tell you something new and their interpretations are never the same.' – JA (Group Y+)

Conversely, Group Y conceive curriculum as a fixed entity, essentially seeing it as a means of transmitting ordained knowledge, mirroring the perspective of the NC (DfE, 2013a), for example:

'you're going to fit those national, you're going to fit into those rigorous, what is those non-negotiables which I like. You know, in terms of by the end of Year 4 this is what children should know and you can tick them off. And to come up with our own things of what we want them to know would be a bit odd.' - TL (Group Y)

Group Y talk about teaching as a technical act and correlate efficiency with achievement of pre-set targets. Thus their purpose of education is comparatively narrow and instrumental, concomitant with the idea that teaching is a matter of control, working 'towards the production of pre-specified learning outcomes' (Biesta, 2012, p.35). Group Y divorce themselves from the planning stages of curriculum, mirroring the technical control

conceptualisation of schooling (Au, 2011a) which ‘separates conception from execution' (Apple and Jungck, 1990, p.229). Their discourse is further evidence of how ventriloquation (Bakhtin, 1981) affects teachers’ tools for thinking. Similar outcomes from a recent study on teacher agency in Scotland (Priestley, Biesta and Robinson, 2015) suggest that many teachers use the language of the latest policy because they lack an educational language which could engender critical engagement and development of practice.

Discourse about teachers (Section 4.3.1biii) reveals images they hold, which are also a constituent part of their tools for learning due to the embedded assumptions which dramatically shape the way they think about teaching (Moje and Wade, 1997). Both Group Y and Group Y+ hold images of themselves as obedient teachers who strive to achieve against central targets, for example:

> *‘it’s horrible to say, but you kind of do teach to the test, which isn’t the way it should be but you’ve got to get the children to a certain standard to be considered a good teacher’* - CR (Group Y)
>
> *‘I do also feel duty bound and […] even if I say I don’t agree with anything, I do toe the line secretly.’* - JA (Group Y+)

The apparent tensions within these extracts suggest that the teachers hold a dialogical view of self, comprising of a number of I-positions (Hermans, 1996). The difference between Group Y and Group Y+ emerges in the nature of the multiplicity (Hermans, 2004). Alongside ‘obedient teachers’, Group Y+ also hold images of themselves as agentic teachers who care about their children’s achievement as judged against far broader criteria than externally set attainment measures:

> *‘you do what you do for the children […] might not necessarily show in the results at the end of key stage tests. But the growth and development of children can’t be seen in those kind of results can they’* - JA (Group Y+)

This picture jars with the instrumentalization of education and its narrow focus on attainment within the dominant discourse. Group Y+ consider teachers to be autonomous professionals who empower children, respond to their needs and are equipped and willing to take decisions (Bucci, 2000), for example:

> *‘I just thought […] that’s not how I offered to come back, that I was going to be put in a place where I was going to be regurgitating meaningless…’* - JA (Group Y+)

Conversely, Group Y hold images of themselves as deliverers of content for whom it is incumbent to ensure their children attain against centralised targets (DfE, 2016a; DfE, 2016c). They do not see themselves as capable of being, or in a position to be, creative or innovative regarding curriculum, for example JO (Group Y) shares that he would be '*shit scared' [sic]* of planning a curriculum and MA (Group Y) says *'I wouldn't know where to start!'.* Group Y see teachers as cookie-cutter deliverers who transmit required skills and knowledge to children in an effort to achieve against external measures; an image concomitant with the message of the technology of performativity (Ball, 2003).

These tools seem to affect the teachers' sense-making (Leont'ev, 1978) of the term curriculum development. A clear exemplification is JA's (Group Y+) analysis of the school policy of cross-curricular teaching in which she compares her colleagues' '*tenuous connections*' with her own genuine topic teaching which absorbs the children. Essentially, Group Y see curriculum development as low key adaptations to guiding documentation. Group Y+ see it as an opportunity to introduce new approaches (e.g. SP's Gattegno project) or create new structures (e.g. RE's skills overview). It is fundamentally of a different scale.

Ultimately, Group Y+ are able to use their tools for thinking to more successfully manoeuvre within their PE dimension (Priestley, Biesta and Robinson, 2015) and engage in deeper, more substantial curriculum development. Such capacity is not present for Group Y; they are unable to retain any significant power which results in limited agency. I suggest that this is due to a power struggle (Hermans, 2004) within the process of negotiation between contrasting I-positions (Hermans, 1996). For Group Y+, as a result of their wide-ranging, dialogical, dissonant iterative experiences, the empowered, autonomous position is maintained and the less agentic I-positions are subdued. For Group Y, as a result of their narrow, analogous iterational experiences there is far less dissonance between I-positions, and similarly greater coherence between the prevailing situation and their discourse (Priestley, Biesta and Robinson, 2015), thus the diminished professional which is prominent prevails.

5.4 Relational resources

This section firstly considers relational resources as an emergent property of the PE dimension. Secondly, consideration of the manner in which they are actualised as causal mechanisms for the achievement of agency by particular learning experiences, or lack of, allows the discussion to unpick the differential levels of agency observed in Group Y's and Group Y+'s practice.

Relationships are an important element of the PE dimension and it is important to frame them as relational resources in the sense that they are concerned with the ways in which people are positioned relative to each other (Priestley, Biesta and Robinson, 2015). That is to say, they should not be conceived of as static and regular, but flexible and unique; they are entirely dependent upon the particular individuals involved. The importance of professional relationships regarding the achievement of agency (*ibid.*) is supported by the assertion that the manner in which different sociocultural activity networks emphasise different perspectives, values and assumptions about teaching culminate in differences in teachers' tools (Moje and Wade, 1997) which links to the previous section. Indeed, the different ways in which Group Y and Group Y+ interact with others impacts on their achievement of agency. The focus of this discussion will be on the nature of these relationships and their impact. Secondly, the underpinning reasons will be considered in light of the earlier discussion about iterational experiences.

Firstly, Group Y+ draw support for their achievement of agency from their professional relationships. This may be with in-school colleagues:

> *'although the Head here was very adamant he wanted me here because he wanted the school to change, it was one step forward, nine steps back. But the moment [Assistant Head] came back [from maternity leave] […] she said to me, can I come and see what goes on in your class? I said yes, and from that point on, I got to do the staff training, we got to change how we do things, so suddenly everything has happened'* - JA (Group Y+)

It may be with wider colleagues as, for example, it was SP's chance meeting with Professor Ashton at a professional event which was the catalyst for the Gattegno project, and RE worked with secondary school colleagues to co-write the skills overview (Appendix U). Relationships may even reach beyond colleagues to include other stakeholders:

> *'…by then I'd met the parents and they were all on side and talking about what their children were doing so you've suddenly got a lot of power, if you like, again'* - JA (Group Y+)

The relationships seem to support Group Y+ to feel motivated and enabled to assume, or seek out, or build upon, permission to act within their social frameworks. In short, they affect the way in which Group Y+ mediate their PE dimension. Essentially, Group Y+'s relationships are actualised as powers which support the achievement of agency at the empirical level.

It could be argued that permission to act is intrinsic to formal leadership roles, which are held by all of Group Y+. However, this is not the perception of all teachers as some within Group Y similarly hold leadership positions, yet do not identify nor act upon any permission to develop curriculum which may be considered integral to their role. Instead, they assume they are denied such permission, and do not seek it out. Ultimately, for Group Y, relationships seem to stymie their achievement of agency. The teachers submit to the transmitted focus on benchmarking and ensuring compliance:

> *'She [the Headteacher] gives us the topics and objectives we have to do, there's not really much scope to change that'* - JU (Group Y)

> *'she [the Headteacher] likes to keep hold of the curriculum and guide where it's going to go, but she relies on our feedback'* - HR (Group Y)

Such relationships which are unequal in power and control could be argued to reinforce Group Y's perception that they have weakened capacity to manoeuvre within their professional ecology. Indeed, Group Y's relationships are actualised as liabilities which constrain the achievement of agency at the empirical level.

In conclusion, as a result of their enhanced personal capacity due to their powerful iterational learning experiences, Group Y+ are able to use their relationships to more successfully manoeuvre within their PE dimension (Priestley, Biesta and Robinson, 2015) and engage in deeper, more substantial curriculum development. Such capacity is not present for Group Y.

Interestingly, the teachers' achievement of agency seems mirrored by the way they affect others through their relationships. Group Y+ seem to support the achievement of colleagues' agency, demonstrating the manner in which agency acts back on the system in terms of structural or cultural elaboration (Archer, 1995). For example:

> *'my year group partner is an NQT and we work incredibly closely so the two Year 4 classes are doing something different to how the school teaches'* - JA (Group Y+)

> *'Actually, for her [a Year 1 colleague], it's been amazing, absolutely amazing in the way she's taken it [the Gattegno project] on and run with it"* - SP (Group Y+)

In contrast, Group Y seem to contribute towards constraining others' achievement of agency as they assume control and act in a managerial fashion:

'we had to make sure that the ones [topics] that needed to be covered are being covered, but equally the ones that haven't been covered, the gap between the old and the new curriculum, are being covered as well.' - LI, science co-ordinator (Group Y)

'If they're teaching an explanation text, we put this pack together so they can see the different objectives that would need to be taught for each year group which I think are taken from Lancashire LEA. But all of these were based on national descriptors from the curriculum, but obviously that's all gone now with the new curriculum. So our big job for next year is aligning what we've got with the new curriculum' - HR, Assistant Head (Group Y)

'The geography co-ordinator and I got together and allocated topics which we felt were appropriate and relevant to what different year groups did. We then looked at all the key objectives and sorted those into year groups so that all objectives were being met and they came under the correct topics' - HO, History co-ordinator (Group Y)

It is interesting to note this replication effect as it is likely to affect the capacity of colleagues to achieve future agency.

5.5 Conclusion

This Discussion chapter aims to characterise the nature of teacher agency and the reasons for it within this study. In summary, all the teachers achieve contractual agency (Reid, 2014), although this ranges across a spectrum. Where teachers sit on this spectrum is dependent upon how they view their professional context and their capacity to mediate its emergent properties, through the manifestion of their reflexivity. Group Y+ who see themselves as powerful and capable, and thus able to effectively mediate their environment, actualise the emergent properties to become causal mechanisms which lead to higher levels of contractual agency (Figure 9). The converse is true of the opposite end of the spectrum whereby the emergent properties are actualised as liabilities, thus resulting in lower levels of contractual agency as seen in Group Y (Figure 10). It is therefore suggested that for these teachers, the defining factor in the achievement of agency is their personal capacity.

The conditions which affect the actualisation of emergent properties are characterised as particular learning experiences. It is suggested that for the emergent properties to be actualised as powers, teachers' past experiences need to encompass learning experiences which are distinct from their professional working environments and focussed on educational purposes, moving away from convergent efficiencies. The lack of these, whereby past

experiences align with the dominant discourse of the current context, means that the emergent properties are actualised as liabilities. Two important further points for discussion emerge from this.

Firstly, it is a sage suggestion that attention should be paid to teachers' PE experiences as in time, they transition to the iterative realm (Priestley, Biesta and Robinson, 2015). RE shows through the identification of ordinary practice which has influenced him significantly, from particular colleagues, to regular reading, to training in a school where 'curriculum was everything', that the daily employment of teaching is a learning process. This example crystallises the assertion that the seminal learning experiences which constitute the conditions which actualise the emergent properties are not necessarily picked out in bright lights. Thus, for leaders and policy makers who wish to support teacher agency, the impact of the minutiae of school life should be considered. A raft of elements including criteria for QTS (DfE, 2011a), methods of monitoring teachers (DfE, 2016a; DfE, 2016c) and curriculum documentation (DfE, 2013a) are perhaps more powerful than any contrasting rhetoric which promotes theoretical autonomy (DfE, 2010; DfE, 2016a). However, this emphasis on quotidian engagements does not negate the potential of an isolated learning experience to constitute a watershed moment which may support future achievement of agency to occur at any time. This assertion leads to the second point that leaders and policy makers who wish to support teacher agency need to consider on-going CPD for teachers.

In the face of diminishing funding opportunities, it is important to facilitate prolonged CPD which has been shown to be more 'effective in producing profound, lasting change' than shorter interventions (Teacher Development Trust, 2015, p.12). The content is of importance too as that which is focussed on efficiencies and convergent behaviours will not have the same effect as that which is dissonant and thought-provoking. Indeed, the Teacher Development Trust (TDT) summarise that effective professional development 'should allow for the consideration of participants' existing theories, beliefs and practice, and for opportunities to challenge these in a non-threatening way' (TDT, 2015, p.14). CPD which offers such opportunities holds intrinsic potential for change. It is important to remember this and avoid any negative prediction of teacher agency.

It could be the case that one particular experience could awaken in Group Y the capacity to see their environment in a new light, opening up opportunities to achieve greater agency. It is perhaps similarly important to guard against complacency with the assumption that the capacity to achieve agency is guaranteed. This is intrinsic to the EATA (Priestley,

Biesta and Robinson, 2013) as agency is positioned as an emergent phenomenon, dependent upon ecological factors. However, regarding the impact of particular learning experiences as mooted within this study, it may also be worth considering the length of time for which iterational experiences remain 'active'. It may be the case that as Group Y+ move further away from the seminal experiences which effected a change in their personal capacity to achieve agency, the fading memory means they become more vulnerable to the dominant context. Further, perhaps these experiences can be superseded by other iterational experiences and thus fade into obscurity. This perhaps suggests that ongoing CPD is necessary for all teachers.

Ultimately, if neither of these points are properly considered, it seems likely that the status quo will sustain. Indeed, Archer's (1995) model of structural and cultural elaboration supports the extrapolation that the achievement of agency perpetuates existing levels of agency. Further, the proposal that tools are 'both generative of issues and images and reconstructed by them' (Moje and Wade, 1997, p.692) aligns with the claim that the cyclical process through which tools generate new understandings subsequently reshapes the tools themselves (Mead, 1934; Vygotsky, 1986). This seems to suggest that limited agency is the precursor for limited agency, and the pattern applies too for higher levels of contractual agency. Indeed, this seems to bear out for Group Y for whom contentment with the situation and a lack of critical awareness of constraints, may subsequently weaken the will to seek out opportunities for agency, potentially perpetuating the pattern. Similarly, Group Y+'s achievement of agency could be said to simultaneously create those learning experiences which at a future date support the achievement of agency. The following Conclusion (Chapter 6) aims to build upon this final discussion and draw out recommendations for practice.

Chapter 6. Conclusion

This chapter aims to draw this study together in two main ways. Firstly, the main outcomes will be highlighted and set within the context. Secondly, implications for practice will be considered including, due to the nature of this as a professional doctorate, explicit implications for my own future practice. Threaded throughout is a reflection on how the research was conducted and its overall quality.

6.1 Main Outcomes

The main finding of this study is the claim that empirical evidence of curriculm development, representative of teacher agency, is affected by the way in which emergent properties from teachers' PE dimensions are actualised under certain conditions (Figure 9; Figure 10). The conditions are particular learning experiences which essentially enable these teachers to either view their professional environment in such a way that they are able to achieve agency, or the converse. Ultimately, this corroborates, and builds upon, the theoretical framework in two main ways.

Firstly, the finding supports the way in which the EATA (Priestley, Biesta and Robinson, 2013) positions agency as being achieved by means of the environment. This is seen in the way that Group Y+ are able to use their tools for thinking, essentially their discourse and language, and relationships to successfully manoeuvre within a constrained, deprofessionalised context to achieve agency regarding curriculum development. Cultural and structural elaboration (Archer, 2010a) is evident in the way in which incidences of agency alter the context to support colleagues to also achieve agency. However, the research design means that this conclusion must be limited to a particular point in time. A longitudinal design could have widened it if, for example, data were collected over time, incorporating fluctuating professional environments.

Secondly, this study supports the EATA (Priestley, Biesta and Robinson, 2013) due to the way in which it highlights the importance of teachers' iterational experiences regarding their achievement of agency (Priestley, Biesta and Robinson, 2015). However, this study adds a finely-grained element by expounding the nature and impact of these iterational experiences. It suggests that rich, wide-ranging, dialogical, dissonant iterational experiences are the defining factor regarding the achievement of agency and these may result from everyday employment, or bounded professional development. Essentially, they support these teachers'

capacity to actualise the emergent properties of their ecology as powers, leading to causal mechanisms which support the achievement of agency. In this sense, these teachers' personal capacity is the defining factor for their achievement of agency. This develops the EATA (Priestley, Biesta and Robinson, 2013) by adding clarity and detail to the suggestion that the principal impact of iterational experiences is the way in which they act as a resource for teachers to draw upon to support their achievement of agency.

Despite these worthwhile conclusions, a weakness of this study is the lack of attention paid to the quality of agency achieved. It is acknowledged that not all agency is 'good' (Priestley, Biesta and Robinson, 2015), yet this is not fully considered within this study as the main focus is simply on whether agency is achieved or not. Whilst it is possible to say that Group Y+ have instigated initiatives which are grounded in educational purpose, this is the limit. Perhaps a broader focus incorporating the type of curriculum resulting from teacher agency would have been wise.

When considering the potential impact of this study, it is important to note that it is a small scale qualitative case study which is not designed to be generalised, however the findings represent pockets of interesting practice from which some tentative suggestions for reform may be drawn.

6.2 Implications

The underpinning sociological aim of this research is stated within the Introduction (Chapter 1) as finding out 'what is', so as to lead to 'what ought to be' (Sadovnik, 2011). From this perspective, implications for practice are a key element of the study. They are particularly important as this is a timely piece of research which uses a fairly new theory (Priestley, Biesta and Robinson, 2013) to address an under-researched sector of primary education. This study addresses current factors which are high profile across the context (DfE, 2016a; NUT, 2016) in relation the pre-eminent issue of education - curriculum (Young, 2014). Implications for practice are considered at the following three levels; policy, school and individual, and personal practice. Implications for future research are also considered.

6.2.1 *Policy Level*

This section aims to make recommendations for policy level. The case for the likely futility of any impact of this research at this level has been made in the Introduction (Chapter 1). However, it can be summarised as the manner in which the DfE are convinced of the

power of the autonomy and accountability dyad (DfE, 2016a), consequently following a policy agenda which promotes both, but in practice sees the former subsumed by the latter. However fruitless recommendations in the face of this may seem, they are important. They are important in a generic sense because 'the work of deep transformation can only be carried out in a free atmosphere, one constantly agitated by a permanent criticism' (Foucault, 1988, p.154). They are important specifically because the 2017 General Election resulted in a reduced government majority which may mean the DfE changes political hands and is potentially more open to suggestions for change.

Policy level recommendations are important because the DfE have the power to effect a change. They have significantly contributed to the emergence of an environment 'where teachers are effectively disabled when developing the curriculum as required by policy' (Priestley, Biesta and Robinson, 2015, p.128). The DfE are responsible for the majority of the conditions which stymie teacher agency, from the Standards (DfE, 2011a) which demand compliance (Alexander, 2010a), to a contradictory regime of high-stakes testing of a curriculum from which academies are disapplied (Academies Act, 2010; DfE, 2016a). These elements are indicative of the way in which legislated autonomy (Academies Act, 2010) is failing to filter down to teachers, thus it is important that the DfE pursue policies which 'actively encourage and facilitate teacher agency' (Priestley, Biesta and Robinson, 2015, p.128). It is this which is the crux of these recommendations.

The overarching recommendation is to reinforce the message of trust in teachers and their freedom to act autonomously (DfE, 2010; DfE, 2016a) in real ways. This could involve addressing the damaging effects of the 'neoliberal markets rule rationality' (Maisuria, 2016, p.13). For example, a reduction in the amount of statutory testing, as advocated by the major teaching union (NUT, 2016), or the lesser aim of ceasing the high-profile publishing of this data which sets schools against each other in league tables (*ibid.*). Further, this study highlights a need to focus on teachers' professional learning, both within ITE and subsequent CPD. Thus an overarching recommendation would be to enable teachers to gain broad experiences and develop their professionalism. This could be achieved by a revision of the Teaching Standards (DfE, 2011a) to explicitly position teacher agency as important. Further, encouraging students to engage with a range of settings, including HEIs, and ceasing the relentless push towards school-based routes (DfE, 2016a) could enable them to gain broader experience of a wider range of voices. Regarding CPD, the reversal of funding decisions to cut rich professional learning experiences such as the short-lived Masters in Teaching and Learning and MaST programme could support uptake of this extremely valuable resource.

6.2.2 *Individual and Leader Level*

This section aims to make suggestions at the teacher and school leader level for improving teacher agency. The overarching premise is based upon improving how these individuals could effectively function within the current system, and support others to do the same. This seems particularly apt in regard to the previous section which predicts an unchanging context.

For teachers and school leaders, suggested steps for them to take are necessarily focussed upon developing their personal capacity to better perceive their conditions as supportive of agency. This study's main finding which assigns particular importance to teachers' learning experiences also characterises their nature. They are likely to be rich, wide-ranging, dialogical and dissonant with the prevailing discourse. Thus, it would seem logical to suggest teachers need to try and engage with such experiences, and for school leaders to provide support for this endeavour, and do similarly themselves. Informal collaborative opportunities are available and include TeachMeets which are local events designed for teachers to share ideas (TeachMeet, no date). Straightforward access via new technologies opens up opportunities for teachers, for example the weekly #PrimaryRocks Twitter hashtag curates an online discussion around prominent issues for the primary sector, offering access to a wide range of professional voices. Interactive websites such as NRICH hosted by Cambridge University, provide high-quality resources and opportunities for teachers and children to engage with a wider mathematics community. There are also more formal channels through which teachers can collaborate and extend their networks, such as Math Hubs which aim to connect 'mathematics education professionals in a collaborative national network […] to develop and spread excellent practice' (Maths Hubs, no date, no page). The similarity between all these opportunities is the potential they have to generically improve teacher agency through developing teachers' discourse and their tools for thinking. The Critical Collaborative Professional Enquiry (CCPE) programme explicitly aims to 'enhance teachers' capacity for curriculum-making' (Priestley and Drew, 2016, p.1) but such programmes are rare.

Above all, there is an intrinsic need for teachers to be aware and reflective about their own agency as this could provide motivation for them to engage more fully with such valuable CPD. Regarding teacher agency and curriculum development specifically, this study suggests a necessary shift within CPD from a focus on 'the capacity of individual teachers to plan, teach and assess those specific aspects of the curriculum for which they are responsible'

(Alexander, 2012, p.2) to supporting the capacity of teachers so as they are able to mediate their environment in such a way as to feel able to engage with curriculum development in an agentic manner.

6.2.3 *Personal Practice*

This section aims to consider the impact of this study on my professional role, firstly with regard to my own achievement of agency and secondly, with regard to how I am able to support the agency of others. Thirdly, I consider the study's impact on any future research I may undertake.

Regarding my own achievement of agency, completing this study has prompted me to reflect in an informed manner on my career so far, in order to consider implications for the future. In order to summarise this, I have delineated three periods of my professional life. For each, I recall how I felt and acted at the time, and from my more informed current position, how I now view each time differently. The timeline flows chronologically from my early classroom career (2002-2009), to a period of working as an ITE lecturer in an HEI (2009-2014), to my work across a federation of primary schools within a London borough (2015-2016).

Within the Introduction (Chapter 1) I explain that during the early years of my classroom career I was similar to many of the participants in feeling supported by curriculum guidance. Within this framework, I felt able to act in an autonomous manner which satisfied me and led to a sense of job satisfaction. On reflection, I can appreciate that I was beholden to a range of top-down initiatives and that my agency was circumscribed and constrained. That I was unaware of this at the time is particularly important because it is one example of how a feeling of satisfaction can unwittingly curtail potential to achieve agency.

Within the Introduction (Chapter 1) I also summarise how joining an HEI was a watershed moment which availed me of a wealth of resources for achieving agency. One clear example is I recall is enquiring with a colleague about which objectives I should address during an upcoming seminar. Her response that there was no such list or directive shocked me, jarring completely with my previous experiences. It took little time though for this to be liberating and alongside the relaxed style of management I experienced where trust was explicitly and implicitly given to staff, the environment truly supported one of the most agentic periods of my career.

My next employment was as a Leader of Learning within a primary federation. This was a frustrating time for me as my remit was to support teachers and I felt unable to do so to

the best of my ability. On reflection, this was due to two main reasons. Firstly, the Federation exerted strict control over its teachers via its systems, such as standardised flipchart formats for lessons. This meant that teachers were reticent to heed my advice encouraging them to think for themselves and be divergent and innovative. This was particularly true of the School Direct students I was mentoring who were subject to both the Standards (DfE, 2011a) and the Federation's systems and structures. Secondly, my role was within the annexe of the Teaching School which was very small, comprising of one leader, myself and two administrators. The leader was very keen to sustain her power and control relative to me which created an environment where I felt unable to act autonomously. It was a particularly frustrating set of circumstances as due to my iterational experiences within the HEIs, I knew that I could achieve agency and the professional reward this brought. That I was then unable to do so was a disappointing contrast.

Completing this reflection is illuminating and satisfying. As an egocentric exercise it is interesting to explore one's own practice, through a focus on achievements and influencing factors. More importantly though, it is useful as I am able to learn from it to impact my current role. I now work as a consultant, supporting teachers across the primary sector, primarily in mathematics teaching and learning. By drawing parallels with my former incarnations, I am able to empathise with my clients' positions. I am able to understand why they are so keen to strictly adhere to their borough's assessment grid and unwilling to explore divergent pedagogies. A nuanced analysis of their behaviour and practices means I can tailor my support appropriately. Indeed, I have crystallised four aims arising from my doctoral journey which guide my current practice.

Firstly, I take care not to act as an expert who operates didactically. Instead, I strive to provide an additional voice for teachers to hear. Overall, so I aim secondly to enable their successful forays into achieving agency. Through encouraging teachers to be innovative, employ their professional judgement and trust themselves, I hope to facilitate experiences which they can reflect upon with confidence. This is particularly important because such 'performance accomplishments' contribute towards high levels of self-efficacy (Bandura, 1977) and are positive iterational experiences in terms of achieving agency (Priestley, Biesta and Robinson, 2015). In some ways, it may be that these two initial aims combine so that my support constitutes a key learning experience which, in the future, will alter how teachers perceive their environment and thus actualise its emergent properties into powers, resulting in higher levels of agency. To strengthen this, thirdly, I am an advocate of teachers learning and am on a continual quest to encourage others to enrol in professional qualifications, to join subject associations and to read whatever they can. Fourthly, when working with school

leaders specifically, I aim to support them to manage their environment, its structures and systems, in ways which support teacher agency.

As shown, during my career thus far I have experienced periods where I have been able to achieve agency, and others where I have not. This suggests that I do have the personal capacity to achieve agency, but that at times I struggle to mediate the environment in a way that allows me to do so. The former periods have yielded far greater career satisfaction than the latter. For my future then, I aim for two things. Firstly, I hope to sustain and draw upon the significant understanding that it is within my power to manoeuvre within my environment and achieve agency. This is both a gift and a pressure. It is a gift because it means I control my destiny and am not reliant on anybody else. This affords me the ability to aim to effect change and contribute towards making children's learning the best that it can be. It is a pressure because it nullifies any excuses about working within the status quo if that is not the best I believe it can be.

My second aim concerns the dual effect of how much I have learnt whilst completing this professional doctorate, alongside its key finding that teacher agency is supported by seminal learning experiences. It has convinced me of the need to keep learning, particularly as the impact of it is likely to be far wider than initially assumed. Thus my second aim is to commit to lifelong learning. Finally, whilst my current role does not incorporate research, there may be opportunities to do so in the future. The power of a CR ontology to illuminate causal features has been a significant realisation for me. I would hope to develop my understanding and use of it in any future research.

6.2.4 *Future Research*

This study is original as it is the first to apply the EATA (Priestley, Biesta and Robinson, 2013) within English primary academies. The majority of the existing research thus far has been within Scottish schools (Priestley, Biesta and Robinson, 2015; Carse, 2015). Research within English primary academies is important as they constitute a growing sector which seems only set to increase (DfE, 2016a), and are therefore an extremely important sector of the primary phase. Further, they represent an under-researched element of a changing landscape which deserves theoretical attention (Priestley, Biesta and Robinson, 2015). Indeed, English primary academies represent a sector ripe for suggestions which could support teacher agency and ensure that top-down autonomy, a premise upon which they were created, has a bottom-up effect. This is particularly important as it seems unlikely that the wider context represented by the technology of performativity (Ball, 2003) is going to alter.

Within this context, I would like to research the importance which teachers ascribe to their achievement of agency. For some within this research achieving agency seems intrinsic to their value as teachers and an essential part of their role. For others, it is a by-product of action driven by other motivations, and for yet others, it is not something which they desire, or think appropriate. I suspect such a judgement affects their personal capacity to achieve agency which has been shown to be influential. Therefore I think it could be an illuminating area of further research in pursuit of promoting teacher agency.

6.3 Conclusion

In conclusion, this study adds to the existing theory of teacher agency, albeit in a modest way. It is a reliable study as throughout, a 'chain of evidence' (Yin, 2014, p.127) clearly illustrates a thread from the initial research question to the ultimate conclusions. It is a worthwhile study as it contributes to the important aim that

> 'in a policy landscape that appears to view teachers' agency as a desirable attribute, we need to be able to understand how and why teachers achieve agency and what helps or hinders the achievement of agency.'
>
> (Priestley, Biesta and Robinson, 2015, p.128).

Largely, this study provides support for the way in which teacher agency is conceived of as an achievement, influenced by the interplay of experiences across the chordal triad and personal capacity (Priestley, Biesta and Robinson, 2013). However, it adds detail by suggesting that for this cohort of primary academy teachers, it is the nature of their iterational experiences which affects how they interpret their working environment and subsequently achieve agency. From this perspective, these findings are helpful for school leaders who wish to support their teachers to achieve agency. They are also useful for those teachers who want to truly make a difference as they signal a pathway which could lead to increased agency.

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Appendices

Appendix A: Initial Contact Letter

Doctoral research in primary academies – opportunity to participate

I am a teacher working in Hackney whilst also completing a doctorate at Newcastle University and am currently inviting primary academy teachers to participate in my research.

In brief, I am looking to meet with individual teachers, to have a chat around their medium term plans. My qualitative research is purely concerned with investigating teachers' experiences and perspectives of curriculum development. There is no right or wrong answer.......I'm simply interested in finding out how it is for teachers. (In my final write-up, pseudonyms will be used so all schools/teachers will remain anonymous.) Teachers will be free to withdraw at any point.

I know that teachers are very busy and it's difficult to find time to engage with research like this, but I hope they would find it an interesting and rewarding experience. An award-winning Headteacher whose teachers I am working with, views it as an excellent opportunity for teachers to reflect on their practice, which is obviously a key element of driving improvement. Also, I believe curriculum development is an important issue for our profession and through my doctorate I aim to make a positive contribution, so teachers' involvement is invaluable.

If you have any questions about my research, please don't hesitate to ask - or contact my supervisor, Professor David Leat (david.leat@newcastle.ac.uk)

My contact details are as follows and I would love to hear from school leaders or individual members of staff who are interested in participating.

Gemma Parker
g.l.parker1@newcastle.ac.uk
0797 159 4286
@GemmaP1980

Appendix B: Staffroom Poster

Doctoral Research – Opportunity to participate

Do you work within a primary academy?

Do you have an hour to spare to talk about your experiences of curriculum development?

If so, I would love to hear from you.

My research into teachers' curriculum work comes at an important time for the primary sector and I am working hard for it to have a positive contribution for the future of the teaching profession.

I understand how busy teachers are and I would be very grateful if you were able to spare just an hour of your time. If you are able to meet, and would like to arrange a convenient time and place for you, or would like further information, please contact me.

Gemma Parker Leader of Learning –Hackney Teaching School;
Doctoral student – Newcastle University

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Appendix C: Participants' Overview

Academy Pseudonym	Date of academy status conversion	Teacher Pseudonym	Role
Apple Vale	November 2013	CR	Class teacher (NQT)
		DO	Class teacher (NQT)
		JT	Class teacher
		LI	Class teacher (NQT)
		SP	Assistant Headteacher and Maths subject leader
Zenith Academy	January 2014	CD	Classteacher and Maths subject leader
		HO	Class teacher
		MA	Class teacher
		TL	Class teacher and acting Literacy subject leader
Longford	September 2015	DA	Class teacher (NQT)
		KE	Class teacher (NQT)
		TR	Class teacher and PE subject leader
Dome Academy	September 2011 (the previous school closed and re-opened as Dome Academy)	HR	Assistant Headteacher
		JU	Class teacher
Green Cottage Academy	April 2015	JO	Class teacher
		JA	Class teacher and Literacy subject leader
		SU	Class teacher
		SH	Class teacher
Garforth	April 2013	KA	Class teacher and Maths subject leader
		RE	Assistant Headteacher
		SA	Class teacher
		SO	Class teacher (NQT)
TOTAL		22	

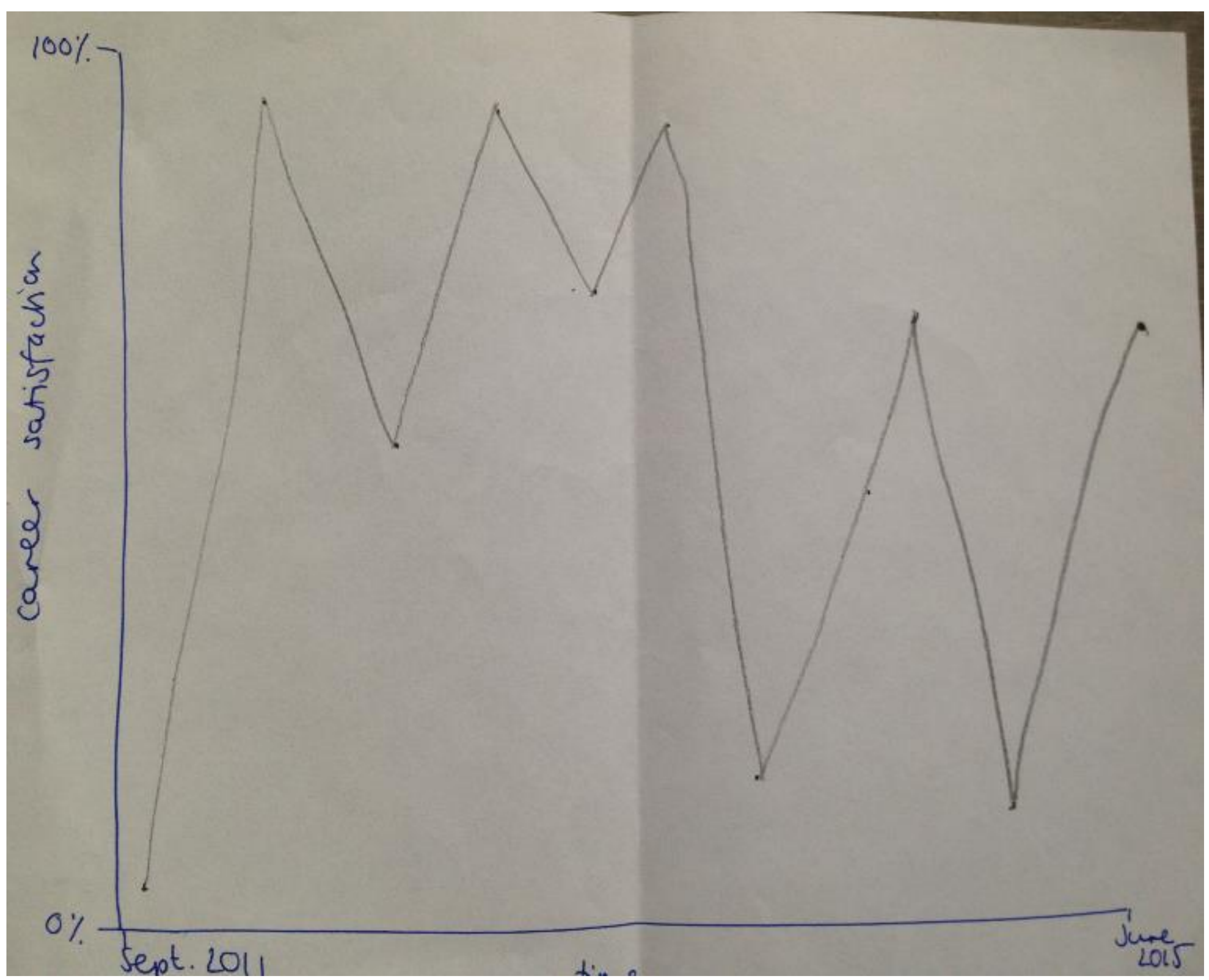
Appendix D: Personal Information Form

Date of interview:________ ________________
School:__________ ____________ ____
Name: ____________________________

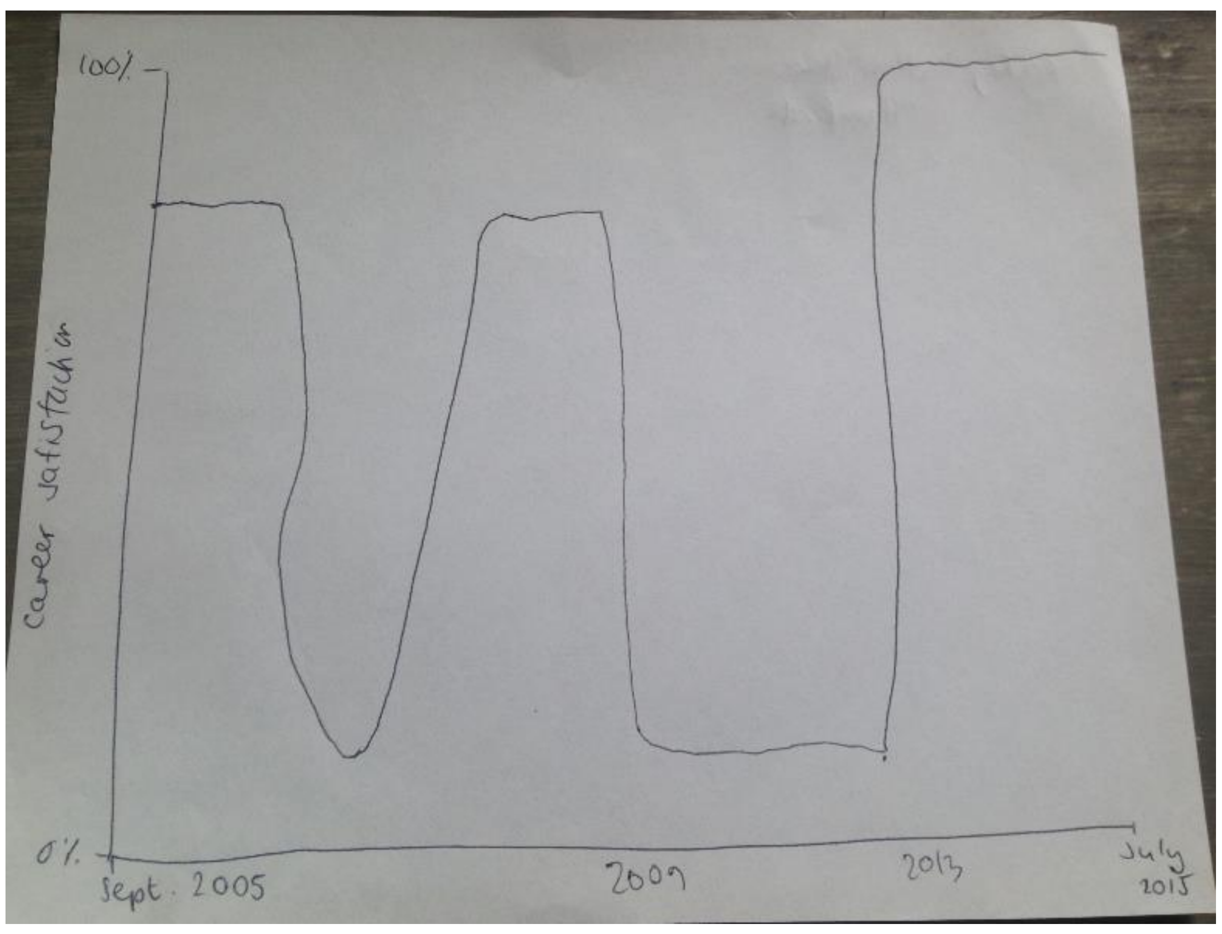
Gender	male		female
Age	21-30 years old	31-40 years old	41-50 years old
	51-60 years old	60+ years old	
Dates of initial teacher education programme			
ITE route			
full years of teaching completed to date			
full years of teaching completed within an academy			
When did you join the academy you currently teach in?			
Has this school converted to academy status whilst you have been working here? If so, when?			
Do you currently hold a leadership position? If so, what is it?			

Appendix E: Living Graph Examples

HR, Dome Academy



KA, Garforth



Appendix F: Semi Structured Interview Schedule

Appendix F*i* – Initial planning, linked to literature

Matrix of survey questions derived from the literature

~~How do teachers view their scope for curriculum autonomy? *Why do they hold this view?~~

- ~~How do teachers view their curriculum capacity? *Why do they hold this view?~~

THEME 1: Teacher agency	
Do you contribute to the design of the curriculum in your academy?	Basica et al., 2014; Priestly, Biesta and Robinson, 2012; Male, 2012:
Following the publication of the 2013 NC, were **changes made to your academy's curriculum?**	Priestly et al., 2012
Is your academy's curriculum personalised for your children?	Biesta and Tedder, 2006; Priestly, Minty and Eager, 2014
Do you work with other teachers to develop the curriculum? (i.e. is there a sense of community/positive relationships to support this?)	Priestly, Biesta and Robinson, 2012; Basica, Carr-Harris et al., 2014
Are there any features of your academy that prevent or limit your influence on the curriculum?	Priestly, 2011; Male, 2012
Does your headteacher support curriculum development work? How?	Male, 2012:3
THEME 2: Teacher professionalism (within current context)	
Do you see curriculum design as an element of your job?	Brundrett and Duncan, 2010; Kneyber, 2014:290; Priestly, Biesta, Robinson, 2011:187
Do you feel responsible for the curriculum you use?	Niveen and Kuiper, 2014; Priestly, 2011
Have you ever/do you ever work within a staff team to design curricula?	Wood, 2014:228
Does guiding documentation and input from various agencies affect your curriculum design?	Male, 2012:203; Priestly, Minty and Eager, 2014:190
Who do you feel is in charge of curriculum design?	Bascia, Carr Harris et al., 2014:231
Did you submit a response to the DfE's consultation on the draft NC in 2013/14?	Bascia, Carr Harris et al., 2014:231
THEME 3: Accountability	
Do you feel that accountability measures (such as Ofsted, SATs league tables etc.) affect the curriculum that you offer the children?	Bascia et al., 2014; Brundrett and Duncan, 2010; Priestly, 2011; Priestly et al., 2012; Priestly, Biesta and Robinson, 2012; Male,

	2012; Ofsted, 2014; Ofsted, 2008
THEME 4: Early post-1998 training setting	
Was there a focus on the National Numeracy/Literacy Strategies during your training?	Priestly, Biesta and Robinson, 2012; Catling, 2010; Male, 2012:78
How did you feel when (prescriptive) documentation to support the curriculum (i.e. NNS/NLS, Framework) were no longer updated and current?	Priestly, Biesta and Robinson, 2012
Do you follow the NC programmes of study within your academy?	
Do you currently use commercial curricula/schemes of work e.g. Collins Maths, IPC?	
Was there a focus within your ITE on designing curricula?	Priestly, Edwards and Priestly, 2012:33; Kneyber, 2014:291; Ofsted, 2008
Do you think your ITE developed the necessary skills for curriculum design/development? Do you think they have developed throughout your career?	Ofsted, 2008; Priestly, 2011:227

THEME 5: Teachers' biographies	

THEME 6: Academy context	
Following the disapplication of academies to the NC, were changes made to your academy's curriculum?	Priestly et al., 2012; Niveen and Kuiper, 2012
Do you think the disapplication of your academy to the NC has an impact?	Niveen and Kuiper, 2012

THEME 7: Curriculum	
How important do you think the curriculum is within an academy?	Male, 2012:204
Do you think teachers' influencing curriculum design is important? Why?	Male, 2012:208-12; Brundrett and Duncan, 2010:5
How confident do you feel about your skills and expertise regarding curriculum design?	Alexander, 2010

Appendix F*ii*: Iteration 1

Interview Script

At the start of the interview, I will collect the data in the 'initial personal info' section of the questionnaire.

- How do teachers trained in the early post-1998 period view their scope for curriculum autonomy? *Why do they hold this view?
- How do teachers trained in the early post-1998 period view their curriculum capacity? *Why do they hold this view?

(The font of the questionnaire questions corresponds with the relevant research question.)

Research Question	Prompt/subsidiary questions
Do you remember learning about curriculum design during your ITE?	What did that look like?
Was there a focus on using the NNS/NLS to support planning during your ITE?	What did you think about this? Did you find it helpful/constraining?
What do you understand by the term 'curriculum planning'?	
What curriculum planning skills do you think you have? What curriculum planning skills do you think you lack?	
Working within an academy, do you feel you have an opportunity to plan a personalised curriculum?	What are the incentives/motivating factors? What are the barriers? Can you tell me any examples of this? Is it subject-dependent?
Have you been involved in curriculum planning within this academy?	Why/why not? Have you worked within a team to do so?

Iteration 2

1	Fill in personal details form.
2	Sketch a line graph which plots 'career satisfaction' against time. Talk through their sketch, explaining particular low/high points and the reasons behind these. This may enable me to learn more about their value as teachers, as well as their teacher identity.
3	Stimulated recall using medium term planning: *Can you talk me through the medium terms plans which you've brought* along today? What do you think its strengths are? How would you improve it? Who designed it? Etc. etc.
4	Does your head teacher support curriculum development work? How? Introduce a 0-10 scale as a horizontal line; 0=terrible at curriculum planning, 10=brilliant at curriculum planning. Ask them to put themselves on it and then to explain why they are at (e.g.) a 5. What *strengths do they have that mean they're halfway up the scale? And* then, what would need to happen for them to move further up the scale?
5	Did you submit a response to the DfE's consultation on the draft NC in 2013/14? Why/why not?

Appendix F*iii*: Brief notes after pilot interview

1	Fill in personal details form.	This was fine and elicited a lot of discussion.
2	Sketch a line graph which plots 'career satisfaction' against time? Talk through their sketch, explaining particular low/high points and the reasons behind these. This may enable me to learn more about their value as teachers, as well as their teacher identity.	This was also good, although easy to do as an NQT i.e. over a 9 month timeframe I wonder whether it would be trickier for teachers with lengthier careers. Also, the discussion did veer off curriculum planning explicitly, although gave related useful information I think.
3	Stimulated recall using medium term planning: Can you talk me through the medium terms plans which you've brought along today? What do you think its strengths are? How would you improve it? Who designed it? Etc. etc.	This was good.
4	Does your head teacher support curriculum development work? How? Introduce a 0-10 scale as a horizontal line; 0=terrible at curriculum planning, 10=brilliant at curriculum planning. Ask them to put themselves on it and then to explain why they are at (e.g.) a 5. What strengths do they have that mean they're halfway up the scale? And then, what would need to happen for them to move further up the scale?	Didn't do this. Don't know why.
5	Did you submit a response to the DfE's consultation on the draft NC in 2013/14? Why/why not?	Didn't do this. Didn't seem appropriate as GY was a student in 13/14.
6	Do you use commercial schemes for any subjects? Why? What do you think of them?	
7		

Appendix F*iv*: Iteration 3

1	Fill in personal details form.
2	Sketch a line graph which plots 'career satisfaction' against time. Talk through their sketch, explaining particular low/high points and the reasons behind these. This may enable me to learn more about their value as teachers, as well as their teacher identity.
3	Stimulated recall using medium term planning: Can you t*alk me through the medium terms plans which you've brought* along today? What do you think its strengths are? How would you improve it? Who designed it? Etc. etc.
4	What do you think teachers who are good at curriculum planning have as strengths?
5	How would you feel if your Headteacher decided to move away from the National Curriculum and as an academy, you were going to plan your own curriculum next year?
6	How would you describe your class' curriculum to a potential parent?
7	What would you describe as the perfect curriculum?
8	Introduce a 0-10 scale as a horizontal line; 0=teachers have no input into planning the curriculum, 10=solely teachers plan the curriculum, with no external input from politicians etc. Where do you think we should sit?
9	Did you submit a response to the DfE's consultation on the draft NC in 2013/14? Why/why not?

Appendix G: Extract from working document tracking amendments to NVivo labels

Thematic Analysis Framework

RQ: *How do primary academy teachers' personal capacities and ecological conditions interplay over three temporal dimensions to have a causative influence on their achievement of agency regarding curriculum development?*

FROM LITERATURE:

What ecological conditions affect teachers' curriculum capacity?
Aims/purpose of education
Assessment processes
Collegial relationships
Epistemological beliefs
Leadership
Material resources
Ontological beliefs
Physical environment
Policy
Subject priorities
Workload
What personal capacities affect teachers' curriculum capacity?
Acceptance
Adaptability
Collaborative skills
Confidence
Continual professional development
Dissatisfaction
Engagement with research
Imagination
Pedagogical knowledge
Professional commitment
Professional vocabulary
Self evaluative skills/ reflection
Strong competencies in numeracy/literacy
Subject knowledge
Teacher identity
Motivation

Changes

7.7.16 Garforth, SO	
	Added school organisation to reflect how the school set up influences curriculum planning e.g. rolling 2 year curriculum due to one and a half form intake
	Split 'assessment' into 'assessment aims' to reflect how curriculum development is driven towards achieving specific assessment goals, and 'assessment impact' to reflect how earlier assessments have influence curr dev., and 'assessment pressure' to reflect its generic influence, and 'assessment verification' to reflect how assessments serve to verify what teachers are doing
	Collegial relationships split into 'collegial relationships – supportive', 'collegial relationships – detrimental'

	Added 'survival functioning' to reflect the overwhelming sensation teachers face
	Added 'helplessness' to reflect the need of teachers to be told what to do
	I extracted the teacher's curr definition and pasted it into a new nvivo file to interrogate in more depth
	Added 'existing practices' as some curr dev work happens because it always has
	Added 'cross curricular' as this approach seems to be influential in curr dev work
	Added 'centralised curriculum planning structures – school based' as some headings etc. are dictated to teachers, and 'centralised curriculum planning structures – NC'
	Added 'personal preferences' to show teachers' individual influence on curr dev.
	Added 'judging criteria' to show how the teachers judged curriculum
	Added 'content influences' to reflect how things affect the content of their planned curr e.g. what we NEEDED to put in
	Added 'collaboration – feelings'
	Added 'ownership' i.e. 'v' gov. influence
	Added 'personalisation' to reflect teachers' influence resulting from them knowing the children
	Split 'leadership' into 'leadership – trust', 'leadership – control'
	Added ITE to show impact of training route
	Added 'curriculum beliefs' to record what teachers think about curriculum control
	Added 'teacher-led guidance' to show that teachers want guidance, but want teachers rather than the DfE to provide it
	Added 'mediated guidance' to show that teachers want guidance, but want to be able to adapt and mediate it
	Split 'personal preferences' into 'personal preferences – risk' and 'personal preferences – influence' to show how teachers can skew the curriculum, and how some view this as risky

10.10.16 Garforth, KA	Added 'enjoyment'
	Added 'leadership – impact'
	Expanded 'leadership – trust' to include examples of leaders trusting teachers (as well as teachers trusting leaders)
	Amended 'collaborative skills' to 'collaborative skills structures practices'
	Amended 'cross curricular' to 'epistemological beliefs – cross curricular'
	Split 'aims of education' into 'aims of education – preparation for secondary' and 'aims of education' to reflect the significant focus on preparing for secondary school at Hamford

Garthforth, SA 11.7.16	Should 'self-evaluation' and 'adaptability' be merged because for the first to be effective, the second needs to be in place??
	Added 'curriculum as content' to show how teachers tend to view curriculum as content/topics (rather than overarching themes/aims)
	Added 'curriculum as aims' to differentiate from 'curriculum as content' to show the difference between teachers who see curriculum as a list of topics and those who see it as a journey

	Added 'curriculum as standardisation protection' to reflect those teachers who think an NC is necessary to protect against rogue/crap teachers. (Should this be merged with 'personal preferences – risk'?)

Garforth, RE 11.7.16	Should 'ownership' and 'mediated guidance' be merged?

Zenith, MA 15.7.16	
	Added 'formal hierarchical roles' to represent vertical relationships as relationships seem very important r.e. agency, and their orientation is key
	Added 'horizontal relationships' to represent team work minus the hierarchy – should this be split into supportive and innovative, because MH conceives these relationships as a shoulder to cry on, as opposed to an innovative action group.
	Added 'skills/knowledge' as this structure of the NC seems to be coming through loud and strong
	Added 'deprofessionalisation from resourcing' to reflect the effect of schemes, QCA etc.
	Added 'curriculum irrelevance' to reflect teachers' views that the curriculum is nothing to do with the real job of teaching

I'm getting a strong sense that it's a lot to do with the importance teachers place upon the curriculum itself. It is seen as a low priority by many of them, and they're happy to have an influence over the pedagogy only. Maybe a culture that promoted it more highly would help, but a school's culture is generated through its staff and if there are no opposing perspectives to spark the dialogic gap, then the status quo will remain. Some schools need an outside voice to ignite the curriculum debate because there's nowhere from within for it to come from. If a school has it (e.g. Garforth) then relationships help disseminate the culture and it grows and has a positive effect on agency, but in other schools there's no genesis.
The literature talks about culture as if it's a separate entity, but surely it's the teachers in the school that contribute to and influence the culture……they are part of it

Appendix H: NVivo screenshot

relationships

School features

School features

Name	Sources	References
Academy status	16	33
corporate culture	3	4
CPD	3	7
directed time	1	1
existing practices	8	15
timetabling	7	12
Workload	12	19

Appendix I: HR's science planning

Year 4 - Living things and their habitats

Reference to the Programme of Study 2014

Pupils should be taught to:

- Recognise that living things can be grouped in a variety of ways
- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- Recognise that environments can change and that this can sometimes pose dangers to living things.

The learning journey: Living Things and Their Habitats

Year group	Statutory Requirements from the Programme of Study
2	• Explore and compare the differences between things that are living, dead, and things that have never been alive • Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. • Identify and name a variety of plants and animals in their habitats, including micro-habitats • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.
4	• Recognise that living things can be grouped in a variety of ways • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Recognise that environments can change and that this can sometimes pose dangers to living things
5	• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • Describe the life process of reproduction in some plants and animals.
6	• Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • Give reasons for classifying plants and animals based on specific characteristics

Appendix J: DO’s maths planning

Apple Vale Academy

Year 3 Maths Medium Term Plans

Aims:

The national curriculum for mathematics aims to ensure that all pupils:

- Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.
By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.
Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Key points to remember:

- Fluency with who numbers and operations.
- Problem solving with fractions and decimal place value.
- Mathematical reasoning – comparisons, recognising patterns.
- X12 tables known by the end of Year 4.
- Read and spell mathematical vocabulary correctly.
- Formal written methods begin in Year 3 (this was at the end of Year 4 or when ready under the 1999 NC)

Key differences from old NC

Number

Count in multiples of 4, 8, 50 and 100
Numbers up to 1000 (read and write)
Add and subtract 3-digit numbers and ones/tens/hundreds – formal written method
+/- 3-digit numbers
3, 5 and 8 multiplication tables
Early use of algebra – connecting m objects to n objects.
10ths, improper fractions, addition and subtraction of fractions & order fractions.

Measurement

Perimeter of 2D shapes
Use Roman Numerals to tell the time.

Geometry

Angles in shapes and a description of a turn
Perpendicular and Parallel

Apple Vale Academy

Year 3 Maths Medium Term Plans

Key Objectives

Number and Place value

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1000 in numerals and in words
- solve number problems and practical problems involving these ideas.

Number Calculations

- add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Statistics

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

Number Fractions

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, $5/7 + 1/7 = 6/7$]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above.

Measures

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- add and subtract amounts of money to give change, using both £ and p in practical contexts
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight
- know the number of seconds in a minute and the number of days in each month, year and leap year
- compare durations of events [for example to calculate the time taken by particular events or tasks].

Geometry properties of shape

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

Appendix K: JA's maths planning

Medium Term Plans (Summer) **Year 4**
(both sets)
Summer 1

POS - Continuous Work: children to;

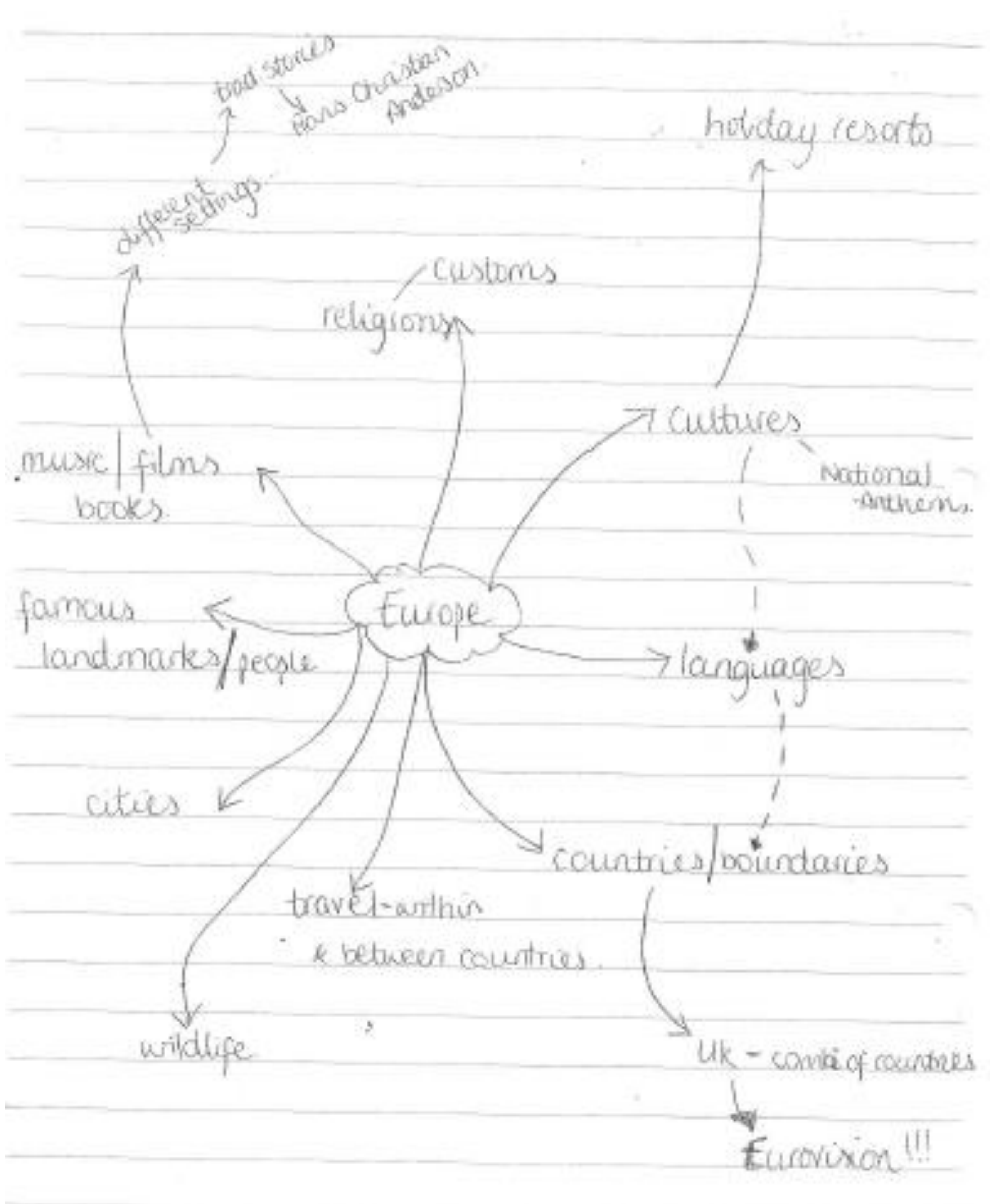
- **become fluent** through varied & continued practice,with increasingly complex problems so children develop conceptual understanding & the ability to recall & apply knowledge rapidly & accurately
- **reason mathematically,** by following a line of enquiry, conjecturing relationships and generalizations and developing an argument, justification & proof using mathematical language
- **solve problems** by applying their maths to a variety of routine & non-routine problems, with increasing sophistication, including breaking down problems into a series of simpler steps & persevering into seeking solutions
- **fluency in using four operations** with whole numbers, number facts & concept of place value in order to develop efficient written & mental methods & perform calculations accurately with increasingly large numbers

Appendix L: KA's 'Rajasthan and Elephants'

	LKS2 Summer 1 2014/15	**This topic has been planned to help children to compare and contrast two localities, to give them an insight into a region of India and to develop their understanding of life in a different culture to their own.**					
		Week 1: 13.4.15 (4 days)	**Week 2: 20.4.15**	**Week 3: 27.3.15**	**Week 4: 4.5.15 (4 days)**	**Week 5: 11.5.15**	**Week 6: 18.5.15**
		Intro to India and Rajasthan	**Jaipur**	**Jodphur**	**Jaisalmer**	**Udaipur**	**Pushkar and Hinduism theme week**
Communication	English	Stories from other cultures: Grandpa Chatterji		Narrative writing: spend time reading a range of stories but give a week for writing their own stories based on elephants or India.		Stories from other perspectives: range of stories from other character's perspectives, including Elephant Rescue (IFAW booklet).	
	Art	Henna (hands) and Rangoli (floor) patterns. Make a whole class peacock out of handprints.	Decorating the elephants (context of Jaipur elephant festival)			Windows. What is through the window? Describe it. Draw your own image through the window and design your own window frame. Link back to henna and rangoli patterns.	
	Music	Carnival of the animals: The Elephant. Listen, which animal is it? How do you know?	Compare and contrast Western and Indian storytelling music (Bollywood vs rapping).	Bollywood Dancing	Bollywood Dancing		
Enterprise	Maths	Follow AET maths curriculum. Make links where possible (e.g. climate data and measurements etc).					
	D & T			Shadow puppets (storytelling link). 1.) Existing characters/puppets 2.) Own characters from stories			
	Computing	Book Creator:	Book Creator:	Book Creator:	Book Creator:	Book Creator:	Book Creator:
Cultural	Science	Habitats and climate data (include climate data from a range of Indian and UK cities)		Light and Shadows.			
	Topic	Locate India, label Rajasthan, label	Jaipur: the Elephant Festival.	Jodphur:	Jaiselmere: Video – life in the desert.	Udaipur:	

		cities in Rajasthan, watch a video, similarities and differences between Essex and Rajasthan.			Camel traders and farmers. Compare and contrast farming.		
	RE	Hinduism: Introduction to Hindiusm					Hinduism: The Pushkar Fair and pilgrimages.
Wellbeing	PSHCE/P4C						
	PE	Tennis and Cricket (use the TOPS cards for ideas)					
	Home Learning Project	Design and decorate an elephant. Written explanation of why Indians decorate elephants and give 5 facts about Indian elephants. Present in any way you wish as long as there is a decorated elephant picture as well.					

Appendix M: SA's Initial Brainstorming


bed stories
Bans Christian Anderson
different settings
holiday resorts
customs
religions
Cultures
National Anthems
music | films
books
famous landmarks/people
Europe
languages
cities
countries/boundaries
travel - within & between countries
wildlife
UK - comb. of countries
Eurovision!!!

– ELG
SA
Superman song!
'Around the world' tour
How?? Travel.
Maths
Literacy
My world
Summer term
Exp Arts & Des.
Comm + lang
PSHE
U'stg the world
P. Development
Growing plant
Pushes + Pulls
Historians
Explorers
Inventors

Appendix N: JO's Summer Term Topic Mind Map

History Learning Challenges

LC1: Who were the Roundheads and the Cavaliers?
LC2: Was Oliver Cromwell right to stop the monarchy?
LC3: Why was the execution of Charles I a major event in British history?
LC4: Why do you think the monarchy was restored after a short while?
LC5: Why do some people think that the Great Fire was one of the best things that happened to London?
LC7: Who was Samuel Pepys and would he have been a modern day blogger?

LC8

Reflection – Set up a Parliamentary debate for and against Cromwell.

MATHEMATICS

Counting- calculating and partitioning-

Explain reasoning using diagrams, graphs and text; refine ways of recording using images and symbols
Solve one-step and two-step problems involving whole numbers and decimals and all four operations, choosing and using appropriate calculation strategies, including calculator use - Use standard written methods for all four operations.
Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards; relate the numbers to their position on a number line
Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and order these numbers -Secure place value to 1,000,000.
Use knowledge of place value and addition and subtraction of two-digit numbers to derive sums and differences and doubles and halves of decimals (e.g. 6.5 ± 2.7, half of 5.6, double 0.34) -Secure place value to 1,000,000.
Use efficient written methods to add and subtract whole numbers and decimals with up to two places - Use standard written methods for all four operations.
Recall quickly multiplication facts up to 12 × 12 and use them to multiply pairs of multiples of 10 and 100; derive quickly corresponding division facts
Identify pairs of factors of two-digit whole numbers and find common multiples (e.g. for 6 and 9)
Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 or 1000-Secure place value to 1,000,000.
Extend mental methods for whole-number calculations, for example to multiply a two-digit by a one-digit number (e.g. 12 × 9), to multiply by 25 (e.g. 16 × 25), to subtract one near multiple of 1000 from another (e.g. 6070 - 4097) -Confidently add and subtract mentally.
Use knowledge of rounding, place value, number facts and inverse operations to estimate and check calculations

B- Securing number facts and understanding shape

Explore patterns, properties and relationships and propose a general statement involving numbers or shapes; identify examples for which the statement is true or false
Represent a puzzle or problem by identifying and recording the information or calculations needed to solve it; find possible solutions and confirm them in the context of the problem
Use knowledge of place value and addition and subtraction of two-digit numbers to derive sums and differences and doubles and halves of decimals (e.g. 6.5 ± 2.7, half of 5.6, double 0.34)
Recall quickly multiplication facts up to 10 × 10 and use them to multiply pairs of multiples of 10 and 100; derive quickly corresponding division facts
Use knowledge of rounding, place value, number facts and inverse operations to estimate and check calculations
Identify, visualise and describe properties of rectangles, triangles, regular polygons and 3-D solids; use knowledge of properties to draw 2-D shapes and identify and draw nets of 3-D shapes Identify 3d shapes.
Complete patterns with up to two lines of symmetry; draw the position of a shape after a reflection or translation

KS2 History

A study of an aspect or theme in British history: Beheading of Charles I, Civil War and the Great Fire of London

Why should gunpowder, treason and plot never be forgotten?

School Trip opportunities

Music

Looking at music of the 1600's

P.E.

Cricket
LC8 – How can we all go Strictly Come Egyptian Dancing

Art/D&T

LC6 – To use different artistic techinniques to represent the Great Fire Of London

Reading

Use APP, Afs and Reciprocal reading roles to teach reading skills through whole class text and Read, Write, Think

Science: Properties and changes of materials

Knowledge:
Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) & response to magnets
- Know that some materials dissolve in liquid to form a solution. Describe how to recover a substance from a solution.
- Use knowledge to decide how mixtures might be separated.
- Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday material including metals, wood and plastic.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- Explain that some changes result in the formation of new materials, which is not usually reversible, including changes associated with burning and acid on bicarbonate of soda.

Full plan and execution of a scientific experiment revolving around a subject.

English – SPAG

Word: -Standard English forms for verb inflections instead of local spoken forms. (we were instead of we was)
-The grammatical difference between plural and possessive -s.
-Word families based on common words.
Sentence: - Fronted adverbials.
-Relative clauses beginning with who, which, where, why, or whose.
-Indicating degrees of possibility using modal verbs (eg might, should, will, must) or adverbs (eg perhaps, surely)
Text: -Appropriate choice of pronoun or noun across sentences.
-Devices to build cohesion within a paragraph (eg. then, after, that, this, firstly)
-Linking ideas across paragraphs using adverbials of time, place and number (later, nearby, secondly)
Punctuation: -Apostrophes to mark singular and plural possession (eg the girl's name is)
-Use of commas after fronted adverbials (eg later that day, I heard the bad news)
-Brackets, dashes or commas to indicate parenthesis.
-Use commas to clarify meaning or avoid ambiguity.
Terminology: clause, subordinate clause, pronoun, possessive pronoun, adverbial phrase, relative clause, modal verb, relative pronoun, parenthesis, bracket, dash, determiner, cohesion, ambiguity.

Writing: The Lion, The Witch And The Wardrobe

Add a range of genres to be used through your text. Eg of resource. IGNITE WRITE

Appendix O: JO's Garforth's Academic Yearly curriculum overview

Academic Yearly Overview

LKS2 2015-2016	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Art Attack (Art)	How Big is a Million (Maths)	Frozen Worlds (Science)	Fossil Hunters (Local/Geography)	Rio (Brazil) (Music)	Olympics (P.E.)
	7 weeks (incl. Cardboard challenge)	7 weeks (incl. Christmas)	4 ½ weeks	7 weeks	7 weeks	6 weeks (+ 4 days)
This topic has been planned to help the children to...	Access art through different media.	Gain an insight and reflect upon their place in the world.	Recognise the impact they can have upon the world.	Investigate their local history and geography, especially focussing on coastal erosion and fossils.	Gain an insight into another culture (music and the arts).	Recognise a significant world event.
First hand experience (e.g. educational visits)	Visit to Flatford (re. Constable) in first 2 weeks (£5 donation). Visit to art gallery in Naze Tower. Local artists into school (possibly Simon Carter or Nigel Pepper?)	Using 365 Penguins and How Big is a Million books.	Visit to the flood barrier at Wivenhoe on the train. Link to changes to the environment. New Life Builders in to build an igloo out of polystyrene blocks – possibly weatherproof it.	Local visit to the Essex Wildlife Trust Visitor Centre at the Naze – looking at history of the Naze and fossils. Link to Geography and erosion. Visit Anne Stallard's house to see rock collection.	Base the topic on the film Rio. Possible visitors to do Carnival Dancing, Samba Junk Band, Brazilian food. Use the Anthony Browne book Gorilla to link to conservation.	Possible visit to The Olympic Park at Stratford (aim for £20) – early in this half term. Sports theme week with lots of taster sports to try.
Home Learning Project	Research a famous artist and produce a piece of art work inspired by them.	Investigate snowflakes – how many different designs can you come up with? Can you make any of these?	Waste/recycling diary. Find out how much is thrown away over a 2 week period. Analyse types of rubbish and come up with a plan to reduce this. Include a poster.	Make a model of a fossil and write a fact sheet/blurb about it (where it was found, who found it, what it is from etc).	Design (and make if you wish) a carnival costume or headdress	Design a new national sport and flag for a country. You can make the flag if you wish. Include instructions for how to play the new sport.
Communication (Art, Music, Languages)	Photography (link with TTC). History of landscapes (link to visit). Kieran Williamson (child prodigy). Listening and responding to music through art.	Sculpture – making a panorama to become a set. Also make the penguins. Use clay and modrock. Used for stimulus in adventure story.	Taught through the play.	**Art** = collage of the Naze cliffs and the tower. Also use pastels for blending. **Music** = composing Dinosaur music (timbre, pitch, dynamics, tempo).	Samba and Carnival – composing and performing. Link to D.T. Possibly combine these lessons when swimming. Possibly junk band in. Body percussion.	**Music** – National Anthems of different countries. **Art/D.T.** = bunting, symmetrical patterns, sewing

Academic Yearly Overview

English skills	**Recounts** (summer hols and trip) x 2 weeks. **Letter** writing x 2 weeks (The Day the Crayons Quit).	**Narrative** adventure x 4 weeks. Use storyboards from Comic Strip app to understand paragraphs and scenes. **Christmas** stories from around the world x 2	**Play scripts** x 2 weeks **Information texts** x 2 weeks	**Newspaper reports** (fossils found) x 3 weeks **Poetry** (words omitted from the Oxford Dictionary) x 3 weeks	**Instructions** for making either the rainstick or floats x 2 weeks **Stories from other cultures** (Latin America/Brazilian) x 4 weeks	**Non-chronological reports** x 2 weeks (athletes, events etc). **Diary entries** x 2 (feelings of sports people). **?? one extra topic ??** x 2 weeks
Enterprise (D&T, Computing)	**D.T.** = framing. Enterprise = put on an art exhibition. Computing = internet safety	**iMovie** = making a mini film using the sets. Comic Strip = presenting story in storyboard form to understand scenes. **D.T.** = making the sets for films.	**I.C.T.** = book creator, Keynote, Pic Collage. Link to literacy information texts.	**I.C.T.** = research a famous fossil hunter and create a guide to the Naze. Contact the Naze with the possibility of this being used with their visitors. **D.T.** = collage (link with Art)	**D.T.** = Rainsticks (need carpet tubes, nails and gaffer tape). **D.T.** = Carnival floats (moving toys).	**D.T.** = see Art. **I.C.T.** = coding
Maths skills (aside from daily maths lesson)	Shape and space??	Number and big numbers. Measurements and quantities. Weight and mass. Place value.	Data handling and weather.	Measurements and time. Chronological order. Sizes.	Measuring, speed, distance, climate, music	Symmetry in flags Olympic maths skills. Data handling and predicting outcomes.
Cultural (Science, History, Geography, RE)	**R.E.** = religious art (identify religious symbols; recognise own beliefs). **Geog** = landscapes (describe how and why places have changed over time). **Science** = fair testing and investigation	**Bible stories** = loaves and fishes. Creation story. **Geography** = compare and contrast locations. Human and physical features of locations. Penguins in zoo vs penguins in the wild. Human populations – densities in different places. **Science** = space, stars, constellations, distances, moon watch	**Science/Geography** = climate change, global warming and the effects on the planet. **R.E.** = compare different spring festivals (across the whole spring term).	**Science** = rocks and soils; habitats **Geography** = erosion, coastal defences, power of the sea, long shore drift, now and then pictures of the Naze, impact of nature vs the impact of human. **R.E.** = spring festivals	**Science** = sound (link to instruments) **R.E.** = how religions in South America have changed over time **Geography** = where have people come from? Spanish and Portugese links to Brazil. Finding out about a different country. What is Brazil like? Compare and contrast, rainforests, rivers, mountains, people, food, climate.	**History** = Ancient Greece and the history of the Olympic Games. **Science** = healthy eating and healthy bodies. Design an Olympic meal; design their own Olympic boot camp based on Olympic games. **R.E.** = Ancient Greek gods and goddesses

Appendix P: LI's jigsaw curriculum overview

Cool Planet Year 5

English
- Persuasive writing linked to Fair Trade and health issues
- Create human rights leaflets
- Leaflets campaigning against the use of child soldiers
- Debates
- What will you do to make a difference in the world?

Art & Design
- African art- what are the features?
- Children to create their own tribal mask using printing blocks
- Arts week

Computing
- Creative credit and copyright
- Information literacy
- Self- image and identity

Mathematics
- Use of a compass and coordinates
- Statistics linked to science and environmental data
- Use of data loggers to collect and analyse data
- Measuring out ingredients
- Shape linked to printing blocks

Design & Technology
- Cooking- what different products are fair trade?
- What different foods can be made using Fair Trade ingredients?

Geography
- Can you locate different countries in West Africa?
- What are the similarities and differences between West Africa and the UK?
- What are the major countries and cities in Africa?
- What are the physical and human characteristics of West Africa?

Modern Languages
- What are the key features of a beach?
- Can you use adjectives correctly in a sentence?
- Can you provide your opinion?
- Write a description of a beach scene
- Music Man- what are the different musical instruments?

Music
- Stop! Comparing music around the world and how culture influences music
- Reflect, rewind and replay

Science
- Human development into old age
- What are the different stages of human development?
- What are the main changes that happen during puberty?
- How does human development compare with the development of other animals?
- Reproduction in plants and animals
- The effects of smoking on the body
- Understanding the properties of different materials
- Investigate the uses of materials
- Investigating reversible and irreversible changes

History
- Where is Benin? What was Benin like 1000 years ago and how do we know?
- What changes took place when the European settlers started trading?
- What was the British involvement in Benin and how did it affect the Benin people?
- How does Benin history differ to British history?
- How does Benin compare to modern West Africa?

Physical Education
- Swimming
- Gymnastics
- Athletics?
- Tennis?

Religious Education
- What are the five moral precepts?
- What is the Noble Eightfold Path?
- The Buddhist community
- Meditation and Mandalas- what is it? What is its significance?

Christianity
- The Bible

Template created by Michael Tidd 2013

www.primarycurriculum.me.uk

Appendix Q: SH's Victorian Life plan

This is your Victorian Life **WOW MOMENT: Victorian Day** Children to experience what life could be like in the Victorian time period? School and Work house.			Cross Curricular link Famous figures; Charles Darwin – Science Lewis Carroll – Maths Joseph Lister – Science Charles Dickens – Guided Reader	Plenary	Success Criteria
1	LC1: What was life like in a Victorian School?	Use clips and part of film to show the children what school life was like. Use nonfictions books as research. Create a table of similarities and differences.	Literacy/ maths	Look at the school rules. Which do we still have today/don't have today? Why do you think these haven't/have changed?	
2	LC2: Would you like a job in a Victorian Work House?	Lesson 1: Play the children the sounds – guess what they can hear. Show children a range of video clips. Children to write notes in draft books. Using pictures and different sources and post its identify what happens and predict what the conditions were like. Lesson 2: Children to get together in like groups (ege all the mud larks together etc) create a drama about what they are doing in their day to day life. Show to class and discuss accuracy. In their groups children to create A2 timetables showing what their working life was like (A day in the life of a...)	History	Share timetables with whole class. Which one would you prefer and why? Debate and take a vote.	
3	LC3: What is family life like in the upper classes?	Watch video clips (Mary Poppins) and make a list of things they can see including objects, workers etc. Read through information on BBc website – what else could they add to their list? How would you feel if you lived in a rich family in Victorian times? Leaflet/birds eye view of inside of a rich Victorian house. Children to draw objects and label them. AARE explain why they were there/how used? Thought bubble: how does it feel to live as a rich child in Victorian Britain?	Literacy	Share dramas	Mary Poppins/ Oliver Twist

Appendix R: Extract from JO's Y5 maths plan

Term 1 Maths – Overview Year 5

A-Counting, calculating and partitioning.	B- Securing number facts and understanding shape	C – Handling data and Measures	D- Calculating, measuring and understanding shape	E – Securing number facts, relationships and calculating.
Explain reasoning using diagrams, graphs and text; refine ways of recording using images and symbols Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards; relate the numbers to their position on a number line Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and order these numbers	Explore patterns, properties and relationships and propose a general statement involving numbers or shapes; identify examples for which the statement is true or false Recall quickly multiplication facts up to 10 × 10 and use them to multiply pairs of multiples of 10 and 100; derive quickly corresponding division facts Identify pairs of factors of two-digit whole numbers and find common multiples (e.g. for 6 and 9)	Plan and pursue an enquiry; present evidence by collecting, organising and interpreting information; suggest extensions to the enquiry Explain reasoning using diagrams, graphs and text; refine ways of recording using images and symbols Answer a set of related questions by collecting, selecting and organising relevant data; draw conclusions, using ICT to present features, and identify further questions to ask	Confidently add and subtract mentally Solve one-step and two-step problems involving whole numbers and decimals and all four operations, choosing and using appropriate calculation strategies Use standard methods for all four operations Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 or 1000 Secure place value to 1,000,000 Read and plot coordinates in the first quadrant;	Represent a puzzle or problem by identifying and recording the information or calculations needed to solve it; find possible solutions and confirm them in the context of the problem Solve one-step and two-step problems involving whole numbers and decimals and all four operations, choosing and using appropriate calculation strategies use standard written methods for all four operations Explain reasoning using diagrams, graphs and text;

Appendix S: Extract from SH's Y3 maths plan

Term 1 Maths – Overview Year 3

A - Counting, calculating and partitioning.	B- Securing number facts and understanding shape	C - Handling data and Measures	D - Calculating, measuring and understanding shape	E - Securing number facts, relationships and calculating.
Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams Read, write and order whole numbers to at least 1000 and position them on a number line; count on from and back to zero in single-digit steps or multiples of 10- -Secure place value to 100. Partition three-digit numbers into multiples of 100, 10 and 1 in different ways	Represent the information in a puzzle or problem using numbers, images or diagrams; use these to find a solution and present it in context, where appropriate using £.p notation or units of measure Identify patterns and relationships involving numbers or shapes, and use these to solve problems	Follow a line of enquiry by deciding what information is important; make and use lists, tables and graphs to organise and interpret the information -Solve number problems, including multiplication and simple division and missing number problems (represented in algebraic form). Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres; choose and use appropriate units to estimate, measure and record measurements	Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations-Written column addition and subtraction Add or subtract mentally combinations of one-digit and two-digit numbers- Mentally add and subtract units, tens or hundreds to numbers of up to 3 digits.	Follow a line of enquiry by deciding what information is important; make and use lists, tables and graphs to organise and interpret the information Identify patterns and relationships involving numbers or shapes, and use these to solve problems Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100

Appendix T: CD's Y6 curriculum overview

YEAR	SUBJECT	TERM 1	TERM 2	TERM 3	TERM 4	TERM 5	TERM 6
		World War II & Water (2nd Half of Term 2)		Ancient Greeks			
6	WOWS/VISITS	Chartwell House, Imperial War Museum, Churchill War Rooms, Junior Citizenship workshops	Church visit, Shakespeare production, London Mozart Players performance	Ancient Greek Day, Visit to Riddlesdown production, Greek food evening, Buddhist temple		Riddlesdown visit fieldwork skills, Stubbers Farm residential, End of Year production, Visit to Chessington	
	English	Power of reading units: Goodnight Mister Tom & Floodland Chartwell House – persuasive/information leaflet, recount, Letter writing – formal/informal Biographies Descriptive writing Nursery rhymes		Power of reading units: The adventures of Odysseus Persuasive writing Discussion texts Non-chronological reports Story writing		Mystery Stories Biographies/information texts Poetry Letter writing Explanation	
	Science	Interdependence and adaptation	Forces & (How water is transported in plants/animals) Circuits – link to DT project	Micro-organisms	Reversible and irreversible changes	Dissolving	Light, Health week – diet, exercise, circulatory system Evolution and inheritance – link to SRE
	History	Britain Since 1930		Ancient Greeks – timeline, key events		Iconic film stars. History of film.	
	Geography	Some map work – looking at allies/axis countries	River localities, water cycle Map skills, environmental issues	Map skills, physical features		Map and fieldwork skills, Location, Physical and human features, time zones	
	Art	Sketching & drawing, Painting Artist study: Winston Churchill	Sculpture – Andy Goldsworthy	Claywork – greek pots, Printing – string patterns		Collage – Hannah Hoch, Nancy Spero (Link to film star photographs) & Scenery for production	
	DT	DT – Electrical Christmas game Food – to sell at Christmas Fair		Greek food evening		Superhero Capes – sewing	
	Music	Listening to different styles of music from WW2 era, in particular Glenn Miller's arrangement of 'Little Brown Jug'. Identifying key features of such a Big Band piece, in particular its 'theme and variation' structure. Compose own theme and variation piece from given melody. Learn Xmas songs		West African Drumming – singing songs, exploring different rhythm cycles and learning techniques involved in playing the djembe.		12-Bar Blues, its chord sequence and the Blues scale. Learning songs for Summer production, What a Knight by Craig Hawes.	
	PSHE (See SEAL plans)	Theme 1: New Beginnings and incidental use through classroom routine Managing conflict, Risk taking behaviours, Healthy Eating (British food fortnight)	Theme 2: Getting On and Falling Out Theme 3: Say no to bullying (As part of national Anti-Bullying' Week) Rights, responsibilities and law Money management – nterprise project	Theme 4: Going for Goals! and incidental use through classroom routine World of work	Theme 5: Good To Be Me and incidental use through classroom routine Taking responsibility for my own safety	Theme 6: Relationships and incidental use through classroom routine Drug Education	Theme 7: Changes and incidental use through classroom routine SRE and managing change including tranisition

Appendix U: Garforth's skills overview (Science)

Science

These Science skills are taught through Years 1 to 6 to develop increasing accuracy, fluency and mastery. They can be used as discreet Learning Intentions or be adapted to suit the skill level of the learner.

- To ask scientific questions
- To answer scientific questions
- To identify, classify, describe and compare... (plants, animals, materials etc.)
- To use keys and classification diagrams to find out information
- To plan an investigation (recognising and controlling variables where necessary)
- To make predictions based on scientific evidence
- To gather and collect data
- To make accurate measurements (using a range of scientific equipment)
- To make accurate observations
- To record results in different ways (e.g. drawings, labelled diagrams, tables, charts etc.)
- To classify and present data (in graphs or charts)
- To make conclusions based on scientific evidence and prior knowledge
- To report findings (using oral and written presentation skills)
- To explain a scientific process (using appropriate vocabulary)
- To evaluate the reliability and validity of results

Appendix V: MA's science plan

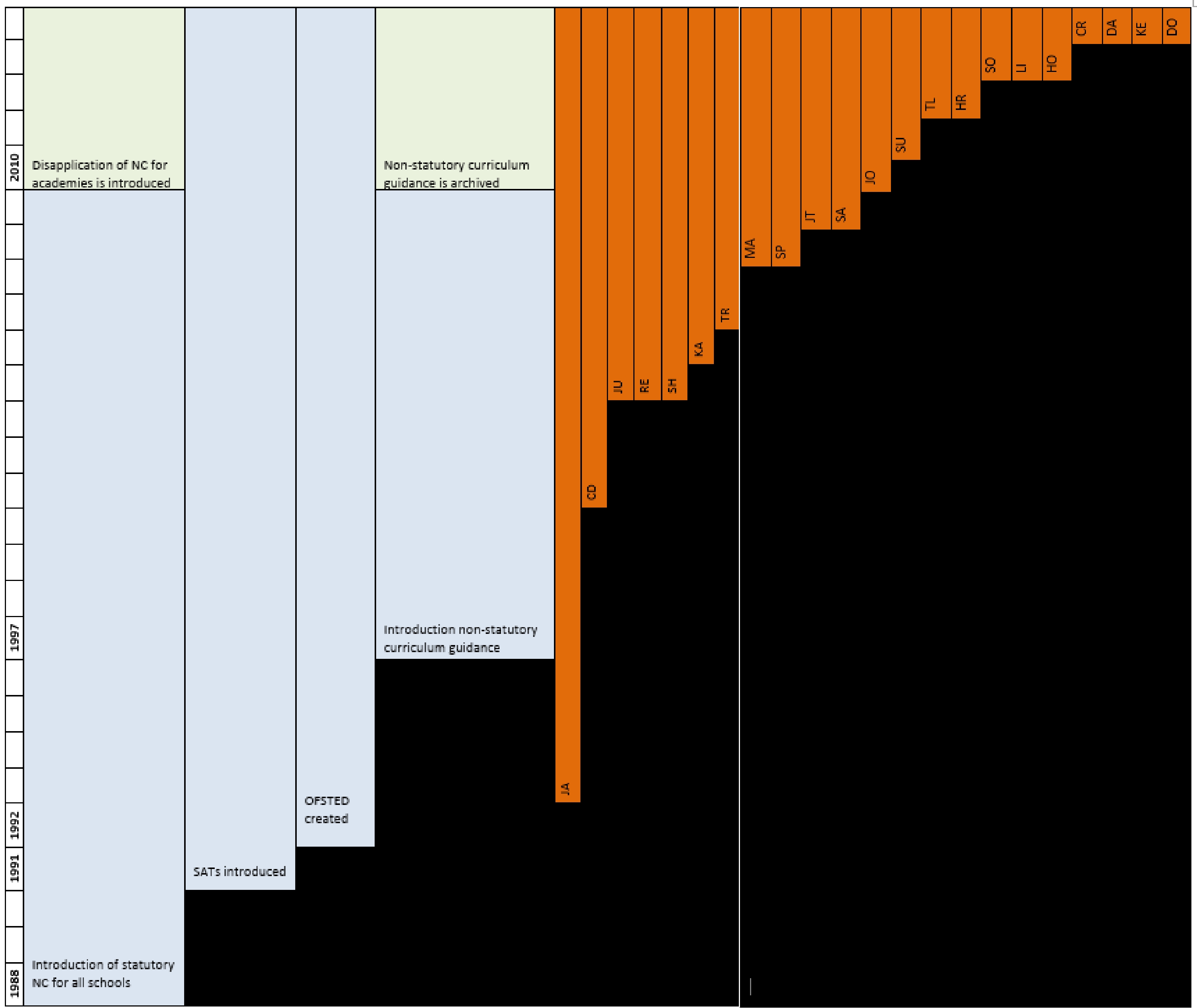
Year 1 **non statutory Not all key skills have to be taught in all lessons. Pick a skill to focus on.

Subject	Topics	Knowledge, skills and understanding	Curriculum links
Science Key skill: Communicate ideas in a variety of ways Key words: method, observe, pattern, results, measure, compare, record, group, equipment, fair.	Plants Key skill: carrying out simple comparative tests. Key skill: asking questions Key skill: recording (plant diary)	-I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. -I can identify and describe the basic structure of a variety of common flowering plants, including trees. -I can use the local environment throughout the year to explore and answer questions about plants growing in my habitat. -I can observe the growth of flowers and vegetables which I have planted. -I know the common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem).	
	Animals including humans Key skill: finding things out using secondary sources. Key skill: asking questions	-I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals -I can identify and name a variety of common animals that are carnivores, herbivores and omnivores -I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) -I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense -I can use the local environment throughout the year to explore and answer questions about animals in my habitat. -I understand how to take care of animals taken from my local environment and the need to return them safely after study. -I know the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.	
	Materials Key skill: grouping and classifying. Key skill: asking questions	-I can distinguish between an object and the material from which it is made -I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock -I can describe the simple physical properties of a variety of everyday materials -I can compare and group together a variety of everyday materials on the basis of their simple physical properties. -I can explore, name, discuss and raise and answer questions about everyday materials.	
	Seasonal changes Key skill: observing changes over time Key skill: asking questions Key skill: noticing patterns	-I can observe changes across the four seasons -I can observe and describe weather associated with the seasons and how day length varies. -I can identify sources of light including the sun. -I understand features of day and night including temperature. -I can observe and talk about changes in the weather and the seasons.	

Appendix W: SH's science plan

Subject: Science	**Context of lesson:** Reversible and Irreversible changes	**Lesson structure:**
Lesson Objectives (Programme of Study) Links to National Curriculum	**Success Criteria for Level(s)**	**Learning Objective:** To understand the function of the heart in the body.
KS2 -Scientific Enquiry: 2) Pupils should be taught: Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Report findings, including explanations, in oral form Use scientific diagrams	**Scientific Enquiry and Knowledge:** **Level 3** I give explanations for changes in living things. (For example diet affecting the health of humans and animals, **Level 4** I use scientific names for some major organs or body systems and I can locate the position of these in my body. **Level 5** I describe the main functions of organs of the human body	**Whole class teaching:** What do you already about the human circulatory (blood) system & the gaseous exchange system including the heart & lungs. They should note anything that they would like to find out more about during this Strand. Show chn diagrams of the human heart (*see resources*), pointing out that it is divided into four chambers (note the singular & plural of the top chambers – atrium & atria). It is composed of muscle tissue and as the muscles of the bottom chambers (ventricles) contract they squeeze blood down the blood vessels to the lungs and to the rest of the body. As these muscles relax blood from the top chambers (atria) enters. The blood returning from the lungs and the rest of the body fills the top chambers as they relax and then those muscles contract to push the blood into the bottom chambers. Look at http://kidshealth.org/kid/htbw/heart.html. The blood is pumped round the body by the heart – show children a balloon pump blowing up a balloon or a child's toy water pump, so they understand the concept of pumping. Listen to heartbeat at http://www.smm.org/heart/heart/steth.htm - this is what the doctor hears with a stethoscope. Show children normal ECG (electrocardiogram) in *resources* and an animation of the heart working at http://www.abpischools.org.uk/res/coResourceImport/resources04/heart/heartAnim3.cfm or at http://www.pbs.org/wgbh/nova/heart/heartmap.html. Ask children to make a fist and hold it near their chest in the correct position, just to the left of centre – that is the size of their heart. Activities Chn to draw and label a diagram of the heart explaining the function and the processes involved in the heart. **Plenary:** Explain that the importance of the heart in our bodies is shown by the fact that the heart has always been considered the centre of thought, feeling and emotion (particularly love) as can be seen from some of the many expressions in daily use that include the heart, e.g. has no heart (doesn't show emotion), lose heart (lack of courage or enthusiasm), have a heart (be merciful), etc. Can children give any further examples (*see resources*)

Appendix X: Regulatory processes overview


1988
1991
1992
1997
2010
Introduction of statutory NC for all schools
Disapplication of NC for academies is introduced
SATs introduced
OFSTED created
Introduction non-statutory curriculum guidance
Non-statutory curriculum guidance is archived
JA
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Appendix Y: DO’s incomplete plan

English overview Summer Term 1, 2015, Year 3

Week beginning	Monday	Tuesday	Wednesday	Thursday	Friday
13th April Big Picture: Stig of the Dump / Describe action excitingly	Inset	Reading pp1-6 "or something!" Grammar Use similes with action verbs Main activity Describe Barney's fall in exciting detail	Reading pp6-11 "for a while" Grammar recap metaphors Main activity Describe setting to create suspense	Reading pp11-16 Grammar recap personification Main activity Describe first impressions of Stig to create suspense	Reading (Summarise ch2 to chp: Barney helps Stig build window & chimney, S gives B flint arrowhead as gift. B leaves granny's house until Christmas) pp54 – 60 shared Grammar spelling test Main activity Comprehension pp61-3 read independently
20th April Big Picture: Stig of the Dump / write a well-structured extra episode for Stig of the Dump	Reading pp64-9 "sizzling happily" Grammar -ly adverbs to vary sentence starters Main activity Write an episode, with structure provided; home – dump – achieve something with Stig – home again	Reading pp69-75 Grammar preposition phrases to vary sentence starters Main activity Write	Reading (Summarise to chp; in ch 4 Stig shows Barney how to hunt with spear & bow+arrow. They catch pheasant, he tries to shoot a horse. Stig is puzzled why humans hunt foxes. In ch 5 Barney gets into trouble with some rough local boys and Stig rescues him by scaring them. Then they all make friends. AT the start of ch6 Barney is up a tree by his grandmother's house, and his	Reading pp134-141 Grammar Having +past participle to vary sentence starters Main activity plan assessed writing	Reading pp142-7 Grammar spelling test Main activity **assessed writing:** extra episode for Stig of the Dump

			grandmother and sister are out shopping, when 2 suspicious men come along.) pp 126-133 Grammar -ing clauses to vary sentence starters Main activity Write		
27th April Big Picture: Stig of the Dump / rewrite and extend in the 1st person	Reading (Summarise ch7 to chp: Barney & sister Lou attend a fancy dress party. A leopard had escaped from a circus but Stig saves the children by trapping it.) pp184-189 Grammar Changing to 1st person (all pronouns & possessives etc) Main activity Rewrite extract in 1st person	Reading pp190-5 Grammar Conjunctions Main activity Rewrite extract in 1st person	Reading pp196 201 Grammar Conjunctions Main activity extend with own ideas in 1st person	Reading pp202-6 Grammar Speech layout Main activity extend with own ideas in 1st person	Reading pp207-213 Grammar spelling test Main activity Comprehension
4th May Big Picture: Stig of the dump / own story in 1st person about a secret place discovered	Bank Holiday	Reading pp214-221 Grammar Speech punctuation Main activity Write in 1st person about discovering a secret (but real-world) place	Reading pp222-9 Grammar Paragraphing Main activity Write in 1st person about discovering a person you can't speak with.	Reading pp230-7 Grammar Paragraphing Main activity plan assessed writing	Reading pp238-244(end) Grammar spelling test Main activity **Assessed writing:** own story about secret place discovered, 1st person
11th May	Reading	Reading	Reading	Reading	Reading

Big Picture:	Grammar Main activity	Grammar Main activity	Grammar Main activity	Grammar Main activity	Grammar Main activity
18th May Big Picture:	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity
25th May			**Half term**		
1st June Big Picture:	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity
8th June Big Picture:	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity
15th June Big Picture:	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity
22nd June Big Picture:	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity

29th June Big Picture:	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity
6th July Big Picture:	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity
13th July Big Picture:	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity	Reading Grammar Main activity
20th July Big Picture:	Reading Grammar Main activity	Summer Holiday			

Appendix Z: TL's incomplete plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Literacy	Newspaper & magazines / Poetry: Creating images	Stories Historical Settings / Plays	Stories from other cultures / Persuasive Texts	Stories that raise issues and dilemmas (Iron Man) /	Explanation texts/Persuasi on	Historical
Numeracy						
Science	Moving and growing	Circuits	States of matter	Sound	Habitats- Minibeasts	Habitats- Minibeasts
ICT	We are co- authors/unit 4.1:	Iron man with	We are meteorlogists 4.4: Graphs using excel	We are musicians 4.3: Logo?	We are web designers	???
History	Tudors	Tudors: Explorers			Local history of Croydon?	
Geography	Tudors	Tudors: Explorers	Rivers	Rivers		sustainable living
PE	Dance-Tudor dancing	Gym-Kung FU-Balance	Gynastics: Rolls	Hockey?????	Tennis	Athlectics
PSHE						RRSA
Art	Portraits		sketching	designing prints	Landscapes	
DT		Make the Iron man				Sculpture
RE	Judaism Authority and Worship Page 127-130 Judaism Lifestyle and Celebration Rosh Hashanah Page 127-130.	Judaism Sacred and Inspiration al Writings.	Christianity Sacred and Inspirational Writings	Sikhism Authority and Worship	Challenging Question Why do you Judge me?	Challenging Question Why do you Judge me?

Appendix AA: SO's Exploring Shape plan

	Exploring Shape			
	Stage 4	Stage 5	Stage 6	Stage 7
Learning Objectives	identify lines of symmetry in 2-D shapes presented in different orientations		illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	identify properties of the faces, surfaces, edges and vertices of: cubes, cuboids, prisms, cylinders, pyramids, cones and spheres
				use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries
				use the standard conventions for labelling and referring to the sides and angles of triangles
	identify acute and obtuse angles and compare and order angles up to two right angles by size	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	… and find unknown angles in any triangles, quadrilaterals, and regular polygons	apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles
			recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	
	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	use the properties of rectangles to deduce related facts and find missing lengths and angles	compare and classify geometric shapes based on their properties and sizes	derive and apply the properties and definitions of: special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus; and triangles and other plane figures using appropriate language
		distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		
Suggested Learning Hours	8	8	8	8

Learning Steps (1 per allocated hour) I can				
	I can identify lines of symmetry in 2D shapes	I can recognise a reflex angle	I can identify the radius, diameter and circumference on a circle	I can count and describe the faces, edges and vertices of common 3D shapes.
	I can identify and describe all possible lines of symmetry in a 2D shape (horizontal, vertical, diagonal)	I can estimate angles in degrees (acute, obtuse, reflex)	I can describe the relationship between radius and diameter	I can name a (or find a named) line segment, angle or shape using standard conventions
	I can identify and distinguish between acute, right and obtuse angles	I can compare and order angles (acute, right, obtuse, reflex)	I can calculate missing angles within triangles	I can find missing angles by using the properties of angles at a point, angles on a straight line and vertically opposite angles.
	I can order and compare angles up to 180 degrees	I can describe the properties of rectangles	I can calculate missing angles within quadrilaterals	I can recognise and mark (and read) equal lengths, parallel lines, equal angles, right angles and lines of symmetry on diagrams
	I can recognise and describe the properties of 'famous' quadrilaterals	I can use the properties of rectangles to find missing lengths and angles	I can calculate missing angles within regular polygons	I can find missing angles in shapes using properties of the shapes and the angle rules above.
	I can recognise and describe the properties of 'famous' triangles	I can identify regular polygons and explain my reasoning	I can calculate missing angles on a straight line and around a point	I can derive and describe the properties of triangles in detail and use these to solve problems.
	I can sort 2d shapes using Carroll diagrams (one criterion)	I can identify irregular polygons and explain my reasoning	I can calculate missing angles that are vertically opposite each other	I can derive and describe the properties of quadrilaterals in detail and use these to solve problems.

Appendix AB: LI'S science skills continuum

New Currciulum Science Skills Continuum

Foundation stage

Science

sc1 Show curiosity about things around you.
sc2 Observe, manipulate and explore objects.
sc3 Describe simple features of objects and events.
sc4 Show interest in why things happen and how things might work.
sc5 Sort objects by one function.
sc6 Talk about, question and explain what is seen and what is happening.
sc7 Experiment with and extend their own play.
sc8 Examine objects and living things to find out more about them.
sc9 Investigate objects and materials by using all of their senses as appropriate.
sc10 Find out about and identify some features of living things.
sc11 Explain what they are doing/have done.
sc12 Ask questions about why things happen and how things work.
sc13 Predict what might happen.
sc14 Observe the effects of activity on their bodies.
sc15 Look closely at similarities, differences, patterns and change.
sc16 Understand the importance of hand washing.
sc17 Identify long, short, high, low sounds in the environment. – new content
sc18 Understand the need of eating a variety of foods.
sc19 Begin to predict and speculate what might happen.

Year 1

Science

Ideas and evidence.
sc20 To start to make observations and measurements when trying to answer a question.
sc21 To start to use simple scientific language to communicate ideas.
Planning.
sc22 To begin to ask questions and decide how to answer them.
sc23 To start to think about what might happen before deciding what to do.
sc24 To start to recognise what fair testing is.
Obtaining and presenting evidence.
sc25 To begin to consider risks to themselves and others.
sc26 Observe closely, using simple equipment over short and long periods of time.
sc27 To start to use the 5 senses to help make and record observations and measurements.
sc28 Use simple measurements and equipment
sc30 Ask people questions and use simple secondary sources to find answers.
Sc31 With support to begin to communicate findings in simple ways including ICT.
Considering evidence and evaluating.
sc32 With support to start to look for similarities and differences.
sc33 With guidance start to compare what they thought would happen to what actually happened using their scientific knowledge and understanding.
sc34 Begin to review their work and explain what they did to others.

Year 2

Science

Ideas and evidence in science.
sc35 To make observations and measurements when trying to answer a question.
sc36 To use simple scientific language to communicate ideas.
Planning.
sc37 To ask questions and recognise they can be answered in different ways.
sc38 To think about what might happen before deciding what to do.
sc39 To recognise what fair testing is.

Obtaining and presenting evidence.

sc40 To consider risks to themselves and others.
sc41 To use the 5 senses to help make and record observations and measurements.
sc42 Gather and record data to communicate findings in a range of ways.

Considering evidence and evaluating.

sc43 To start to notice patterns and relationships.
sc44 To compare what they thought would happen to what actually happened using their scientific knowledge and understanding.
sc45 To review their work and explain what they did to others.

Year 3

Science

Ideas and evidence.

Sc46 Think creatively to explain how living and non-living things work and establish links between causes and effects, with support.
Sc47 Test ideas using evidence from observation and measurement with support.
sc48 Use scientific language to communicate ideas and understanding, with support.

Planning.

sc49 Ask relevant questions and use different types of scientific enquiries to answer them.
Sc50 Make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions.
Sc51 Think about what might happen when deciding what to do, with support.
Sc52 Decide what evidence to collect with support.
Sc53 With support, decide what equipment and materials to use and how to use them safely.
Sc54 Recognise when a simple fair test is necessary and help to decide how to set it up.
Sc55 Set up simple practical enquiries, comparative and fair tests.

Obtaining and presenting evidence.

Sc56 Make systematic observations and measurements including the use of ICT, with support.
Sc57 With support, check observations and measurements by repeating them.
sc58 Gather, record, classify and present data in a variety of ways to help answer questions.
Sc59 Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
Sc60 Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
Sc61 Talk about criteria for grouping, sorting and classifying.
Sc62 Use simple keys to help record results.

Considering evidence and evaluating.

Sc63 With support, compare conclusion to prediction. Identify whether any further predictions can be made.
Sc64 Identify differences, similarities or changes related to simple scientific ideas and processes.
Sc65 Use scientific language to explain observations, measurements or conclusion, with support.
Sc66 Evaluate own and others work identifying limitations and suggesting improvements, with support.
Sc67 Use straightforward scientific evidence to answer questions or to support their findings.

Year 4

Science

Ideas and evidence.

Sc68 Think creatively to explain how living and non-living things work and establish links between causes and effects, with some support.
Sc69 Test ideas using evidence from observation and measurement.
Sc70 Use scientific language to communicate ideas and understanding, with some support.

Planning.

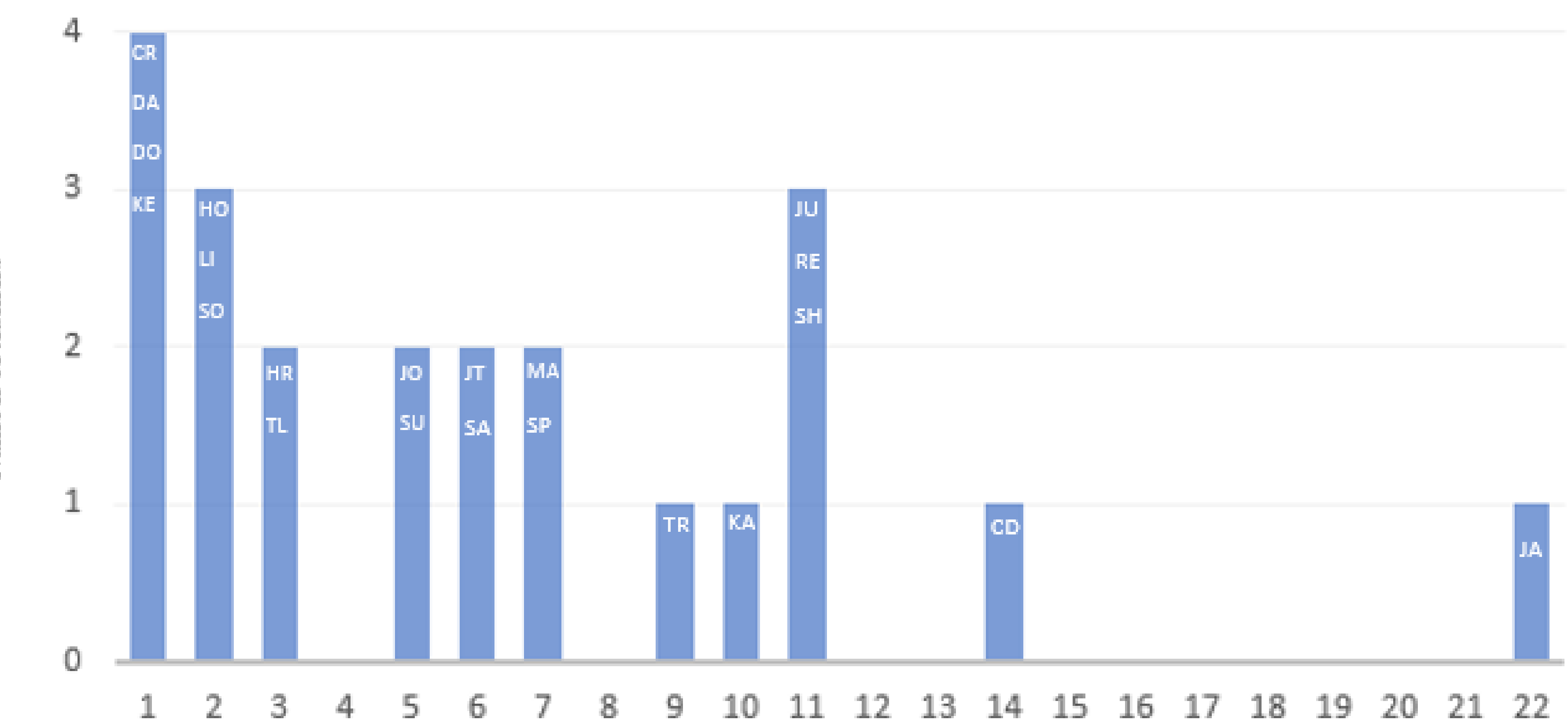
Sc71 Ask relevant questions and use different types of scientific enquiries to answer them.
Sc72 Make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions.
Sc73 Think about what might happen when deciding what to do, with some support.
Sc74 Decide what evidence to collect, with some support.
Sc75 With some support, decide what equipment and materials to use and how to use them safely.

Appendix AC: Participants' Routes to QTS

Undergraduate BA/BEd (QTS)
CD CR HR JA JO JT JU KE SA SU TR
Postgraduate Certificate of Education (PGCE) – HEI-based
DA DO HO KA LI MA SH SO TL
School Direct – with/without PGCE
Graduate Teacher Programme (GTP)
RE SP

Appendix AD: Experience length of teachers

Length of Experience



Number of teachers

Number of years teaching experience

Age	21-30 years old	31-40 years old	41-50 years old	51-60 years old	60+ years old						
	CR DO HO HR JO JT KE LI MA SA SO SU TL	CD JU KA RE SH SP	DA TR	JA							
Full years teaching to date	1	2	3	5	6	7	9	10	11	14	22
	CR DA DO KE	HO LI SO	HR TL	JO SU	JT SA	MA SP	TR	KA	JU RE SH	CD	JA
years teaching in an academy	<1	1	2	3	4						
	CD HO JA JO MA SU TL	CR DA DO JT KE LI SP TR	KA RE SA SH SO	HR	JU						

Appendix AE: SP planning with Gattegno statements

Year 1 Maths Medium Term Plans

Key Objectives	
Number and Place value	Number Calculations
• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number *Building staircases to show sequences (part 2)* *Assigning a number value to the rods (part 3)* *Generating sequences (part 6)* • count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens *Building staircases to show sequences (part 2)* *Form multiple amounts and find the equivalent rod (part 3)* *Introduce x in replace of repeated addition (part 4)* *Applications (part 5)* *Generating sequences (part 6)* *Understanding factors and products (part 6)* • given a number, identify one more and one less *Assigning a number value to the rods (part 3)* *Explore rods through colour and length (part 1 &2)* *Building staircases to show sequences (part 2)* *Using < >* • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least *Explore equivalence by colour and lengths (part 1 & part 2)* *Use signs for equivalence and plus (part 3)* *Use letter names to represent rods and use them to represent the relationship between different lengths (part3)* *Write out the complete patterns for the coloured rods using the letter names (part 3)* *Explore equivalent expressions (part 4)* *Ordinal numbers (part 6)* • read and write numbers from 1 to 20 in numerals and words. *Create the complete patterns for the numbers 1-10 (part 3)* *Create the complete pattern for the numbers 11-10 (part 4)* /	• read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs *Explore equivalence by colour and lengths (part 2)* *Use signs for equivalence and plus (part 3)* *Write out the complete patterns for the coloured rods using the letter names (part 3)* *Use brackets to group (part 3)* • represent and use number bonds and related subtraction facts within 20 *Form a train by putting two or more rods together and finding the equivalence (part 2)* *Form complete equivalent patterns for each equivalent rod (part 2)* *Use letter names to represent rods and use them to represent the relationship between different lengths (part3)* *Use minus to show the difference between two or more rods (part 3)* *Create the complete patterns for the numbers 1-10 (part 4)* *Create the complete pattern for the numbers 11-20 (part 6)* *Applications (part 5)* *Explore equivalent expressions (part 4)* • add and subtract one-digit and two-digit numbers to 20, including zero *Find missing answers to number bond questions (part 3 and 4)* *Use minus to show the difference between two or more rods (part 3)* • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9. *Find missing answers to number bond questions (part 3 and 4)* *Applications (part 5)* • solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. *Form multiple amounts and find the equivalent rod (part 3)* *Introduce x in replace of repeated addition (part 4)* *Introducing division (partitive division) (Part 4)* *Understanding factors and products (part 6)* *Applications (part 5)*

Year 1 Maths Medium Term Plans

Number Fractions	Measures	Geometry properties of shape
• recognise, find and name a half as one of two equal parts of an object, shape or quantity *Use letter names to represent rods and use them to represent the relationship between different lengths (part3)* *Fractions - finding half. Exploring the relationship between other fractions (part 3)* *Further work with ½ and other fractions (part 4)* • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. *Introducing division (partitive division) (Part 4)* *Looking at ¼ (part 4)* *Comparing fractions (part 4)*	• compare, describe and solve practical problems for: • lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] *Explore equivalence by colour and lengths (part 2)* *Ordinal numbers (part 6)* • mass/weight [for example, heavy/light, heavier than, lighter than • capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] *Looking at ¼ (part 4)* *Further work with ½ and other fractions (part 4)*	• recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] *Form multiple amounts and find the equivalent rod (part 3) – squared numbers* 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].